

Controlling Soviet/Russian Nuclear Weapons in Time of Instability.

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Had someone suggested during the Cold War that Soviet leadership might lose control of its nuclear arsenal, such an outlandish notion would have been brushed aside in an instant. Even as the Soviet Union was sinking ever deeper into economic crisis and political turmoil in the late 1980s, one undisputable island of stability remained - Soviet nuclear forces.

This island could not remain immune forever, of course. In a relatively short period of two and a half year from early 1990 to mid-1992 at least three situations occurred when control over nuclear weapons could slip from the hands of proper authorities. One should recognize that the nuclear weapons control system was the last to succumb to the general chaos, that chaos affected it less than other areas, and control was restored earlier than in other areas (by the middle of 1992 the Russian leadership by and large acquired control of all Soviet nuclear assets or was firmly on track toward that goal). Nonetheless, it was close call in each of the three instances.

All three occurred under distinctly different circumstances and represented distinctly different types of loss of control. Each of them offers important lessons how

such a dangerous situation came to pass and how control over nuclear weapons was preserved. The chapter will also discuss the degree to which experience derived from these cases can be fungible across different countries.

Types of loss of control and Soviet/Russian experience

Possession of nuclear weapons is usually associated with power, security and influence (although many question how much exactly power, security and influence nuclear weapons confer onto their possessor and whether the burden is worth the benefits) as well as responsibility. Among responsibilities is control of everything associated with nuclear weapons - weapons themselves, delivery vehicles, fissile and other related materials, technologies, etc. Of all the variety of potential crisis situations, this chapter will address those that pertain to the "end products" - nuclear weapons and their delivery vehicles. These can be grouped into two categories.

Loss of physical control: risk that nuclear weapons might fall into the wrong hands:

(1) The most obvious concern is capture of nuclear weapons by non-governmental entities, such as terrorist groups or political movements;

(2) Breakup of a nuclear state, as it happened to the Soviet Union in 1991 and might happen to other NWS in the future. In that case it becomes unclear who has the right to own and control nuclear weapons. Perhaps the

most dangerous consequence of a breakup of an NWS is freedom for elements of the military and civilian personnel in physical control of nuclear weapons to choose allegiance.

Loss of control over use: risk that elements of the state mechanism with ultimate right and responsibility to use nuclear weapons (for example, the head of state) might lose these prerogatives:

(3) Breakdown of the command and control system: officials authorized to make decisions cannot convey the order down the chain. This scenario is dangerous to the extent that it indicates a broader problem; moreover, authority to give launch order might pass into wrong hands;

(4) Breakdown of the command and control system: officers in direct control of weapons acquire capability to use them without proper authorization; and

(5) Penetration of the command and control system (unauthorized persons outside the chain of command acquire capability to issue order on use).

During the period from January 1990 to May 1992 the Soviet Union/Russia encountered at least four out of five types of loss of control. These happened in three separate crises:

■ January 1990: reported attempts by the "Popular Front" (a type of non-governmental oppositional and often

nationalistic movements that were springing all around the Soviet Union in late 1980s) of Azerbaijan to seize tactical nuclear weapons during violent events in Baku. This case belongs to type (1) above.

■ August 1991: the failed coup d'état in Moscow. During three days it remained unclear who had the three portable launch control consoles with codes; later it became known that they were in the hands of leaders of the coup (including persons who did not have the right to control them). This case belongs to type (3) above.

■ Fall 1991-spring 1992: breakup of the Soviet Union. Four out of fifteen new independent states had nuclear weapons in their territories and it took several months to finalize the decision that only Russia would remain the sole inheritor of the Soviet Union's nuclear status (Ukraine in particular apparently played with the idea of "going nuclear" until May 1992). This is type (2) situation above.

During that period of uncertainty immediate control of nuclear weapons (except for power to use them) was delegated to Strategic Forces of the Commonwealth - a rather artificial construct made of part of the Soviet military, which acquired a degree of autonomy (a situation close to type (4) above) while Ukraine sought to inject itself into the command and control chain to

prevent Russian leadership from launching nuclear weapons from its territory (situation of type (3) above).

Moreover, officers in control of some strategic delivery vehicles in Ukraine took oath of allegiance to Ukraine, which gave the government of that country a capability to use these assets, although reportedly not the capability to arm weapons. That situation could, with some stretching, classify as type (5) above.

In the end, Russia successfully navigated through the Scyllas and the Charybdises of this turbulent time. Control of nuclear weapons was not lost in any of the three cases and there is no evidence (although plenty of rumors) that any nuclear weapons have been lost. Yet, most of these cases were close calls, especially the first and the third. Things could have easily turned the other way and this should remain a lesson to remember and to learn. No state that possesses nuclear weapons or has embarked on the path to nuclear status is guaranteed to avoid political and socio-economic turmoil. Hence, appropriate security measures should be put in place to prevent a repetition of similar situations precisely because in each case control of nuclear weapons hanged on a very thin thread and next time we might be not as lucky.

The rest of the chapter will review the three cases outlined above and conclude with lessons drawn and recommendations.

Baku, 1990: Risk of a Nuclear NGO.

Caucasus became a hotbed of tension and violence early into the perestroika period; that included Azerbaijan that saw a major outbreak of violence as early as in 1988 (pogroms in Sumgait). The next flare-up in Azerbaijan came in January 1990 in Baku, the capital of the republic.¹ Opposition was led by the Popular Front of Azerbaijan; organizations with the same or similar name were springing throughout the entire Soviet Union in areas dominated by non-Russian population (these included not only Soviet periphery - the constituent republics, - but also autonomous regions of the Russian Federation itself). During the 1990s events, the Popular Front of Azerbaijan reportedly attempted to seize control of nuclear weapons stored in the territory of that republic. According to unofficial data, Azerbaijan was home to four "mobile service and technical units" for nuclear weapons, which were assigned to air defense.²

Events that took place in Azerbaijan in January 1990 have remained almost unknown. The account below is based on an interview with an immediate participant; the interview was given on condition of anonymity in the summer of 1991. The general outline of events was additionally confirmed by an

¹ For a description and analysis of these events and their context see Thomas de Waal, *Black Garden: Armenia and Azerbaijan Through Peace and War* (New York Press, 2004) and Michael Croissant, *The Armenia-Azerbaijan Conflict: Causes and Implications* (Praeger, 1998), especially chapter 2.

² http://ru.wikipedia.org/wiki/12_%D0%93%D0%A3_%D0%9C%D0%9E

independent source that belonged to a different agency in the fall of 1991.

According to the primary source, Soviet military command decided to withdraw nuclear weapons from the unstable region and sent several (at least three) Tu-22M3 medium bombers to take weapons on board and relocate them to the territory of Russia (the source did not disclose the destination). As the aircraft were preparing to leave with weapons on board, a crowd of civilians (mostly women, children, and old men) penetrated the perimeter of the airfield and positioned themselves on the runway to prevent the takeoff. Shortly after the beginning of the standoff, the military received information that several trucks and/or buses with armed men belonging to the Popular Front were driving toward the airfield.³ According to the source, the situation was extremely tense, personnel at the base were certain that an attempt to seize nuclear weapons was afoot.

Under the circumstances, the captain of the first Tu-22M3, who also commanded the entire group, decided to use the automatic cannon to scare the crowd away. According to the witness, the cannon "dug up a trench in solid concrete that was half a meter deep;" operator gradually started to shoot close to the aircraft and gradually lifted the cannon so that the "trench" was moving toward the crowd. Civilians who were

³ The source did not disclose the origin of that information. It could have been, in theory, military counterintelligence, the KGB, or the local police. KGB seems the most likely source.

assembled at the runway were scared and quickly dispersed. At that moment, aircraft immediately took off one after another.

According to a different source, during the same period nationalists attacked a "mobile technical unit" in vicinity of Baku; that facility also belonged to Air Defense Force.

According to a well-known Russian journalist Mikhail Khodarenok, the commander of the unit was captured, fire was exchanged, but in the end attackers failed to capture the facility or the weapons.⁴ According to the journalist's account, the unit was able to defend itself only because they had been ordered in advance to dig trenches and take other defensive measures. There is no independent confirmation for that story and details remain unknown.

It is unclear whether both events happened at the same or at different locations. For example, it is possible that the removal of weapons was undertaken after the failed attempt to storm the storage facility, but this could not be confirmed.

Even assuming that these accounts are reasonably accurate, it remains unclear who exactly tried to capture nuclear weapons. The common reference to the Popular Front is insufficient because that organization was quite amorphous. Its formal leaders did not have full control of rank and file members and by all accounts violence was primarily prosecuted by poorly organized crowd. At the same time, there also was, by all accounts, a well-organized core that performed

⁴ Mikhail Khodarenok, "Yadernot Oruzhie za Sem'uy Zamkami," Voenno-Promyshlennyi Kurier, August 11, 2004.

preparatory work, but largely remained in the shadow.⁵ Since full details of events in Azerbaijan in 1988 and 1990 remain unknown, it is difficult to draw conclusions on who exactly sought to seize nuclear weapons and for what purposes.

