Nonproliferation of Soviet Nuclear Weapons*

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The emergence of a Commonwealth of Independent States from the ruins of the former Soviet Union has raised the troubling issue of the non-proliferation of the vast Soviet nuclear stockpile. An estimated 27,000 nuclear warheads are deployed within the republics of Russia, Ukraine, Byelorussia and Kazakhstan. Thousands of tactical nuclear weapons are scattered over the various republics. The Soviet ICBMs are deployed in hardened underground silos roughly following the route of the Trans-Siberian Railway across the country. Bruce Blair, a former American Air Force missile-launch control officer and an expert on the Soviet nuclear command and control systems, says that Soviet safeguards against unauthorised use of nuclear weapons have been "more stringent than those of any other nuclear power, including the United States." Until recently there were several layers of control and the Soviet President as well as the Ministry of Defence had to provide a special code to start the launching process. Warheads were guarded separately from the missiles; the missile silos generally contained two regular servicemen and two KGB men. To arm a missile, a 12-digit number had to be punched into an electronic cypherlock; punching the wrong code could permanently disable the warhead. Moreover each code was good for only one warhead or a small group of warheads. Special electronic keys and blocking devices strengthened the security arrangements. During the abortive August coup, the commander-in-charge of mobile SS-25 ICBMS reportedly sheltered them in garrisons where they could be safely kept away from turmoil. According to all recent reports, there has been no loosening of the electronic grip and centralized control over the stockpile.

Far more complex than the custody of nuclear weapons is the question of the unity of the command, control, communications and intelligence network and the impact of the emergence of independent states on this network. Command and control is more than custody of the so-called "Nuclear Button" containing the codes for the release of nuclear weapons. The vast array of early warning systems, underground, mobile and airborne command centres, monitoring stations and command and control bunkers for the top civilian and military leaderships are components of this complex and vastly dispersed

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system. The Soviet Air Defence Forces headquarters near Moscow made the early warning and attack assessment which had to be passed on to some thirty military National Command Authority bunkers. Multiple hardened facilities and mobile command vehicles and aircraft provided support. Nine intermediate strategic force headquarters and about three hundred launch centres controlled the land-based ICBM forces. There were also a number of airborne command centres. At any time 15 to 20 Soviet ballistic missile submarines were away from their home bases. According to American sources, 12 of the 16 Soviet bases for ICBMs were in Russia as were 10 of 12 mobile ICBM bases, all six ballistic missile submarine bases and 11 of 26 strategic bomber bases. Some early warning satellites were launched from Kazakhstan and many radar systems were outside the Russian territory with some in the Ukraine and Byelorussia. The entire command, control, communication and intelligence network was linked to Moscow. Fragmentation of this network, builtup over several decades at enormous cost, was a major concern of Gorbachev during the last days of his presidency of the former Soviet Union.

The deliberations at Alma Ata were inconclusive on this issue. It was agreed that Russia will have the custody of the codes for the release of nuclear weapons subject to a collective decision-making process involving the Ukraine, Byelorussia and Kazakhstan. This would mean that Moscow, Kiev, Minsk and Alma Ata will be linked together on the deadly issue of nuclear war. But as the *Financial Times* of London has reminded us, Alma Ata is nearer to Beijing than it is to Minsk and Minsk is half the distance from London than from Alma Ata. Air Marshal Yevgeny Shaposhnikov is the interim head of all the armed forces. A clear delineation of nuclear responsibilities is expected to be made at the summit meeting of the republican leaders on December 30th at Minsk.

Despite these agreements, there are important nuances distinguishing the postures of the republics on the nuclear issue. Ukraine has at present such a large number of strategic and tactical nuclear weapons on its territory that it can qualify as the second most powerful nuclear weapon power in Europe, Russia being the foremost such entity. Its stockpile is larger than the combined total of the British and French holdings. During the recent elections in the Ukraine, all nationalist candidates including President Leonid Kravchuk spoke against the transfer of nuclear weapons to Russia on the ground that they did not want to strengthen "Russian imperialism". There is, however, a strong anti-nuclear movement in the country and Chernobyl is a grim reminder of the nuclear danger. Ukraine would like to have the status of a nuclear weapon-free country and is willing. to subscribe to the NPT and other arms control agreements. It would prefer nuclear weapons on its territory

destroyed as soon as possible and has even made a request seeking assistance from American experts for this purpose. Byelorussia would also like to get rid of nuclear weapons on its territory and join the NPT.

