VIEWPOINT:

NUCLEAR ENERGY AND NUCLEAR SAFEGUARDS IN THE CIS AND EAST-CENTRAL EUROPE: THE CASE FOR "EURASIATOM"

by David Fischer

This essay analyzes the grounds for closer technical and political cooperation in the nuclear field among the newly-independent states of the former Soviet Union and Eastern Europe. It concludes that a new regional body (partly modelled on EURATOM) is needed to promote such cooperation, and it examines the possible scope and coverage of such a body.

The need for technical cooperation stems from a number of factors:

--all the nuclear power and research reactors operating or under construction in the region are of Soviet design and manufacture;

--the states operating nuclear plants share common problems of nuclear safety and physical protection, fuel cycle supplies and services, spent fuel and waste management;

--their nuclear plant operators are ill-paid and disaffected and many, qualified nuclear scientists and engineers are out of work;

--the present means for coordinating the distribution of technical and financial aid provided by donor countries and organizations are inadequate and ineffective; and

--there is an urgent need for effective cooperation in establishing and enforcing export controls.

Political cooperation, particularly in the application of safeguards, would enable these states to verify that no civilian nuclear plant in the region was being used to produce nuclear weapon material and to play a part in emerging plans for the verification of nuclear disarmament.

TECHNICAL COOPERATION

Nuclear industry in the CIS states and their neighbors

Any analysis of nuclear operations in the Commonwealth of Independent States (CIS) highlights the predominance of the Russian Federation. This lead is challenged only in the production of nuclear electricity, where Ukraine runs a fairly close second to Russia. At the end of 1992, Russia had 28 nuclear power reactors with a total capacity of 18.9 gigawatts electric (GWe), Ukraine had 15 power reactors with a capacity of 13 GWe. Ukraine was also much more dependent than Russia upon nuclear electricity, which provides 25 percent of Ukraine's total consumption (compared with Russia's 11.8 percent). Kazakhstan is the only CIS state besides Russia and Ukraine that is currently operating a nuclear power plant. Even if the plans referred to in the next section are carried out, the Russian/Ukrainian lead will be only marginally affected.

Beyond the "near abroad," six Eastern/Central European neighbors or near-neighbors of the CIS are also operating and/or building nuclear power plants.

This composite nuclear picture is summarized in the following table:

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NUCLEAR POWER IN THE CIS AND EAST-CENTRAL EUROPE[1]

(The figures in brackets indicate the number of nuclear power reactors under construction and their projected additional electrical capacity.)

Country[2]	Total No.[3]	Total Power in GWe	REMARKS
Russia	28 (18)	18.9 (14.2)	The IAEA's figure of 18 power reactors under construction is likely to be too high. Potter lists only 8 plus 12 planned.
Armenia	2	1.8	Shut down, may be re-started.
Kazakhstan	1	.14	A prototype fast breeder reactor used for desalting and power generation.
Ukraine	15 (6)	13 (5.7)	
Bulgaria	6	3.54	VVER-type reactors.
Czech Rep.[4]	4 (2)	1.63 (1.78)	VVER-type reactors.
Hungary	4	1.73	VVER-type reactors.
Lithuania	2 (1)	2.76 (1.38)	These are the only two RBMK (Chernobyl-type) reactors outside the CIS states.
Romania	(5)	(3.16)	CANDU-type reactors being built by Canada.
Slovak Rep.	4 (4)	1.63 (1.55)	VVER-type reactors.

With the exception of the five heavy water power reactors that Canada is building in Romania, all nuclear power reactors listed in the table were built or designed by the Soviet Union.[5] All except the Romanian plants also obtained their nuclear fuel from the Soviet Union where it was fabricated into fuel assemblies to fit Soviet designs.