Thus, conclusions from that case appear limited: during the time of broad popular unrest and chaos, when political authority loses control of the situation and when security and military structures get caught in a whirlwind of events, a well-organized group can attempt such an act with relative impunity. Such action will be difficult to predict with any acceptable degree of certainty and normal security protocols are likely to fail. In that case, only personnel on the ground in immediate control of weapons would stand between the group that attempts seizure and their target. The only sure course of action is to remove weapons in advance when events have not yet got out of hand.

The removal of nuclear weapons from Azerbaijan under conditions of great stress was apparently a decision made in haste, but it also triggered a wholesale withdrawal of nuclear weapons from almost all constituent republics of the Soviet Union. The process continued during the entire 1990. It is difficult to ascertain when the task was completed, but there are reasons to believe that no later than in the spring of 1991 tactical nuclear weapons remained only in Russia,

⁵ See Dmitri Furman and Ali Abasov, "Azerbaijanskaya Revoluytsiya" (An Azeri Revolution), In Azerbaijan i Rossiya: Obshchestva i Gosudarstva (Azerbaijan and Russia: Societies and States) (Moscow: Sakharov Fund, 2001) at <http://www.sakharov-center.ru/publications/azrus/default.htm>.

Belarus, Kazakhstan, and Ukraine, the republics where strategic weapons were also deployed.

In any event, by the fall of 1991, when the United States proposed reduction of tactical nuclear weapons⁶ to facilitate consolidation of nuclear weapons in the territory of Russia, the withdrawal had been all but completed. This was a massive undertaking conducted, furthermore, in almost complete secrecy.

The withdrawal led to consolidation of nuclear weapons at a smaller number of storage sites. The weapons withdrawn from constituent republics were put into existing storage sites and, moreover, primarily, if not exclusively, at the so-called Facilities-S, the central storage sites, that were better protected, manned, and fortified than storages associated with other units. This certainly helped to ensure the security of nuclear weapons as the Soviet Union entered the last months of its existence and during the turbulent time of the first post-breakup years.

The negative aspect of the hasty withdrawal conducted in 1990 and the additional number of weapons relocated in 1992-96 from Belarus, Kazakhstan and Ukraine was a breakdown in the accounting protocols. According to interviews with active-duty and retired military in the first half of the 1990s, bookkeeping was often substandard. This deficiency led to a range of problems in the late 1990s as will be discussed later

⁶ Together with the Soviet response, that initiative came to be known as PNIs, or Presidential Nuclear Initiatives.

in this chapter. Moreover, the choice of destination facilities was often almost random facilities - the ones that were closer to the original site or had spare space. Time and transportation assets were at a premium, thus planning was sacrificed to early withdrawal. This created safety problems at some facilities as the number of warheads exceeded the maximum allowed and personnel had trouble maintaining controlled environment inside. This problem was only resolved about 15 years later when the number of tactical nuclear weapons was reduced by three-fourths according to public data released by the 12th GUMO.⁷

The 1991 Coup: Adventure of a Nuclear Suitcase

Control of nuclear weapons was a decidedly secondary aspect of the attempted coup d'état in August 1991. The main story, of course, is how an attempt to save the Soviet Union undertaken by a group of key officials, which included the Vice-President, the Prime Minister, the Minister of Defense and the Chairman of the KGB, either doomed it (by preventing the signing of a new Union Treaty), or accelerated the disintegration process that could no longer be stopped, or perhaps had no impact at all and the Soviet Union would have fallen apart by the end of the year anyway. We can never know

⁷ See "Rossiya Perevypolnila Plany po Sokrashcheniyu Yadernogo Oruzhiya" [Russia Has Overfulfilled the Plan for Reduction of Nuclear Weapons], RIA-Novosti, June 22, 2005, <http://www.rian.ru/politics/20050622/40566772.html>; Nikolai Poroskov, "Takticheskii Yadernyi Kozyr" [A Tactical Nuclear Ace], *Vremya Novostei*, September 7, 2007.

and arguments could be found to support either interpretation. Some - the leaders of the coup themselves - even claim that there was no coup at all and that Mikhail Gorbachev gave them, whether implicitly or explicitly, his blessing.

Where control of nuclear weapons is concerned, the story is quite straightforward: the President of the Soviet Union (also the Commander-in-Chief of the Soviet Armed Forces) lost control of the country's nuclear weapons for three days. That action involved two discreet steps: first, Gorbachev's dacha, where he was spending his vacation, was cut off all communication with outside world and then the portable console of the Kazbek launch control system was removed as well. He regained control only after the defeat of the coup attempt.

Decision to cut off communications was apparently made at a meeting of GKChP leaders on August 17, although preliminary plans had been clearly laid out earlier. Communications systems were switched off when the group sent by the coup leaders arrived at Gorbachev's dacha at Foros. According to KGB Chairman Vladimir Kruchkov, this was done to prevent Gorbachev from contacting Boris Yeltsin, the President of Russia and the main proponent of the devolution of the Soviet Union, or the President of the United States George H.W. Bush. Communications were cut off, he wrote later, minutes before the team sent by GKChP to Gorbachev reached destination.⁸

⁸ Vladimir Kruchkov, "Lichnoe Delo" Vol. 2 (Moscow: ACT, 1996), p. 158-159.

Gorbachev lost access to the Cheget portable console immediately after the GKChP group arrived in Foros and communications were cut off.⁹ Although officers of the "communications group" are supposed to obey only the President's orders, their access to the President is controlled by his security detail (the three-person team was located in a guest house about 100 meters from Gorbachev's residence; alternate members lived outside the compound), and in this case the security detail had an order to completely isolate Gorbachev. According to their testimony, communications were cut off at 4:32 pm and only a few minutes later the senior member of the team was summoned to Army General Valentin Varennikov, one of the members of GPChP and Commander of Ground Forces, who told them not to worry about the absence of communications.

The situation continued into the next day. In the morning of August 19 Minister of Defense Dmitri Yazov learned that Gorbachev's Cheget was still in Foros and ordered to bring it back. Col. Viktor Boldyrev, the commander of unit in charge of command and control system for nuclear weapons, had to fly to Foros himself (having first obtained permission from the KGB)

⁹ The account is based on Valentin Stepankov, "GKChP: 73 Chasa, Kotorye Izmenili Mir" (Moscow: Vremya, 2011). Vlantin Stepankov was Chief prosecutor of Russia and oversaw investigation into GKChP activities. His account can be considered the most complete and credible of all available ones. Other accounts, for example, Mikhail Gorbachev's interview to Ekho Moskvyy radio station on August 18, 2011; Andrey Grachev, Gorbachev (Moscow: Vagrius, 2011); Anatoli Chernyaev, "Shest Let s Gorbachevym" (Moscow: progress, 1993); David Hoffman, The Dead Hand (Doubleday, 2009), p. 373 have small variations. Hoffman's story is the closest to what Stepankov wrote, but contains much fewer details.

and brought both the suitcase and "communications officers" back to Moscow. They arrived in Moscow after 7 pm on August 19 and after that the "nuclear suitcase" remained at the Ministry of Defense. Reportedly, all information was deleted from its system and it became inoperable.

According to Gorbachev, he regained control of his "nuclear suitcase" only on August 21 when he returned to Moscow, approximately 73 hours later.

It is difficult to fully assess the implications of the seizure of the "nuclear suitcase" on August 18 because many vital details pertaining to the functioning of the Kazbek launch control system remain classified. Portable consoles known as Cheget (they were introduced into service in 1983) allowed their owners give an order to launch nuclear weapons. There were in total three Chegets: during the Soviet time, one belonged to the General Secretary of the Communist Party, later to the President of the Soviet Union, the other to the Minister of Defense, and the third to the Chief of General Staff. According to available information,¹⁰ Cheget No. 1 had priority status: its owner could enact heightened level of alert and, after the early warning system registered the launch of U.S. nuclear weapons, give launch order (transmit codes unblocking the launch command). The other two Chegets had somewhat limited functionality: they allowed their owners to maintain contact with Commander-in-Chief to confer and give

¹⁰ Strategicheskoe Yadernoe Vooruzhenie Rossii," ed. By Pavel Pldvig (Moscow: IzdAT, 1998), pp. 48-54

advice, but not give launch orders. The latter only became possible under two conditions: first, a preliminary order had already been given (the system moved to heightened alert status) and the Cheget No. 1 had remained incommunicado for an extended period of time. In the case, the power to authorize the launch transferred to the next level in the command and control system.

The removal of Cheget from Gorbachev (or preventing him from accessing the console) certainly had major symbolic meaning. Cheget is the most visible, perhaps the ultimate symbol of political authority and thus losing it amounted to de facto forced resignation.

