

American Baptist Churches: *In 1992 the General Board adopted a lengthy [Resolution on Arms Reduction](#) which its Executive Committee updated in 1996.*

Calls on all nuclear powers to take all nuclear weapons off alert status.

De-alerting Russian and American Nuclear Missiles

Bruce Blair, Harold Feiveson & Frank von Hippel

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Nine years after the fall of the Berlin Wall, the United States and the Russian Federation still maintain missiles carrying thousands of nuclear warheads ready to be launched within several minutes of a command to do so. This posture is dangerous for several reasons, among them the deterioration of early warning capabilities which may lead the Russian Federation to accept less than definitive information as evidence of an incoming attack.

In our November 1997 article in *Scientific American*, "Taking Nuclear Weapons Off Hair-Trigger Alert", we proposed a set of 'de-alerting' steps that would eliminate the dangerous hair trigger from strategic missiles while still preserving a survivable retaliatory force.¹

The American and Russian Responses

After the publication of our article, the American Joint Chiefs of Staff undertook a study of possible de-alerting arrangements, to provide the technical basis for interagency policy-making on de-alerting. The details of the study and the interagency deliberations have not been disclosed publicly. However, it is clear that the American administration and Congress are taking a cautious approach. Various administration officials have indicated that no American de-alerting proposal will be put forward before the Russian Duma ratifies the START II Treaty. And Congress has stipulated that no 'early de-activation' agreement with the Russian Federation should come into force until the United States is satisfied that there would be adequate verification, that the de-activations would be carried out in a symmetrical and reciprocal manner, and that they would not undermine the stability of the strategic balance.²

General Habiger, the current (through July 1998) Commander in Chief of the United States Strategic Command, has also expressed skepticism. In January, he invited us to Omaha, Nebraska to discuss de-alerting. Two months later, he expressed puzzlement to a group of defence journalists "as to why they're pushing for de-alerting." He argued that the START process is taking us in that direction in a safer manner: "The glide path we're on now for de-alerting is stable, it's verifiable, and it's well thought out. Today the Russians have almost 3,000 weapons on alert, under START II those numbers will be down to around 1,000 or so, and under START III [which is to be implemented by the end of 2007] those numbers will be down to probably less than 700." By contrast, he felt that the de-alerting programme we had proposed could lead to instabilities: "you start planting seeds, 'well maybe we can pull something off here' ... you look for vulnerabilities."³

The leadership of the Russian Federation's Strategic Rocket Forces also is unenthusiastic about de-alerting. We have been told that their reaction is to ask "What good is a de-alerted missile?" And both General Habiger and his Russian counterparts believe that the risks of a mistaken or accidental launch of nuclear weapons are low. According to the current commander of the Strategic Rocket Forces, the Russian Federation's "missile attack warning system is reliable virtually absolutely. A false alarm can be given no more frequently than once in 500 years."⁴

The most fundamental obstacle to de-alerting, however, is a continuing belief in both nuclear

establishments that nuclear deterrence is still central to the American-Russian relationship, along with the belief that deterrence hinges on the capacity for prompt, large-scale retaliation against the nuclear forces of the other country.

Neither nuclear establishment has, however, provided a persuasive justification for keeping its nuclear missiles poised for immediate launch and the safety of this posture remains in question. We therefore remain convinced that the missiles should be taken off hair-trigger alert and that de-alerting should be implemented on a time-scale of months, not decades.

Nevertheless, it is important to keep in mind the concerns of the nuclear planners about the possibility that vulnerabilities or instabilities might be created. Our de-alerting scenario described below has been designed to minimize these concerns.

How to De-alert

Put American 'Anti-silo' Warheads in Storage

We do not believe that the Russian Federation can be persuaded to join in a de-alerting initiative unless concerns within the Russian General Staff about the possibility of an American disarming first strike are greatly reduced. The United States keeps submarine-launched ballistic missiles (SLBMs) carrying approximately 2,000 warheads untargetable at sea. But virtually all of the Russian Federation's missiles are targetable. All but a few mobile missile launchers are kept in their garages and almost all missile submarines are kept in port. Even the one or two ballistic-missile submarines at sea are not considered totally invulnerable since American attack submarines often lurk nearby. As a result, the pressure on the Russian Federation to 'use or lose' its strategic arsenal in a crisis is greater today than it has been since the early 1960s. Accordingly, the Russian General Staff has become increasingly dependent on a launch on warning posture.