These nations also relied on the former Soviet Union for spare parts and replacements, and most of them sent the spent fuel from their reactors back to the Soviet Union for reprocessing or storage.[6] These arrangements are likely to continue in the CIS states, Lithuania, and perhaps Bulgaria. But the Czech republic is turning to Western suppliers for fuel and fuel cycle services for its Soviet-built or designed power reactors,[7] and it seems likely that Hungary and the Slovak Republic will follow suit. If the Czech Republic builds new nuclear power plants, as it plans to do, it is also likely to obtain them from Western suppliers.[8]

Russia is equally predominant in other branches of the nuclear industry except the production and fabrication of nuclear fuel, where Kazakhstan has the largest plant in the CIS region (and possibly in the world). All former Soviet enrichment and reprocessing plants and most other fuel fabrication plants are located in Russia. The significant nuclear plants outside Russia are:

--heavy water production plants in Ukraine and possibly in Tajikistan;

--as noted above, extensive uranium mining, milling, processing and fuel fabrication in Kazakhstan (which is the chief source of uranium oxide powder and fuel pellets in the CIS)[9];

--research reactors operating or under construction in Kazakhstan (3), Ukraine, Uzbekistan, Bulgaria, the Czech Republic (4), Hungary, Latvia, Poland (3), Romania (2), and the Slovak republic--all except one in Romania--were built and fueled by the Soviet Union.

Energy problems in the region

Despite Chernobyl, many CIS and Eastern European states are under pressure to maintain or even increase their dependence on nuclear power.[10] Among the reasons are local shortages of usable coal, oil, natural gas, or hydro-electric resources, problems of transportation, shortages of hard currency, environmental concerns (particularly in the Czech Republic) about the effects of burning lignite (brown coal), and more general concerns about fossil fuel's contribution to the greenhouse effect. In Russia the pro-nuclear lobby (MINATOM) is also exceptionally powerful.

As a result of these factors, the Ukrainian parliament (Verkhovna Rada) has approved the continued operation of two RBMK reactors at Chernobyl, due to be shut down at the end of 1993,[11] and has resumed construction of three VVER power reactors on which work had stopped. Armenia is close to a decision to restart its two reactors (closed down after the 1988 earthquake). Kazakhstan is reportedly considering a second and Belarus its first nuclear power plant.[12] The Czech Republic is continuing the construction of the Temelin power station (but with Western control and safety equipment), and Bulgaria has been compelled by power shortages to keep in operation an old VVER reactor of which the safety has been questioned by the IAEA. For its part, Russia has announced ambitious plans for power reactor construction.[13]

The course taken by Western Europe---EURATOM--a possible model for Eurasia?

In the mid-1950s, the six founding members of the European Communities established three bodies to drive forward the process of European integration. One was EURATOM, now the nuclear arm of the European Union (EU). Article 2 of the 1957 Treaty of Rome (EURATOM's statute) charged it with the following broad responsibilities to:

--develop research and ensure the dissemination of technical information;
--establish uniform safety standards;
--facilitate capital investment in the basic facilities needed for the development of nuclear energy;
--ensure regular and equitable supplies of nuclear fuel;
--make certain that nuclear materials are not diverted to purposes other than those for which they are intended[14];
--exercise the right of ownership of fissile material;
--create a common market in specialized nuclear material and equipment, so as to ensure free movement of capital and of labor; and
--establish any links with other countries or international organizations that would foster progress in the peaceful use of nuclear energy.[15]

Safeguards in the EU

Note that EURATOM is not charged with preventing the use of nuclear materials in nuclear weapons or diversion to such use. This reflected the fact that when the Treaty of Rome was concluded, France was already committed to a nuclear weapon program.

However, the combined effect of Article 77 (b) of the Rome Treaty,[16] the ratification of the Non-Proliferation Treaty (NPT) by the five non-nuclear weapon states that were then members of the Community, and EURATOM's 1973 safeguards agreement with the IAEA was to make EURATOM and the IAEA jointly responsible for ensuring that nuclear material in those five states would not be used to make nuclear weapons or any other nuclear explosives.