Additionally, it could have theoretically prevented Gorbachev from using his authority to introduce heightened alert level as a bargaining lever vis-à-vis GKChP. A scenario of Gorbachev resorting to such a step is purely hypothetical, however, and thus was probably not the main motive for the coup leaders.

Finally, and perhaps the most important, coup leaders gained full access to the command and control system, enabling them to give the order to launch nuclear weapons under certain circumstances. Even though they did not physically control it until late in the evening of August 19, the unit remained incommunicado since 4:30 pm of August 18. Since the system registered the chief executive as incommunicado, the other two Cheget consoles, those controlled by Minister of Defense and

Chief of General Staff, acquired full functionality. They clearly used them, as it will be demonstrated below, but it remains unknown who exactly did that, Minister of Defense Dmitri Yazov or Chief of General Staff Mikhail Moiseev.¹¹

David Hoffman mentions that key military leaders in control of nuclear forces, the Strategic Rocket Forces (SRF), the Air Force (which controlled all air-launched nuclear weapons, both long-range and tactical), and the Navy (strategic and non-strategic sea-launched nuclear weapons) did not support the coup. He singles out the Commander of the Air Force, Yevgeni Shaposhnikov, who openly refused to follow the orders of GKChP (the author can vouch for the accuracy of that information: throughout the entire period of the coup he was in direct contact with one of Air Force staff officers). That, however, left out some other elements of the nuclear capability - for example, short-range land-based nuclear weapons that belonged to Ground Forces, whose Commander, Valentin Varennikov, was one of leaders of the coup. Nothing is known about the position of the 12th GUMO, the element of the military structure in direct physical control of nuclear weapons who were responsible for releasing them to troops. Bits and pieces of information to be discussed below suggest

¹¹ Moiseev claimed in an Interview to Corriere della Sera in August 1991 that he was the only one with access to the Kazbek system (Yazov was cut off, he claimed), but that he never used it and, instead, put the "nuclear suitcase" into a "safe place." This is hardly true for two reasons. First, one can believe that the Cheget brought from Foros was put into a "safe place," but there were also two others, about which Moiseev remained silent. Second, Soviet nuclear forces were put on heightened alert, which probably involved the use of Kazbek system.

that at the very least they did not contest orders from the Minister of Defense or the Chief of General Staff.

More importantly, control of Chegets allowed two top military leaders bypass commanders of forces (including the SRF, Air Force, and the Navy). In any event, they were able to give the order to enhance the level of alert (not fearing that Gorbachev, the Commander-in-Chief would countermand it) and, in case the early warning system registered a nuclear attack, they could have ordered retaliatory launch.

Ability to execute these two actions was clearly sufficient for their purposes. Specifically, by enhancing the level of alert they could send a warning to the United States and NATO not to interfere with what was going on inside the Soviet Union and also perhaps communicate that the new leadership was "tougher" and less prone to make concessions than Gorbachev. In the improbable case the West would have decided to threaten the use of force, the system guaranteed them ability to strike back.

GKChP ordered enhancing the alert level of nuclear forces in the morning of August 19, when it was publicly announced that power had transitioned into the hands of the "Emergency Committee." The state of high alert continued for only several hours and was reduced in the middle of the day of August 19, although not yet returned to the normal, peacetime level. The heightening of the alert level was apparently executed through a direct order that bypassed other military leaders. Only bits

and pieces of what was happening "on the ground" are available, but gradually more details become known.

For example, commander of one of strategic nuclear submarines (available text does not specify whether this was Delta III or Delta IV, only that the submarine carried 16 strategic missiles) Igor Kudrin disclosed recently that all strategic submarines of the Northern Fleet were put on alert on August 19.¹² In this particular case (submarines were at their bases) this meant that they were ready to launch missiles from the surface, even those moored at the pier. Soviet strategic submarines were given that capability to compensate for the relatively small number of submarines at sea on patrol and launch missiles on warning about an ongoing attack.¹³

Another source told a story about the first day of the coup at an Air Force base near Khabarovsk. At that time the source served as a navigator at a Su-24M dual-capable aircraft. At 7 am Moscow time on August 19 - the time when announcement about the coup was aired on Soviet television - their regiment was put on high alert: namely, the 12th GUMO personnel loaded nuclear weapons on board of aircraft (for the

¹² "Veteran-Podvodnik: Vo Vremya Putcha GKChP Severnyi Flot Byl Gotov k Zapusku Yadernykh Raket," Novaya Politika, Ausut 19, 2011, <http://www.novopol.ru/-veteran-podvodnik-vo-vremya-putcha-gkchp-severnyiy-fl-text107335.html>.

¹³ The Soviet Union was never able to maintain the same share of submarines on patrol as the United States did; this deficiency was one of the causes why the Soviet Union built so many submarines and also why its submarines were given the capability to launch missiles from the surface: in case of a nuclear attack on a Soviet submarine base, which would have resulted in the loss of all submarines in port, they were able to launch missiles before losing them.

first time in the memory of the source) and crews were ordered to be ready to take off no later than one hour after order. Crews were also given two envelopes - one with codes necessary to arm nuclear weapons (the first stage, he told, was to be performed still on the ground prior to takeoff together with team from the weapons storage facility with the final arming procedure executed already in the air on the approach to the target); the second envelope contained information about the target. The high alert status continued for one hour and then reduced to four-hour readiness for takeoff.¹⁴

The story from Khabarovsk appears particularly significant. First, it proves that leaders of the coup did not need cooperation from commanders of various forces in control of nuclear weapons. Even Shaposhnikov, who was the most open and vocal opponent of the coup, was unable to prevent that: the order was sent over his head and not contested. Obviously, the same could be expected from other forces, including tactical nuclear weapons that assigned to Ground Forces.

That story also makes it clear that not only strategic forces were put on high alert, as was to be expected, but the entire Soviet nuclear arsenal. Most likely, this reflected the extreme paranoia of GPChP leaders, but clearly represented a very dangerous situation. One could easily anticipate a contingency, under which a move by an adversary misinterpreted as a provocation could have led to most grave consequences.

¹⁴ "Yadernoe Oruzhie v Den GKChP," a blog entry uploaded on September 1, 2011 (<http://so-1.ru/news/show/1630176>).

What truly draws attention in the story of the "adventures of the nuclear suitcase" is the ease with which Commander-in-Chief was relieved of one of the most important vestiges of his power and control of nuclear weapons transitioned to his subordinates that decided to stage a coup d'état. It required collusion of just three persons: the Chairman of the KGB (who was responsible for security detail and communications of the chief executive) and Minister of Defense and Chief of General Staff (who were responsible for the command and control system of nuclear weapons). The KGB could isolate the chief executive and cut him from all forms of communication (except for the nuclear command and control links); the military could take away his Cheget console. Moreover, one only needed to have the chief executive's console switched off to assume full control over the country's nuclear arsenal.

The first and the most obvious remedy was taken almost instantly. In September 1991 security of top leaders was taken out of the KGB and given to a separate service, FSO¹⁵ that was directly subordinated to the President (first of the Soviet Union, then of Russia); in the fall of 1991, until the final breakup of the Soviet Union, the President of Russia had his own security service independent of the one entrusted the security of Mikhail Gorbachev. The next step was taken on December 24, 1991, only days after the Soviet Union was

¹⁵ FSO - Federal'naya Sluzhba Okhrany (Federal Security Service).

formally disbanded - Boris Yeltsin created FAPSI,¹⁶ a special service in charge of all government communications also reporting directly to the President.

By removing security and communications from KGB and transforming them into independent governmental agencies, top leadership could sleep a bit more easily because their own bodyguards and their communications were no longer controlled by a single person. The command and control system for nuclear weapons, however, remained intact, as far as the story is known. Boris Yeltsin used his Cheget in 1995 to monitor the launch of a Norwegian research rocket that triggered alarm of the Russian early warning system.¹⁷

Moreover, it appears that events in the Soviet Union in 1991 illustrate a much more fundamental problem inherent, to greater or smaller degree, to all nuclear weapons states - the vulnerability of the nuclear weapons command and control system to an attempted coup. Essentially, it is the requirements for such a system dictated by the logic of nuclear deterrence that make it vulnerable to sabotage. To

¹⁶ FAPSI - Federal'noe Agentstvo Pravitelstvennow Svyazi i Informatsii (Federal Agency for Government Communications and Information). An employee of FAPSI completed to the author a few years later that splitting of FAPSI off the KGB adversely affected intelligence and counterintelligence capabilities of Russia. Although the majority of FAPSI personnel were former KGB employees, interaction between the two services was not completely smooth, he disclosed, and often FSB (Federal'naya Sluzhba Bezopasnosti, or Federal Security Service, the remnant of the KGB minus several services, including Foreign Intelligence) would not receive some data or received it after a significant delay. In 2003 Vladimir Putin returned FAPSI into the FSB.