President Nurusultan Nazarbayev of Kazakhstan assured James Baker that his republic was for joint control over all Soviet nuclear weapons. This posture is coupled with his insistance that his republic will keep nuclear weapons for as long as Russia does. There is an unwillingness to allow Russia to have a monopoly of these weapons. Semiplatinsk, the Soviet nuclear test site, is located in Kazakhstan. It has been shut down as a result of a mass movement led by a famous poet.

The United States and the other western powers would like to have only Russia as a nuclear weapon power joining the NPT; Ukraine, Byelorussia and Kazakhstan are expected to be non-nuclear weapon states signatories to the treaty. This can happen only if strategic and tactical nuclear weapons located in the three independent republics are either transferred to Russia or destroyed on their territories. Digging the land-based ICBMs from their silos in the republics, transporting them to Russia and building silos and other necessary structures for them is going to cost tens of billions of dollars and will take a considerable amount of time. Removal of all tactical nuclear weapons, including artillery shells, bombs and mines, is a much easier task but raises the vexed question of making sure that some of these portable weapons have not been kept in secret places.

Dismantling of the nuclear warheads would be a long-drawn process. Sergei Rogov, a Soviet arms control expert, estimates that it could take at least twenty-five to thirty years and it is difficult to predict the course of events over such a long period. Andrei Kortunov, another arms control expert, can picture a situation "in which the nuclear forces just melt-morale is down, people defect, computers malfunction, there is no checking, there are accidents, blunders and so on" and "this scenario could happen even next spring." A report prepared by experts at Harvard University has suggested that it would be faster to disable the warheads at site. Ashton Carter, one of the authors of this report, has outlined a programme of "quick and dirty" disarmament. Fissile material should be removed from warheads, then "wrap the pieces in plastic or metal wraps and squash them." This way the "geometry" of the material would be deformed thereby removing the possibilities of an explosion. Carter then suggests wrapping the fissile material in very thick plastic and putting it back into bunkers. This "quick and dirty" disarmament is not the final solution of the problem. The US Congress has sanctioned $ 400 million for the specific purpose of storing, dismantling and destroying these weapons.

The economic and political chaos in the former Soviet Union has raised another issue related to the non-proliferation of nuclear weapons; this is the possibility of Soviet experts in the nuclear military field leaving the country and their services becoming available to other states. In a recent interview with a Moscow newspaper, V.N. Mikhalyov, an important member of the nuclear weapons programme, lamented the poor living conditions of nuclear scientists. Insisting that his colleagues were "patriots and none of them wants to go abroad and work on creating weapons for anyone", he asked, "how it is possible to live now on 400 roubles a month?" And he added: "What is a person to do if he only knows how to make atom bombs - and nothing more - when he feels unwanted in his own country?" Vladlen Sirotikin, a Soviet historian and political columnist, recently declared, "give me a million bucks and I'll have a nuclear-tipped missile stolen for you and delivered anyplace you want."

William C. Potter, an American expert who conducted a nuclear nonproliferation workshop in Moscow in October 1991, has mentioned a Russian organisation called the International Chetek Corporation of Moscow, founded in December 1990, which provides peaceful nuclear explosive services as a desirable means of disposing of toxic waste, decommissioned reactors and retired nuclear weapons.

Assurances regarding the safe, reliable and centralised control of the nuclear stockpile of the former Soviet Union have been given by Gorbachev, Yelstin and other responsible civilian and military leaders of the republics. Richard Cheney, however, declared on American television that central control over the former Soviet Union's 25,000 to 30,000 nuclear weapons was incomplete. According to him it was 99% successful but "you still have 250 (nuclear warheads) that they are unable to control."

The former Soviet Union's research reactors and nuclear power plants, scattered in different parts of the country, were not subjected to IAEA safeguards inspections because it was a nuclear weapon power. The IAEA's safeguards are applied generally from the beginning of a reactor's operational life; this enables the Agency to have a complete inventory from the start-up of the reactor. The long duration of research reactors' and nuclear power plants' operation in the former Soviet Union raises the issue of verification procedures in arms control. If Ukraine, Byelorussia and Kazakhstan join the NPT as non-nuclear weapon powers, the IAEA will face the unprecedented task of preparing an authentic and complete inventory of fissionable material in their nuclear installations.

Nuclear weapons appear to have become bargaining chips in the

negotiations between Russia, Ukraine, Byelorussia and Kazakhstan and between these republics and potential aid donors overseas. Recognition of independent status and economic and technological assistance would depend on a statisfactory arrangement about the custody and nonproliferation of these weapons. But as Senator Sam Nunn, Chairman of the US Armed Services Committee, put it: "We are on the verge of either the greatest destruction of nuclear weapons in the history of the world or the greatest proliferation of nuclear weapons, nuclear materials and the scientific know-how to make these weapons."

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