EURATOM established a corps of safeguards inspectors which now numbers some 180 persons (not far short of IAEA's approximately 210).[17] Under the 1973 agreement with the IAEA, EURATOM and the IAEA now jointly apply safeguards on all nuclear material in the 10 non- nuclear weapon states that are now members of the EU (Belgium, Denmark, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, and Spain) and would jointly apply these safeguards to any other non-nuclear weapon state that joined the EU. In 1991, the two agencies amplified their 1973 safeguards agreement with a new "partnership agreement." The chief aim of the "partnership" approach was to promote better cost-effectiveness, and the 1991 agreement will bring about a 66 percent reduction in IAEA routine inspection of the EU non-nuclear weapon states. This will release safeguards resources for use in other high-priority areas, such as nations that have re-

cently joined the NPT or a regional nuclear- weapon-free zone (including South Africa, Argentina, Brazil, and Chile) and the members of the CIS.

Pursuant to the Treaty of Rome, EURATOM also applies its safeguards to all peaceful (civilian) nuclear activities in the two nuclear weapons states, France and Britain, as well as in the non-nuclear weapon states of the EU. Under the NPT, a nuclear weapons state need not accept any IAEA safeguards. However, to encourage wide ratification of the NPT, Britain and France have voluntarily accepted IAEA safeguards in all (Britain) or some (France) of its civilian plants, and the United States, the Soviet Union, and China did likewise.[18] From lists of "eligible" plants the IAEA selects those in which it will apply full safeguards. In the 1970s and 1980s, its safeguards budget permitted the IAEA to select only one or two plants in each of the nuclear weapons states. Pressure on the IAEA's safeguards resources has since increased, and no plant or fuel in Britain or France is at present being safeguarded under their "voluntary offer agreements."[19]

THE SCOPE FOR REGIONAL TECHNICAL COOPERATION IN THE CIS-E. /C. EUROPE

It is suggested that in many respects EURATOM could serve as a model for technical cooperation among the CIS and neighboring states. Such cooperation would serve to:

--enhance nuclear safety and reliability;
--assure fuel supplies;
--service and maintain nuclear reactors;
--coordinate the disposal of nuclear waste and spent nuclear fuel;
--provide fuel cycle services;
--arrange for satisfactory training and adequate supply of nuclear plant operators, particularly those responsible for nuclear safety, as well as protecting their economic and social status;
--improve material accounting and other physical protection and control measures; and
--establish, standardize, and help enforce effective nuclear export controls.

Closer cooperation would also promote dissemination of technical information and nuclear research and development--for instance, on means of using or disposing of the plutonium becoming available from dismantled nuclear warheads. Examples under this heading would be cooperative programs for the use of mixed-oxide (MOX) fuel in VVER reactors and on the permanent disposal of plutonium after vitrification or reintegration with nuclear wastes. There is also a need for better coordination of the distribution and use of technical and financial help pledged by the countries of the European Union, and it is urgently necessary to find employment in the civilian nuclear industry for nuclear experts who have lost job security as a result of disarmament.

Technical cooperation within the CIS could build upon the close bilateral links that already exist between the nuclear power authorities and research establishments in Russia and Ukraine and in Russia and Kazakhstan.[20]

The need for a regional body

To plan, promote and coordinate these activities there is a need for a regional organization, here referred to as "EURASIATOM" to indicate its reach into both continents.

Which CIS states should take part? At a minimum, Ukraine as well as Russia, Kazakhstan, and Belarus should participate. As already noted, without Ukrainian participation the technical weight of Russia would be overwhelming, and it would be difficult to accept any regional combination as an effectively autonomous body. Membership should also be open to any other CIS republic that wished to join. Advantages of such membership would consist not only in the technical benefits it would confer, but also, as will be discussed, in EURASIATOM's potential role in applying safeguards and monitoring certain aspects of nuclear arms control.