¹⁷ See Nikolai Sokov, "Could Norway Trigger a Nuclear War?" Policy memo No. 24 Program on New Approaches to Russian Security (PONARS), October 1997.

ensure political control and ability to strike on warning, the system must be centralized (a single person, the chief executive, must be able to sanction the launch of weapons), but also account for the risk of losing the chief executive by giving the same power to other levels in the command and control system. Hence, subversion of the system is possible.

The Soviet system, in which the single civilian leader, the President, was followed in the command chain by the military, was clearly excessively top-heavy, as events in August 1991 demonstrated. The Russian system inherited the same drawback: once the President is "taken out," the military assumes full control of nuclear weapons; the fact that the Prime Minister is supposed to be second-in-command means relatively little to the extent that he does not have the means to execute his rights. One of the leading Russian experts on nuclear policy, Alexkei Arbatov, proposed a few years ago to transfer one of Cheget consoles from the Chief of General Staff to the Prime Minister,¹⁸ but that proposal went unheeded.

Breakup of the Soviet Union: Finding New Home for Nuclear Weapons

Breakup of an NWS presents a unique challenge with respect to control of nuclear weapons. In previous cases we

¹⁸ "V Rossiiskoi Sisteme Yadernykh Chemodanchikov Obnaruzhen Iz'yan: Krasnoi Knopki Net u Putina," News.Ru, May 28, 2010 (<http://www.newsru.com/russia/28may2010/putin.html>).

deal with attempts by unauthorized persons or entities to seize control of weapons or the chain of command; prevention of such situations is a "normal" threat which all security services and all protocols are configured to address. A breakup of NWS, however, involves transition of authority: for a period of time it becomes unclear who is a legitimate authority, to whom personnel in direct control of nuclear weapons must report to and whose orders it must follow. The same is true for the chain of command: it becomes unclear whose launch order is legitimate. As a result, we end up in a particularly dangerous, "abnormal" situation, when military and civilian personnel are free to choose allegiance. Even worse, competing political authorities seek to gain trust and loyalty of personnel in direct control of nuclear weapons and chains of command and the latter can dictate their conditions.

The period of relative autonomy can take an extended period of time. In the case of the Soviet Union, it lasted at least six months (from December 1991 when the Soviet Union was formally disbanded to the signing of the Lisbon Protocol) and perhaps even longer (one can claim that it began earlier, in the fall of 1991, and ended in 1994, when all nuclear weapons were transferred to Russia). It can be hypothesized that the longer this period of uncertainty continues, the greater the chance that *all* competing political authorities will lose control of nuclear weapons or retain it only formally.

The best and perhaps the only remedy is to consolidate nuclear weapons and, if possible, weapons grade fissile materials in one part of the territory of the disintegrating country that is sufficiently well controlled by one of the competing political groups - the future government. At least, in this case it might become possible to ensure loyalty of personnel in direct control of nuclear weapons and materials - in this case, there will be direct transition of authority from one government to another and the period of uncertainty will be minimal.

This is exactly what happened in Russia: when Gorbachev formally retired as President of the Soviet Union, he ceded his console for control of nuclear weapons to Boris Yeltsin, the President of Russia. Subsequently, Yeltsin's authority to control nuclear weapons was not questioned in Russia except for certain limitations to be noted below (and even then the situation never reached dangerous proportions). The key challenge was control of nuclear weapons and delivery vehicles that remained outside Russia.

The following features of the situation surrounding the breakup of the Soviet Union deserve close attention.

The Soviet government began to lose control of nuclear weapons months before the actual breakup of the country.

Although the chain of command was restored after the failure of the August 1991 coup, the Soviet government no longer felt sufficiently sure of itself to make some important decisions, including in particular with regard to nuclear posture. This limitation was revealed when Soviet leadership was contemplating a response to the September, 1991 initiative by George H.W. Bush.

The primary reason for the announcement of unilateral reduction of tactical nuclear weapons and a list of nuclear arms reduction proposals was to help Soviet leadership consolidate nuclear weapons in the territory of Russia. In particular, the proposal to eliminate MIRVed ICBMs (land-based strategic missiles with more than one warhead) would have resulted in complete removal of nuclear weapons in Kazakhstan and a very significant reduction of nuclear weapons in Ukraine (it would not have affected weapons for heavy bombers, though, and single-warhead ICBMs deployed in Belarus). The Soviet Union, while responding favorably to the American initiative on tactical nuclear weapons, rejected the proposal to ban MIRVed ICBMs.

The U.S. concern was shared by some in the Soviet Union. In early October 1991, two leading Soviet scientists who had been proactive in matters of disarmament, Academicians Yevgeni Velikhov and Yuri Ryzhov, sent a letter to Mikhail Gorbachev urging a second look at the proposals made by George Bush at the end of September. They implored him to use the opportunity

and withdraw nuclear weapons to Russia: "Developments in Ukraine or in Kazakhstan are unpredictable," they wrote. "In the light of numerous declarations of not just individual politicians but of government leaders of these two republics, one cannot rule out that the very fact that [nuclear] weapons are located in their territories may be used as an instrument of political influence."¹⁹

Foreign Ministry experts, however, doubted that such a move would be possible even with the "cover" provided by the Americans: "The proposal about complete elimination of S[trategic] O[ffensive] A[rms] in the territories of all republics except Russia contradicts the well-known position of Kazakhstan, which insists on proportional reductions of SOAs in Russia and Kazakhstan, and even more so to the position of Ukraine, which is against any actions with regard to nuclear weapons in its territory without its agreement."²⁰

In contrast to 1990, when Soviet government was able to withdraw nuclear weapons from problem regions, it believed it had lost this power by the fall of 1991. There is no reason to suspect that it had lost any other forms of control over nuclear weapons - all relevant systems appeared to work properly or at least there were no doubts about that. Whether withdrawal from Ukraine and Kazakhstan would have caused problems, we will never know because this was never tried. But

¹⁹. Velikhov and Ryzhov to Gorbachev, undated (the contents indicate that the letter was written in early October, soon after Gorbachev's response to the initiatives of George Bush).

²⁰. Karpov to Shevardnadze, November 25, 1991, 1.

it is sufficient for our purposes that key agencies of the Soviet government believed that problems would have ensued.

Nuclear weapons quickly became hostage to political struggle between the governments of emerging independent states and Soviet leadership.

Even before the breakup of the Soviet Union, in October 1991, a group of experts prepared a lengthy paper outlining policy of the Russian Federation with regard to nuclear weapons.²¹ It insisted on an early elimination of all nuclear weapons outside Russia: by 1993 in Belarus and Ukraine and by 1996 in Kazakhstan. It proposed to do that secretly, under the cover of a new U.S.-Soviet treaty on elimination of MIRVed ICBMs. The document also insisted on eliminating dependence of Russia-based defense-industrial enterprises on their partners in other Soviet republics. Moreover, it also mentioned the risk of Russia breaking, too, and proposed to do the same for parts of the Russian Federation that were primarily populated by non-Russians.

"Beginning in the middle of 1992," that document said, "all R&D performed by chief designers outside Russia should be terminated. First of all this measure should affect NPO Yuzhnoe, plants in Dnepropetrovsk and

²¹ *O predlozheniyakh Presidentov SSSR i SShA i Vozmozhnosti Bolee Radikalnykh Sokraschenii Strategicheskikh Nastupatelnykh Vooruzhenii* (On the proposals of the presidents of the USSR and the USA and the possibilities of a more radical reduction of strategic offensive arms), by Petrov, Skokov, Ryzhov, October 27, 1991.

Pavlograd, and, in the case disintegration trends in Russia should increase, the Kazan' aircraft combine in Tataria. If these measures are not taken, a real danger of a military-technical dependency of our country could emerge, in particular from Ukraine, a danger of losing strategic information to the West and, in practice, of long-term financing of Ukraine's economy from the Russian budget."

During that period, Ukraine was not active with regard to nuclear weapons. On October 24, Verkhovna Rada, the Ukrainian parliament, adopted a declaration, which reaffirmed the earlier, 1991, similar statement about the future non-nuclear status of Ukraine and declared the presence of nuclear weapons in its territory "temporary." The declaration proclaimed, however, that Ukraine sought "control over non-use" of nuclear weapons from its territory and that all nuclear weapons located in its territory would be eliminated, "including using existing multilateral disarmament mechanisms." The latter phrase suggested that disposition of nuclear weapons required negotiations and would not be left to the discretion of a central authority (at the time, still the Soviet Union).

Attraction of nuclear weapons is difficult to resist. Given an opportunity, new independent states would seek control of as many nuclear weapons as they can

lay their hands on.

Beneath the surface of pro-disarmament, pro-nonproliferation and anti-nuclear pronouncements, things were very complicated, especially as the final collapse of the Soviet Union was drawing nearer. According to some reports,²² in November or December 1991 the president of Ukraine Leonid Kravchuk requested a study on the suitability of nuclear weapons deployed in Ukraine for deterrence of Russia. The result was discouraging: experts who wrote it (majority of authors worked at Pivdenmash, or Yushnoe, the biggest missile producing company in the Soviet Union and probably in the world) reported that all these weapons were either too long-range or too short-range to be suitable for the task. They could strike either the immediate vicinity of Ukraine's border or beyond the Urals, but Moscow and key nuclear bases were beyond reach.²³

There is also unconfirmed information²⁴ that in December 1991 the Kharkiv Institute of Physics and

²² Interview with high-level employees of Pivdenmash (Yuahnoe) missile production plant, March 1992.

²³ The validity of that statement can be challenged, but it is important that this was the conclusion of the study, at least as reported in the interview referenced above. It is significant that authors worked at Pivdenmash, which at least until the end of spring 1992 remained a staunch supporter of preserving Soviet-time production cooperation, which was regarded in Dniepropetrovsk as the only way to retain viability of the plant.

²⁴ Same interview with employees of Pivdenmash, March 1992. This information was also used by the author in: Nikolai Sokov, "Ukraine: A Postnuclear Country," in William C. Potter and Gaukhar Mukhatzhanova, ed., *Forecasting Nuclear Proliferation in the 21st Century*, Vol. II (Stanford Univ. Press, 2010).

Technology, which had been involved in nuclear weapons research from early days of the Soviet nuclear program, requested and received from Arzamas-16 (Sarov), one of two primary Soviet nuclear weapons laboratories, manuals necessary for the maintenance and refurbishment of nuclear weapons. Apparently, Ukraine was not yet formally classified or perceived as another country during that transitional period and thus the request from Kharkiv was treated in Sarov as routine.

Shortly after obtaining independence, former U.S. Ambassador to Ukraine Steven Pifer reported, senior officers of the 43d SRF Army deployed in Ukraine held a meeting with a group of foreign and defense ministry officials. The latter wanted to explore whether the country could maintain nuclear capability if it chose to do so. The answer they received was discouraging: the military said that Ukraine would have needed to build extensive infrastructure, which was both financially and technologically challenging.²⁵

On February 23 the president of Ukraine, Leonid Kravchuk, ordered to "discontinue" the withdrawal of tactical nuclear weapons from Ukraine, a move that was made public only two weeks later, on March 12. The official justification was that, in violation of the Minsk and Almaty agreements, Ukraine had not been allowed to monitor their elimination. The

²⁵ Steven Pifer, *The Trilateral Process: The United States, Ukraine, Russia, and Nuclear Weapons* (Brookings Institution, 2011), p. 7 (http://www.brookings.edu/~media/Files/rc/papers/2011/05_trilateral_process_pifer/05_trilateral_process_pifer.pdf)

interpretation in Moscow was different: that Ukraine was probing for reaction of Russia and the United States to a possibility of retaining nuclear weapons; otherwise consultations could have been held first.

On April 5, Leonid Kravchuk issued Decree No. 209 authorizing the minister of defense to take all strategic forces in the territory of Ukraine under his administrative command in violation of the earlier, December 1991 agreements between heads of new independent states that all strategic forces of the Soviet Union would become part of Joint Armed Forces of the Commonwealth (JAFC). In all fairness it should be noted that this could have been a response to the actions of the JAFC High Command: while all JAFC personnel was supposed to take oath of allegiance to the Commonwealth as a whole, the Commander-in-Chief of JAFC, Yevgeni Shaposhnikov, ordered all troops in the territory of Russia to take an oath of allegiance to Russia, and the cable with that order was (supposedly by mistake) sent to Ukraine.²⁶

On April 9, Verkhovna Rada adopted a statement demanding that the withdrawal of tactical nuclear weapons be terminated (thus legalizing the decision Kravchuk had made earlier) and that "technical means of control over the non-use of nuclear weapons" be installed. Privately, Ukrainian officials conceded that "technical means of control" meant access to the launch-

²⁶ FBIS-SOV-92-010, 15 January 1992, 58.

control systems.²⁷ According to assessments of the SRF experts, Ukraine, indeed, was technically capable to assume operational control over nuclear weapons in just nine months.²⁸ The same statement demanded that the Ukrainian Ministry of Defense replace the personnel of the CIS strategic forces in its territory with Ukrainian servicemen.

The Russian government prepared a tough statement in reaction to the Rada action, but the chief of the SRF, Yuri Maksimov, was unwilling to confront Ukraine. After talking to Ukraine's minister of defense Konstantin Morozov, Maksimov persuaded Kozyrev to recall the official statement; the ministry did not have enough time to warn radio stations, however, and the statement was broadcast; newspapers or television did not mention it.²⁹

Similar processes, seemed to unfurl in Belarus. In late April, a new defense minister, Pavel Kozlovski, demanded compensation and security guarantees from the West in exchange for renunciation of nuclear weapons. Simultaneously, at a meeting with commanders of troops deployed in Belarus, Stanislav Shushkevich made an unprecedented statement about feeling particularly confident about the country's security because of knowledge that he had nuclear weapons behind him.³⁰

On April 11, Ukraine, Kazakhstan, and Belarus issued a

²⁷ Interviews with Ukrainian and with Russian officials who participated in bilateral talks.

²⁸ Mitchell Reiss, *Bridled Ambitions*, 105.

²⁹ The text of the Foreign Ministry's statement transmitted by TASS can be found in FBIS-SOV-92-074, 16 April 1992, 3.

³⁰ See *Nezavisimaya Gazeta* (24 April 1992), cited in FBIS-SOV-92-082 (28 April 1992): 3.

joint statement declaring that they, along with Russia, were legal heirs to the assets of the Soviet Union, including the ownership of nuclear weapons.³¹

Kazakhstan presents yet another story. Even as Russia and Ukraine were increasingly engaged in bitter fight over the fate of Soviet nuclear weapons, Almaty remained almost completely silent, but it appears that Nursultan Nazarbaev was simply watching unfolding events in Ukraine: had that country become nuclear, Kazakhstan could have followed suit; had it failed, Kazakhstan would have ceded nuclear weapons without much argument.

In the end, Kazakhstan could not wait forever. In early May 1992, shortly after a visit of Leonid Kravchuk to Washington and clearly under the impression of that visit,³² Nazarbaev pointed out:

[O]ur neighbor China has nuclear weapons, our neighbor Russia has nuclear weapons. Some Russian politicians have territorial claims on Kazakhstan. There are Chinese textbooks that claim that parts of Siberia and Kazakhstan belong to China. Under these circumstances, how do you expect Kazakhstan to react?³³

Shortly afterwards Nazarbaev was scheduled to come to

³¹ See Mitchell Reiss, *Bridled Ambitions*, 157, fn.

³² During that visit, the United States, while firmly adhering to its earlier position that among all new independent states only Russia was to retain the status of a NWS, also displayed sympathy toward some Ukrainian demands. See...

³³ "Kazakh Sets conditions on Nuclear Arms; Nazarbaev Seeks Powers' Guarantees," *Washington Post* (6 May, 1992): A1.

Washington for his own summit, but on the way there he made a short stop in Moscow. During a meeting with Yeltsin, he persuaded the Russian president to sign a joint letter to George H.W. Bush, which informed him about a joint Russian-Kazakh decision to keep nuclear weapons in Kazakhstan, but with a status of a Russian military base.³⁴ This option fully satisfied the preferences of the Russian military, but was politically impossible because of the unavoidably adverse impact on very delicate situation with Ukraine: had nuclear weapons remained in Kazakhstan, Ukraine could have fully "privatized" nuclear weapons in its territory. After a short scandal between the United States and Russia, the Russian-Kazakh letter was recalled.

Russia, on its part, also sought to de facto revise the December 1991 agreements and to keep nuclear weapons in the territories of other former republics under the control of the JAFC, but in reality Yevgeni Shaposhnikov recognized only Yeltsin as his superior; the same was true for the personnel of the Soviet Ministry of Defense and the Soviet General Staff, which were "inherited" by the JAFC. One telling example is Boris Yeltsin's visit to the United States in January 1991. Shaposhnikov and the JAFC participated in the development of the arms control position for that visit as if they were part of the Russian government, but other heads of CIS states were

³⁴ James Baker quoted in his memoirs a statement of Nazarbaev: "The question of giving Kazakh territory for our common defense and for deployment of nuclear missiles will be decided on mutually advantageous ground" with Russia. James Baker, *The Politics of Diplomacy*, 664.

not involved at all.

Russia also tried to keep the United States out of its discussions with other former republics on nuclear weapons. Both Yeltsin and Kozyrev, during several meetings with Bush and Baker in early 1992, waved away the possibility that problems with control of nuclear weapons could emerge and produced an image that everything was going smoothly.³⁵ Moreover, the Russian position on banning MIRVed ICBMs turned around 180 degrees: whereas in the fall of 1991 the Russian government and its experts insisted on accepting that American proposal as a means of withdrawing most nuclear weapons from outside Russia, already in January 1992 Yeltsin rejected it during a visit to Washington. Instead, Moscow (especially the JAFK) now sought to keep nuclear weapons outside Russia, but under its control.