Should such a regional body extend beyond the confines of the CIS? Lithuania, operating two Soviet (RBMK) power reactors and Bulgaria, operating five Soviet (VVER) power reactors, might see an advantage in technical association with the new body and possibly in full membership, provided EURASIATOM were effectively autonomous.

Other states operating power or research reactors of Soviet design are Finland, Poland, Hungary, and the Czech and Slovak republics. Most of them now look westward rather than eastward. They see their future in the EU and are likely to forge links with EURATOM. However, this need not preclude some form of association with the technical work of a new Eurasian body which would help to reduce the Russian-Ukrainian lead

in installed nuclear power within the area covered by the organization.[21]

The organization would give highest priority to cooperation in enhancing nuclear safety. It would be aided in this by the fact that the World Association of Nuclear Operators (WANO) has its headquarters in Moscow and by the extensive programs of the IAEA and the EU for improving the safety of Soviet-designed power reactors.

POLITICAL COOPERATION AND EXISTING IAEA SAFEGUARDS IN THE FORMER SOVIET UNION

Most of the newly-independent states of the former Soviet Union are already parties to the NPT.[22] As non-nuclear weapon states, all their nuclear activities are (or will be) under IAEA safeguards.[23]

Apart from fissile material that is still in nuclear warheads, the largest stock of unsafeguarded nuclear material in the CIS outside of Russia is in Ukraine's 15 nuclear power reactors, two research reactors, and large store of highly-enriched uranium.[24] Some stocks of unsafeguarded nuclear material may also exist in CIS non-nuclear weapon states that have not yet acceded to the NPT.

POTENTIAL SAFEGUARDS AND ARMS CONTROL ROLES OF THE NEW BODY

If EURASIATOM took on a safeguards role, it would--like EURATOM--set up a safeguards system and establish a corps of inspectors. Their first task would be to verify, jointly with the IAEA, that no nuclear material in CIS non-nuclear weapon states was being diverted to nuclear weapons or other nuclear explosives (see NPT Article III.1). EURASIATOM would have to conclude a safeguards agreement with the IAEA, like the 1973 agreement between the IAEA and EURATOM. As noted, in the late 1970s, the Soviet Union--like the other four nuclear weapons states--volunteered to place some nuclear plants under IAEA safeguards. The IAEA is now safeguarding one power and one research reactor, as well as a store of nuclear fuel, in the Russian Federation[25]--all that its present safeguards budget will permit.

Almost all of Russia's nuclear fuel cycle is thus outside safeguards. EURASIATOM could fill this gap. If EURASIATOM were to follow the model of EURATOM, it would also monitor the nuclear material in all civilian plants in Russia (a nuclear weapons state), just as EURATOM alone monitors all civilian nuclear activities in France and the United Kingdom. This would enable all CIS states to assure themselves directly that no fissile materials were being produced anywhere in the region for use in nuclear weapons--an important confidence-building measure.

A recent development is relevant. On September 28, 1993, President Clinton revived a 40-year old proposal to put an end to the production of fissile material for nuclear weapons--the so-called "cut-off"[26]--and pressed for the conclusion of an international convention for this purpose. A cut-off would probably require that the five nuclear weapons states as well as the three remaining threshold states (India, Israel, and Pakistan) accept international safeguards in all their nuclear plants.[27] EURASIATOM and the IAEA could jointly undertake this task.

The IAEA's safeguards budget and staff would have to be doubled or tripled if the IAEA were to take full responsibility for verifying a global cut-off. An agreement between the IAEA and EURASIATOM could shift some of this burden from the IAEA budget, especially if it were amplified in due course by a "partnership agreement" similar to that concluded in 1992 between the IAEA and EURATOM.

Under START I, three CIS states are returning nuclear missiles to Russia for dismantling. Russia and the United States are also exploring ways to verify that the other is dismantling its nuclear arsenal. Before the end of 1994 the United States will be placing surplus fissile material (highly-enriched uranium and plutonium) under IAEA safeguards, and the Americans are encouraging Russia to do the same. The object is to secure international assurance, that such weapon material does not find its way back into nuclear arsenals. In due course, there might also be a role for EURASIATOM in monitoring such arms control and disarmament measures.

EURASIATOM could thus provide additional assurances to all the CIS states by enabling them to monitor directly that no nuclear material from any of their civilian programs (and especially Russia's unsafeguarded civilian program) was being diverted to nuclear weapons and that Russia's nuclear arsenal was indeed being dismantled. Would this justify the additional expense of launching and sustaining a EURASIATOM safeguards operation? The alternative would be to

leave all such monitoring to the IAEA. Under almost any plausible scale of contributions the chief contributor to a EURASIATOM safeguards operation would be the Russian Federation itself. The costs, however, would be relatively modest and it might be possible to secure some external financing of an operation that would provide additional assurances to the world at large, as well as to the members of the new body.

CONCLUSION

There are strong technical, safety-related, and economic grounds for nuclear cooperation between Russia and the other CIS states and the former allies of the Soviet Union in Eastern and Central Europe. The incentives for political cooperation in the area of safeguards and possibly nuclear arms control are also strong. The proposed cut-off could give them added impetus. However, the initiative for such cooperation must be taken before the pattern of interstate and international relations becomes too rigid.

The Baltic states and Bulgaria, to the extent that they are still reliant on Russian nuclear supplies and services or interested in the application of safeguards in the region, could also gain from some form of association with a regional nuclear organization. The Visegrad states and Finland have set their sights on the EU, and hence also on membership in EURATOM, but this need not rule out continuing contact with an EURASIATOM.

Ukraine is a crucial player in political, as well as technical, cooperation in the region and has more to gain--and to lose from the absence of such cooperation--than any other regional state. Such cooperation presupposes early Ukrainian accession to the NPT as a non-nuclear weapon state. When this step has been taken, Ukraine could become one of the driving motors of such regional cooperation in both the technical and the arms control/safeguards areas.

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[1] The most comprehensive analysis of nuclear plants in the CIS is given by William C. Potter et al. in Nuclear Profiles of the Soviet Successor States (Monterey, Calif.: Monterey Institute of International Studies, May 1993). Useful summaries are given in Nuclear Power Reactors in the World, (Vienna: International Atomic Energy Agency, April 1993 Edition, Reference Data Series No. 2), and IAEA Bulletin 35, No. 3 1993, p.52.
Total capacity of the reactors listed in the tables is given in GWe (Gigawatts electric). 1GWe = 1000 Megawatts electric or one million Kilowatts electric.
The IAEA's estimates of future construction of nuclear plants are chiefly based on data provided by national nuclear energy authorities (in response to IAEA questionnaires) and must be regarded with caution in the case of Russia and Ukraine.

[2] Finland is operating two VVER power reactors fitted with Western nuclear safety equipment. Two VVER reactors were being built in Cuba but construction has come to a stop.

[3] Not shown in the table are two land-based submarine power reactors in Estonia, used for training purposes. They are under Russian authority and may soon be decommissioned. (Potter, op. cit., p. 11).

[4] The first two nuclear power reactors in the former Czechoslovakia were supplied by the Soviet firm, Atomenergoexport; the remainder were built by Skoda under license from the Soviet Union.

[5] The newer Czech and Slovak plants (Bohunice 3 and 4, Dukovany 1-4 Mochovce 1-4) were built by the Skoda company but under license from the Soviet firm, Atomenenrgoexport.

[6] Chelyabinsk for VVER-440s, Krasnoyarsk for VVER-1000s. Apparently, Ukraine keeps its spent fuel on-site at its reactors.

[7] Personal communication from a senior Czech nuclear official.

[8] The Czech republic intends to equip its new power reactors at Temelin with Western safety equipment.