In any event, even allowing for imperfect data, the overall trend appears quite clear. Nuclear weapons were regarded by at least some of the emerging governments as a valuable asset and they were prepared to explore the options for laying their hands on them. There were two reasons why the "game" did not turn violent and was resolved with reasonable degree of success and in reasonable time.

The first reason was a firm position of the United States. Very early into the "game," the United States make it

³⁵ See, for example, Kozyrev's meeting with Reginald Bartholomew: *Zapis' besedy A.V. Kozyreva s R. Bartholomew, 17 Yanvary 1992 g., Moskva* (A Transcript of the Meeting Between A. V. Kozyrev and R. Bartholomew, January 17, 1992, Moscow).

abundantly clear that position of each new independent state with regard to the nuclear nonproliferation regime was a critical criterion by which Washington would assess its behavior; the United States also made it equally clear that it wanted to see only one official NWS emerging from the process and that was Russia.

Second, in the run-up to and during the formal dissolution of the Soviet Union, each new independent state with nuclear weapons in its territory had to maintain the appropriate disarmament and nonproliferation decorum. Hence, they quickly concluded a series of agreements to demonstrate that nuclear weapons would not remain without political control and that all of them would pursue nuclear reductions. Also, some states (Kazakhstan and Ukraine in particular) used anti-nuclear sentiment in their countries to consolidate public support on the path to independence. These positions could not be revised without a sound pretext, and the first months (years in the case of Ukraine) saw delicate maneuvering to obtain control over as many nuclear weapons as possible. In the case of Russia, this was about laying hands on the entire Soviet arsenal, including outside Russian territory; in case of Ukraine, this was about weapons that remained in its territory; Kazakhstan in the end decided to shoot for keeping nuclear weapons in its territory under Russian control; only Belarus seemed to be very consistently on the path toward nuclear disarmament.

An important factor in the "game" was the availability of the technological and industrial infrastructure. Hence, for Kazakhstan nuclear status was fundamentally out of the question. Ukraine, in contrast, had many elements of such an infrastructure and could, in theory, build the rest, but it was constrained by an unfavorable relationship between abysmal economic situation in the first years and independence and the need to create an industrial infrastructure very quickly before the expiration of warranty periods for nuclear weapons. This variable became particularly relevant for Ukraine's policy under the second president, Leonid Kuchma, the former director general of Pivdenmash, who was more knowledgeable on these issues than any other Ukrainian politician.

Experience of the Soviet breakup offers several important lessons:

- (1) Regardless of what leaders of future new states say about nuclear weapons, they are very likely to change attitude once independence is achieved and seek to acquire control of as large a chunk of the "nuclear inheritance" as they can. The attraction of nuclear weapons is very difficult to resist: this is not only about the aura of influence and power they are often believed to carry, but often simply a habit of the elite and the public that is used to living in a nuclear state. Losing that status is very difficult to stomach.

(2) Any agreements new independent states conclude to ensure orderly transition from one state to several will likely be of poor quality and remain short-lived. Any "final" resolution of the "nuclear inheritance" will require new negotiations that will be time-consuming and difficult. Chances are, before such negotiations even begin, there will be high risk of open conflict.

(3) New states are likely to seek legitimacy in the eyes of the international community and comply, at least outwardly, with disarmament and nuclear nonproliferation regimes. While these regimes cannot, in and of themselves, prevent conflicts or division of nuclear weapons among new independent states, they can considerably reduce freedom of action and force them to seek legitimate justification for each instance of withdrawal from original promises. These regimes also create conditions for and facilitate outside interference in the process of settlement on the "nuclear inheritance."

(4) The United States, which clearly and completely dominated the international scene in the early 1990s, played a pivotal role in the successful outcome of events in the former Soviet Union. It is unclear whether it can play the same role in the future, in case a nuclear state breaks up, or will need to cooperate with other great powers.

The breakup of the Soviet Union resulted in the weakening of political authority, (almost) decapitated the nuclear command and control chain, and gave the military an opportunity to choose their allegiance.

The disintegration of central authority in the Soviet Union, the emergence of several independent states in the place of a single country and the inevitable competition of these states for legitimacy, allegiance of the population and the attributes of statehood created a legal and psychological vacuum for the Soviet military. In an attempt to smooth the transition, new states created an artificial structure called Joint Armed Forces of the Commonwealth (which included all parts of the Soviet Armed Forces, which were not immediately "privatized," as it happened in Ukraine) and, as part of the JAFC, Strategic forces of the Commonwealth, which was responsible nuclear weapons. Some states (Ukraine in particular), however, sought to subordinate all military structures in their territory to themselves rather than to some centralized non-state authority, which was widely (and justifiably) suspected to being primarily loyal to Moscow.

An immediate consequence of that transition was the uncertainty of the chain of command and control of nuclear weapons. The chain of command is similar: chief executive at the top (whether the president or the general secretary of the

CPSU) followed by military leadership, etc. In the Soviet Union, the three portable control units, which allowed bearers to authorize the use of nuclear weapons, were in the hands of the General Secretary (later President) of the Soviet Union, the Minister of Defense, and the Chief of General Staff. The latter two were subordinated to the political leadership and could issue authorization order only in the case political leaders were incapacitated or unavailable.

What emerged immediately after the breakup of the Soviet Union was unique and clearly unworkable. Ultimate power to use nuclear weapons was entrusted to the president of Russia, Boris Yeltsin, who controlled Gorbachev's portable control unit and was supposed to coordinate the use of nuclear weapons with heads of other three post-Soviet states that had nuclear weapons in their territories through a special conference phone.³⁶ These three leaders, however, did not have means of preventing Yeltsin from launching a nuclear strike, whether using nuclear weapons deployed in Russia itself or those deployed in their territories. Consequently, Ukraine, which sought full statehood, talked about cutting into the chain of command and installing systems capable of preventing Yeltsin from giving launch order to nuclear assets in the Ukrainian territory.

³⁶ Stanislav Shushkevich, the chairman of the Supreme Soviet of Belarus, disclosed later that the four heads of states took this special phone very seriously and used it only once to check if it was working; even this was done secretly, without informing relevant services. The four agreed not to use it for any other conversations. (Stanislav Shushkevich, "Monolog o pushche" (A monologue about the forest), *Ogonyok* 49 (December 2, 1996).

Accordingly, the JAFIC emerged from this transition as a semi-autonomous organization, which reported to all heads of states (governments) of the CIS (primarily to the four that had nuclear weapons in their territories), but in fact to no one. This was, of course, highly undesirable since Yevgeni Shaposhnikov, the CINC of the JAFIC, and his chief of staff inherited the two portable control units that previously belonged to Soviet military leaders.

Close association between the Russian government and the JAFIC High Command was strongly resented by other new independent states, Ukraine in particular, but the Russian leadership was uncomfortable with it as well. The JAFIC High Command was growing increasingly independent, even though Shaposhnikov demonstrate his loyalty to Yeltsin at every turn and acted, especially in the first months following the breakup of the Soviet Union as a de-facto minister of defense in Russia. The JAFIC effectively monopolized, for example, the process of drafting agreements on all military matters and even created a special department on military legislation; CIS governments received drafts of new agreements only days prior to their meetings and did not have time to properly examine them. Political leaders rarely go into finer details, so the High Command had broad discretion over military policy of the CIS. Increasingly often, the drafts included Shaposhnikov as a co-signer along with the heads of state. For example, a High Command draft of an agreement between Russia and Ukraine on

Strategic Forces was titled "Agreement between the Russian Federation, Ukraine, and the High Command of the Joint Armed Forces of the Commonwealth on the Division of Functions of Operational and Administrative Control over Strategic Forces Located in the Territory of Ukraine." The agreement was supposed to be signed by Yeltsin, Kravchuk, and Shaposhnikov. In the summer of 1992 Shaposhnikov tried to become a voting member of the Collective Security Council (a body that consisted only of heads of states or governments).

Another area, where civilian authorities were losing control over the military was the power of the purse. Even Russia, which shouldered the bulk of defense spending in the NIS (the other state that spent money on the military was Ukraine), virtually lost that power. A member of the Supreme Soviet (the Russian parliament prior to the adoption of the new Constitution in 1993) Committee on Defense, Valeri Shimko, complained that the JAFC High Command denied the parliament control over spending and expected blind approval of all requests. As a result, in the first quarter of 1992 actual spending on armed forces was 60 to 65 percent higher than allocated in the budget³⁷ -- the only category of the budget where spending in the first quarter exceeded allocations.³⁸

In the early 1992, one could see the even more ominous signs: the military was quickly asserting a political role of its own. The last months of the Soviet Union saw the emergence

³⁷ Cited in FBIS-SOV-92-063, 1 April 1992, p. 42.

³⁸ *Izvestiia*, April 11, 1992.

of officer assemblies in individual units and an umbrella organization, the "All-Army Conference," - an independent organization, which positioned itself initially as a military trade union, but quickly assumed a political role. The organization was dominated by the top level of the military elite (primarily generals with a heavy dose of senior officers) and was quickly emerging as an independent political force. Even more troubling was its close association with the JAFC: the activities of the officers' assemblies and the All-Army Conference (and the Coordination Committee it created) were supervised by a JAFC official, Maj.-Gen. N. Stoliarov, a former KGB officer. His deputy, Alexander Zyuskevich, said that politicians should be reminded that they "cannot resolve questions that affect the lives of millions of people without asking for their opinion."³⁹ JAFC also provided funding for the Coordination Committee from its own budget.⁴⁰

A stark reminder of the risks was the All-Army Conference in January 1992, which demanded that all NIS leaders appear before the delegates (a meeting of 11 heads of state of the CIS was underway in Moscow at that time). Only Yeltsin and Nazarbaev showed up, though, and the conference almost went out of control. Munity was prevented by Shaposhnikov, who vowed to fight for the preservation of the unity of the Soviet

³⁹ *Krasnaia Zvezda*, January 15, 1992, cited in FBIS-SOV-92-011, 16 January 1992, p. 17.

⁴⁰ *Rossiiskaia Gazeta*, March 4, 1992, cited in FBIS-SOV-92-044, 5 March 1992, p. 17.

Armed Forces.⁴¹ Just prior to the Minsk summit in February 1992, a spokesman for the Coordination Committee declared that if demands of that organization were not adopted, they would act independently, without regard to decisions of political leaders.⁴² In February 1992, Shaposhnikov agreed to make commanding officers of units chairmen of officers' assemblies; this finalized the transformation of an erstwhile military trade union into an independent political force with the assemblies providing an alternative command and control structure.

The situation was clearly untenable even for Russian leaders. Yeltsin was prepared to tolerate it only as long as he hoped to retain control over all Soviet Armed Forces or at least over all nuclear weapons. When it became clear that this would not happen, in March 1992 he followed the example of Ukraine and established Russia's own Armed Forces⁴³ and in May the Ministry of Defense.⁴⁴ The JAFC was evicted from the MOD buildings and gradually lost its role. More importantly,

⁴¹ *Izvestiia*, January 17 and 18, 1992.

⁴² *Ostankino TV*, February 14, 1992, cited in FBIS-SOV-92-032, February 18, 1992, p. 11.

⁴³ *Vedomosti Verkhovnogo Soveta Rossiiskoi Federatsii* (The digest of the Supreme Soviet of the Russian Federation), No. 13, 1992, 925-26, document 678. As the story was told by an official of the Defense and Security Committee of the Supreme Soviet, the initial draft of the decree was prepared jointly by that committee and the State-Legal Department of the Administration of the President. The text was to be signed on March 16 upon Yeltsin's return from a brief vacation in Pitsunda. However, the chief of the State-Legal Department of the Administration, Sergei Shakhrai, went to Pitsunda and persuaded Yeltsin to sign the draft right away, only hours before his departure. Immediately upon his return to Moscow Shakhrai made the decree public. The whole story reflected competition between the executive and the legislature but the intrigues did not prevent collaboration.

⁴⁴ *On the Establishment of the Armed Forces of the Russian Federation*, Decree of the President of the Russian Federation No. 466, *Vedomosti Verkhovnogo Soveta*, No. 19, 1992, 1401-2, document 1077.

already in March 1992 all nuclear weapons mobile control units were secured in the hands of Russian officials reporting solely to the president of Russia. But it was only by the end of 1992 that the Russian MOD succeeded in curtailing political activism of the military.

It is unlikely that Russia or other new independent states could see a military dictatorship. It was, however, a highly dangerous situation because the military, which controlled nuclear weapons, was to a large extent outside the political control. As a semi-independent political power, it had its own organization, chain of command, access to virtually unlimited funding (in the absence of normal political control it could draw from state coffers almost anything it wanted) and could always pressure the government into making decisions the military leadership wanted. This included nuclear weapons: the JAFC was on the brink of dictating political leaders how they should dispose of nuclear weapons, the future nuclear posture, etc. It is hardly accidental that the Russian government accepted the American proposal about de-MIRVing of ICBMs, the core element of the future START II Treaty, only after the creation of the Russian Ministry of Defense.

In Ukraine, the processes developed in a different direction. The government was seeking to build control over Soviet forces in its territory, and that effort extended to SRF and Air Force troops, as well as the 12th GUMO divisions,

even though those classified as "Strategic Forces" under the Minsk and Almaty agreements and were not supposed to be "nationalized." Since JAFK and SF of the Commonwealth were closely associated with the Russian government, however, Ukrainian leadership treated these structures with suspicion. Although initially it could not overtly include them into the Ukrainian army, as was done with other, non-nuclear forces, Kyiv mounted a concerned propaganda effort that was aimed at a voluntary transition from the CIS to the Ukrainian command.

The effort started to pay off quickly. In the middle of February, about half of the officers of a Strategic Air Force division in Ukraine (based in Uzin) took an oath of allegiance to Ukraine.⁴⁵ As the process continued to progress and relations with Russia deteriorated, Ukrainian leadership felt emboldened and on April 5, Leonid Kravchuk issued Decree No. 209 authorizing the minister of defense to take all strategic forces in the territory of Ukraine under his administrative command. As it was noted above, Kyiv's efforts were probably in part provoked by Shaposhnikov's order to strategic forces deployed in Russia to take oath of allegiance to the Russian government ("in part" because it had sought allegiance from military literally from the first days of independence and announced the creation of the Ukrainian Armed Forces on January 3, 1992, the first among all NIS). By April all SRF and Strategic Air Force had pledged allegiance to Ukraine.

⁴⁵ *Izvestiya* (February 17, 1992): 3.

The transition of SRF and Strategic Air Force units from Soviet/JAFC structure to the Ukrainian national army gave Kyiv direct administrative and operational control over nuclear-capable delivery vehicles, but not over nuclear weapons. The latter remained under control of units subordinated to Moscow, but not for long.

In May 1992, personnel of two nuclear weapons storage units located at Air Force bases took allegiance to Ukraine, which gave the latter physical control of some nuclear weapons. In contrast to delivery vehicles, however, personnel of weapons storage facilities took much longer to switch allegiance to Ukraine and that process was completed only in 1993. Physical control of nuclear weapons made Ukraine a de facto NWS. The only element of full-scope control it still lacked were codes needed to arm weapons, but there were persistent rumors that Ukrainians were working on that, too. Also, ALCM warheads reportedly did not have targeting information ("zero flight path," according to Russian military lingo), which had been removed on orders of the 12th GUMO prior to the switchover of personnel to Ukraine.⁴⁶

It is difficult to say definitively whether events in Ukraine could be classified as loss of control over nuclear weapons because they ended in the hands of a recognized state. On the other hand, Ukraine was widely regarded by everyone -

⁴⁶ For a published account see Yevgeni Maslin, "Yadernoe Oruzhie i Kontrol za Eto Nerasprostraneniem," *Obozrevatel-Observers*, 1994, No. 3-4 (http://www.rau.su/observer/N03-4_94/3-4_06.HTM)

and was officially proclaimed by its leadership - as a non-nuclear state where nuclear weapons were located only temporarily. The immediate reason for the awkward situation that emerged by the middle of 1992 was the hasty and poorly conceived process of disbanding the Soviet Union: leaders concluded only very general and imprecisely worded agreements while many key issues were not discussed at all.

Under condition of uncertainty as to who exactly controlled the military, which was further exacerbated by the competition among new independent governments for loyalty of the former Soviet Armed Forces, it was effectively left to the discretion of individual military units and even individual officers to whom they would grant control over nuclear weapons. That is, the fate of the nuclear inheritance of the Soviet Union was decided not only in the halls of power or in international negotiations, but also in the officers' messes. Permissive action links were the only element of the command and control system that was not controlled at the unit level.

Large-scale relocation of nuclear weapons under conditions of political uncertainty, relative independence of the military, and competition among new governments can result in the loss of nuclear weapons.

The above-referenced massive relocation of tactical nuclear weapons in 1990-91 proceeded orderly, even if in

considerable haste. The system of control and accounting was still functioning reasonably well: even as the country as a whole was sinking into disorder and sometimes utter chaos, the military machine, particularly elements associated with nuclear weapons, continued to function. The situation was different in 1992. Withdrawal was hasty, sometimes poorly organized and badly managed; physical control of nuclear weapons was at times in different hands; accounting was poor as well. As a result, there was considerable risk that some nuclear weapons would be lost in that withdrawal.