[9] See Oleg Bukharin and William Potter, "Kazakhstan: a Nuclear Profile," Jane's Intelligence Review 6 (April 1994).

[10] Nuclear power accounted for 80 percent of the electricity generated in Lithuania in 1992, 49.5 percent in the Slovak Republic, 46.4 percent in Hungary, 34.6 percent in Slovenia, 32.5 percent in Bulgaria, 25 percent in Ukraine, and 20.7 percent in the Czech Republic. The comparable figures for the United States in 1992 were 22.3 percent, Germany 30.1 percent, Britain 23.2 percent, Japan 27.7 percent, and France--alone among Western powers--almost at the top of the list with 72.9 percent. IAEA Bulletin 35, No. 3, 1993, p. 52.

[11] Under an agreement with the U.S. Department of Energy they will, however, be shut down when energy conservation measures or access to alternative energy sources enable Ukraine to balance supply and demand for electric power. (Thomas W. Lippman, "Ukraine Agrees 'in Principle' to Close Chernobyl Completely," International Herald Tribune, April 11,1994, p.2.)

[12] Alternatively Belarus might cooperate with Lithuania in building a third unit at Ignalina. (Ariane Sains, "Baltic States and Belarus Eye Building Third Ignalina Unit," Nucleonics Week, March 31,1994).

[13] In April 1993 a spokesman for MINATOM stated that by 2010 Russia planned to double its installed nuclear capacity. ("Rusland haelt an Atomplaenen Fest," Der Standard, Vienna, April 9,1994). On 39 June 1993 the Deputy Minister for Atomic Energy said that the goal would be to raise the nuclear share of electricity generation in Russia from 11.8 percent in 1992 to 30 percent by 2030, but qualified this by adding that "the program can go nowhere unless our economy seriously improves." (Mark Hibbs, "Russia will need improved RBMKs for 20 more years, Siderenko says," Nucleonics Week, July 8, 1993).

[14] In Article 77(a) of the Treaty of Rome this is amplified to provide that nuclear materials "are not diverted from their intended use as declared by the users."

[15] Treaty setting up The European Atomic Energy Community (EURATOM), Rome, 25th March 1957, Article 2. (Her Majesty's Stationery Office, London, 1967, S.O. Code No. 59-132-0-67).

[16] Article 77(b) provides that the (EU) Commission must satisfy itself that "the provisions relating to... any special control obligations assumed by the Community under an agreement concluded with a third country or an international organization are observed."

[17] So great were the expectations about nuclear power that the Western European statesmen who established the EC believed that nuclear energy would be the driving motor of European progress and unity.

[18] Britain's safeguards agreement with the IAEA was concluded in 1967 (IAEA document INFCIRC/263), that with France in 1978 (INFCIRC/290). In 1977, the United States concluded an agreement (INFCIRC/288) similar in scope to that of the United Kingdom. The Soviet Union and China concluded more limited agreements in 1985 (INFCIRC/327) and 1989 (INFCIRC/366), respectively.

[19] The Annual Report for 1992, IAEA, p. 136. Some nuclear hardware

remains under safeguards pursuant to agreements concluded with Britain and France before those mentioned in the previous endnote.

[20] These links were described at a meeting of the Working Group on Export Controls, Physical Security and Safeguards convened by the Minsk Center for Export Controls and Nonproliferation and the Monterey Institute of International Studies, Minsk, June 9-10 1994.

[21] For instance, all members of EURATOM are also members of another regional body, the Nuclear Energy Agency of the OECD as well as of the IAEA.

[22] Armenia, Azerbaijan, Belarus, Estonia, Georgia, Kazakhstan, Latvia, Lithuania, and Uzbekistan are non-nuclear weapon states parties to the NPT. The Parliaments of Kyrgyzstan and Moldova ratified the NPT in early 1994, but as of this writing do not appear to have deposited their instruments accession to the treaty.

[23] The nuclear materials in the CIS parties to the NPT that are required to be placed under safeguards, are: the fuel (fresh, in-core and spent) of the two nuclear power reactors in Armenia; the fuel of the power reactor and of two large research reactors in Kazakhstan; the feed stock, in-process material and products of the fuel fabrication facilities in Kazakhstan; the fuel of the research reactors, critical assemblies and the spent fuel stores in Belarus and Uzbekistan (assuming that the fresh, in-core and spent fuel has not been removed and returned to Russia); any other stores of uranium or thorium (natural and enriched uranium (but not ore nor concentrates)) and of plutonium that may be stored in any CIS non-nuclear weapon states. These include a large stock of highly-enriched uranium in Belarus (In non-nuclear weapon states party to the NPT the Treaty requires that only "source and special fissionable material" and not nuclear plants, be placed under safeguards. Article XX of the IAEA's Statute defines special fissionable material as "plutonium-239, uranium-233 and uranium enriched in the isotopes 235 or 233...." "Source material" includes unenriched and depleted uranium, thorium, and uranium and thorium concentrates. NPT safeguards apply in full to these materials except uranium and thorium concentrates, but exports and imports of concentrates must be reported to the IAEA (INFCIRC/153 paragraphs 33,34 and 112). No safeguards are required by the IAEA's Statute or the NPT on uranium and thorium ore or on "non-nuclear materials" such as heavy water. However, certain exporters of heavy water and heavy water production plants have required that IAEA safeguards be applied when such material or plants are exported to non-NPT nations. In such cases the IAEA applies safeguards not only to the heavy water and production plant, but also to any reactor into which the heavy water has been introduced, as long as that reactor remains in operation. The Nuclear Suppliers' Guidelines lists heavy water production plants, along with reprocessing and enrichment plants, as "sensitive" nuclear facilities.
The only Eastern European countries that have no nuclear plants that would call for safeguards are Albania and Croatia. Except for Croatia all neighbors and near neighbors of the CIS, are also party to the NPT. (In fact all nuclear material in Europe outside the nuclear-weapon states, Ukraine and possibly Georgia is or will soon be under IAEA safeguards)

[24] Ukraine and the IAEA are negotiating an agreement that would apply safeguards on all this material pending Ukrainian accession to the NPT when it would be replaced by the standard NPT safeguards agreement.

[25] The power reactor is Novo Voronezh Unit 5, the research reactor is IR-8 in Moscow and the separate storage facility is Mashinostroitel'nyi Zavod in Ehlektrostal.

[26] On September 28, 1993, President Clinton outlined his administration's nonproliferation policy. A White House "fact sheet" listed seven proposals. The second was "...a multilateral convention prohibiting the production of highly-enriched uranium or plutonium, and to ensure that where these materials already exist they are subject tot the highest standards of safety, security and international accountability" (but the White House made it clear that Western Europe and Japan would not be required to stop the production or use of plutonium originating from U.S. nuclear supplies).
The United States does not envisage that the convention would "prohibit the production of tritium or the use of HEU for non explosive military uses such as naval reactors." (Statement by U.S. Ambassador Rich at the IAEA Symposium on International Safeguards, Vienna, March 14-18, 1994.)

[27] At first in "sensitive" nuclear plants (i.e., those capable of producing fissile material) and eventually in all nuclear plants. The purpose of such safeguards in civilian plants of the nuclear weapons and threshold states would be the same as it is in NPT non-nuclear weapon states (such as Belarus and Kazakhstan), namely, to verify that nuclear material is not diverted from peaceful nuclear activities--from the civilian program—to nuclear weapons or other nuclear explosives. Eventually, therefore, the safeguards regime for civilian plants must be the same in all three groups of states, in non-nuclear weapon states party to the NPT, in non-nuclear weapon states not party to the NPT, and in the nuclear weapons states. Otherwise the cut-off would introduce another element of discrimination in the nonproliferation regime.