The "suitcase nukes saga" began in the fall of 1997, when General (Ret.) Alexander Lebed made several statements to the effect that during his short tenure as the Secretary of the Security Council in 1996, he received information that the separatist government in Chechnya possessed small nuclear devices.⁴⁷ In an attempt to clarify the situation, he created a special commission led by his assistant, Vladimir Denisov. According to Lebed, the commission was only able to locate 48 such munitions of a total of 132, an indication that 84 were lost (subsequently Lebed changed the total number of suitcase nukes several times, stating in the end that the number was between 100 and 500, but probably closer to 100).⁴⁸ Lebed specifically referred to weapons that had been withdrawn to

⁴⁷ Konstantin Eggert, "General Lebed Nameren Naiti 'Yadernye Chemodanchiki'," *Izvestiya*, October 7, 1997.

⁴⁸ Press conference of Alexander Lebed, Interfax News Agency, November 29, 1997; Jeffrey Smith and David Hoffman, "No Support Found for Report of Lost Russian Suitcase-Sized Nuclear Weapons," *Washington Post*, September 5, 1997, p. 19; "Is Lebed Russia's Loosest Cannon? An Exclusive NBC interview with Alexander Lebed," October 2, 1997, <<http://www.msnbc.com>>.

Russia after the breakup of the Soviet Union: according to Vladimir Denisov, his commission was able to find portable nuclear devices that had been in the Russian territory in 1991 or earlier, but not for the ones that were supposed to be transported in 1992 or perhaps later.⁴⁹

When exploring the hypothesis about the loss of some portable nuclear devices in 1992, authors of a CNS study, performed in 2002 and 2004,⁵⁰ noted that Soviet nuclear weapons in Belarus and Kazakhstan were under full control of the 12th GUMO in Moscow because these two states never laid a claim on nuclear weapons. Ukraine could have been a different case, but following the interruption of the withdrawal in the end of February 1992 (prior to it had not control of nuclear weapons), the removal followed a special procedure codified in a Russian-Ukrainian agreements signed in March 1992. This procedure included thorough authentication of each warhead by representatives of both sides, including verification of serial numbers against the logs kept at the 12th GUMO in Moscow. Paradoxically, the tense relations between Russia and Ukraine in the spring of 1992 resulted in a more reliable and verifiable accounting procedure than was the case with other new independent states.

In any event, the person who was supposed to be best-informed in the entire Russia, the chief of the 12th GUMO Igor

⁴⁹ David Hoffman, "Suitcase Nuclear Weapons Safely Kept, Russia Says," *Washington Post*, September 14, 1997, p. A23.

⁵⁰ "'Suitcase Nukes:' A Reassessment," CNS Research Story, September 23, 2002 (<http://cns.miis.edu/stories/020923.htm>).

Valynkin, disclosed in 2001 that all portable nuclear devices had been eliminated.⁵¹ This sounds logical simply because these weapons have short shelf-life and should have been either refurbished or dismantled as quickly as possible. In 2004 Vladimir Denisov, the head of the commission established by Lebed, announced that they had been able to match records to actual weapons.⁵² Denisov did not mention how the commission dealt with the dismantled warheads. Most likely, they matched 12th GUMO record with the records at dismantlement facilities, which belong to a different agency (during that time, it was MinAtom; now RosAtom). The apparent discrepancy between actual inventory and records, which was the reason for Lebed's (premature) statement probably meant that weapons withdrawn from Belarus and Kazakhstan as well as from Ukraine prior to the Russian-Ukrainian agreement were moved to the first available facility without taking proper care of the "bean-counting."

There is no reason to question Denisov's statement. In spite of numerous reports, no credible evidence has emerged that any warheads have been lost during the transition. Yet, two important points should be made.

First, apparently there was no attempt to match records to actual weapons until Lebed ordered establishment of a

⁵¹ Dmitri Safonov, "Individualnaya Planirovka," *Izvestiya*, October 27, 2001.

⁵² Yuri Gavrilov, "A Nu-Ka Uberi Svoi Chemodanchik," (Put Your Suitcase Away), *Moskovskii Komsomolets*, February 10, 2004.

special commission in 1996. Lebed deserves credit at least for doing that.

Second, the chance of losing weapons during hasty and poorly organized (for obvious reasons) withdrawal to Russia was uncomfortably high. If the situation repeats in a different case, nuclear weapons could well be lost during a large scale hasty withdrawal.

Conclusion

Elaborate systems NWS created to control their nuclear weapons have one major vulnerability - political upheaval. In the span of just two and a half years the former Soviet Union encountered almost all possible situations that could have led to loss of physical control, or control of use, or both. It appears that no NWS is immune to similar challenges in time of political distress. The Soviet case suggests several reasons why this happens:

- Political instability grows quickly, and state mechanisms are usually too slow to react. Particularly dangerous is the short period when political opposition has already institutionalized to the point of having paramilitary forces and the government is still on peacetime footing. Nuclear weapons can be very vulnerable during that time.

- Similarly, if centrifugal tendencies obtain, separatist forces organize very quickly and are usually

more decisive in their actions than the central government. As a result, the central government begins to lose vestiges of its power, one by one. While nuclear weapons might not be the highest priority of separatists at the early stage, loss of political control over some regions of the country could result, among other things, in partial loss of control over nuclear weapons as well.

■ When the country finally breaks apart, new states inevitably begin competition for getting control over pieces of nuclear legacy. Whether new governments make special arrangements for the nuclear legacy at the moment of breakup to make transition orderly or they enter this competition overtly, has little relevance. Almost inevitably, they will seek nuclear status or at least seriously contemplate it. Preventing division of the nuclear arsenal is very difficult and can succeed only under certain types of international systems that allow control from the outside (for example, unipolar, or bipolar, or any type of a hegemonic system); under a multipolar international system chances that several nuclear states will emerge in the place of one appear very high.

■ The strongest defense against loss of control of nuclear weapons under conditions of political upheaval is motivation of military personnel. They are usually less susceptible to shifting political winds and can safeguard

nuclear weapons until situation stabilizes. The greatest danger here is that the disappearance of the state to which they had pledged allegiance removes a critical element from the entire loyalty and motivation system. The military becomes free to grant control of nuclear weapons to whomever they choose; in principle, they can even grant it to non-state actors. Furthermore, collapse of political institutions might allow the military to take control of nuclear weapons into their own hands and use those as a foundation for a military dictatorship.

As we look into the future, political upheaval in one or more nuclear states appears not impossible. It is also worth bearing in mind that no one could have predicted the depth and the speed of the crisis in the Soviet Union, much less its breakup. The conclusion one could draw from the Soviet case is rather pessimistic: the international system, at least in the short term, is not well equipped to manage nuclear legacy of an NWS subject to such an upheaval.

The Soviet Union was breaking apart under a system that could, for all intents and purposes, be defined as unipolar: the United States and its allies exercised significant (if not almost complete) control over outcomes, both the outgoing Soviet government and incoming governments of new states felt pressure to conform to U.S. preferences. This significantly limited their freedom of action. Competition for a piece of nuclear legacy was reduced to cautious maneuvers and testing

grounds for possible acquiescence of Washington to the emergence of more than one nuclear state in the place of the Soviet Union; at a later stage, NIS engaged in bargaining for more advantageous conditions for surrendering nuclear weapons. The United States also possessed almost unlimited financial resources (at least, compared to the needs of new states) and could freely offer economic and other forms of assistance, which proved critical in the case of Ukraine and also helped facilitate more orderly, safer, and faster withdrawal of nuclear weapons to the territory of Russia.

These conditions are not present today and might not emerge in the near future. If a situation even remotely similar to what we saw in the Soviet Union emerges, there will be more than one player in the "game." Consequently, opposition and or separatist forces within the NWS undergoing political upheaval could draw external support from sources other than the United States and it is far from obvious that interests and decisions of these alternative international players would coincide with those of Washington. At the very least, the situation would require coordination that would be time-consuming and might require bargaining and concessions on part of the United States.

Similarly, in the foreseeable future the United States and its allies might find it difficult to provide the necessary level of financial and economic assistance to support its preferred outcome. International assistance would

require pooling of resources of multiple players and, same as with regard to political decisions, might require time and concessions.

Finally, not all players will be state actors: some of these can provide significant ideological, financial, and human resources to become attractive patrons to one or more oppositional groups in the troubled NWS. Non-state actors are particularly difficult to control and to negotiate with; moreover, with high probability these will have goals opposite to those of the United States. This is bound to make the situation even more dangerous and unpredictable.

As we draw lessons from the Soviet case and engage in contingency planning to ensure a smooth and safe transition of control over nuclear weapons if (or, rather, when) a nuclear state undergoes a period of political upheaval, we must also be aware of the limitations of these lessons. Hence, we might need another line of contingency planning to address the high possibility of a situation when "nuclear transition" is not orderly and when nuclear weapons fall into the wrong hands.