The bulk of the Russian Federation's nuclear warheads are deployed on approximately 380 missiles in fixed hardened 'silos'. The United States could considerably reduce its threat to this portion of the Russian Federation's forces by:

- removing to storage the 500 W87 warheads on the 50 MX intercontinental ballistic missiles (ICBMs). (The MX will, in any event, be retired under START III); and
- replacing the approximately 400 accurate high-yield W88 warheads deployed on submarine-based Trident II missiles by lower-yield W76 warheads.

The W87 and W88 warheads were specifically designed to attack Russia's hardened ICBM silos and command centres. The United States intends to transfer the W87 warheads to its 500 Minuteman III missiles as those missiles are converted from three warheads to one each, as required by START II. There are also proposals to upgrade the guidance system of the Minuteman III to have as good accuracy as the MX. This accuracy upgrade programme should be cancelled or delayed at least until after the completion of the implementation of START II in 2007, when the Russian Federation will no longer have a large fraction of its missile warheads in fixed silos.

Deploy American Submarines in a Less Threatening Manner

As additional confidence-building measures:

- the United States, the United Kingdom and France should announce that they plan to keep their attack submarines at least hundreds of kilometres away from the Russian Federation's ballistic-missile submarine bases; and

- the United States should announce that its ballistic-missile submarines will head south when they go to sea on patrol so that they will be out of range of targets in the Russian Federation.

As the number of warheads carried by each Trident II missile is reduced from eight to five each under START II, and still further under START III, the weight of the downloaded warheads should be replaced by heavy compact objects permanently fixed to the missile post-boost vehicles to assure that critical targets in the Russian Federation remain out of missile range when the submarines sail south.

De-activate to Start III Levels

Reducing the threat to the Russian Federation's silo-based missiles in this way should then make it possible for the Russian Federation to agree with the United States to de-activate in parallel the weapons that would be eliminated by START III. De-activated weapons would no longer be included in strategic plans. They would, however, for a few years constitute a hedge force that either country could reconstitute if the other broke out of the reduction agreement. The United States and the Russian Federation have already agreed at the March 1997 Helsinki Summit to de-activate by the end of 2003 the missiles that are to be eliminated under START II. The actual deadline for missile elimination was extended five years until the end of 2007.

Based on our discussions with the leadership of the United States Strategic Command, it would probably reduce to a START III limit of 2,000 warheads by removing all but 300 of the 1,500 warheads currently on its Minuteman III missiles and all but about 1,000 warheads from the Trident II SLBMs. This would leave the United States with 700 warheads to deploy on its long-range bomber force.

The Russian Federation, according to the START II and Helsinki agreements, must de-activate all of its multiple-warhead ICBMs by the end of 2003—except for 105 SS-19 silo-based missiles that are to be downloaded to one warhead each. Its approximately 360 truck-mobile single-warhead ICBMs would be unaffected. The Russian Federation would therefore be left with approximately 500 single-warhead missiles.

We expect that the Russian Federation would satisfy a requirement to de-activate further to START III levels by removing the missiles from its six Typhoon submarines. Two of these submarines have already been de-activated for lack of funds to refurbish them. This would leave approximately 1,000 warheads deployed on the Russian Federation's SLBMs and an allowance of approximately 500 warheads for the Russian Federation's long-range bomber force.

Reversibly De-alert the Remaining Missiles

The missiles that would not have been de-activated by the above initiatives should be configured so that they cannot be launched on short notice. Below, we will discuss in turn how this could be done for SLBMs, silo-based ICBMs and truck-mounted ICBMs.

SLBMs

American Trident submarines are not kept on alert in port and they go to sea in a condition called 'modified alert'. A submarine crew needs about eighteen hours to perform procedures such as removing the flood plates from the launch tubes to bring a submarine from this state to launch

readiness. A first level of de-alerting for American submarines could therefore simply be to keep them on modified alert. An additional measure that would increase the time required to prepare for launch would be to remove the guidance sets from the missiles and store them on board. During a national emergency, they could be reinstalled from inside the submarines using doors that have been installed in the launch tubes to allow the replacement of defective guidance sets while submerged.

We do not know the detailed technical measures by which a lengthy delay could similarly be imposed on the launch of missiles from Russian submarines while they are at sea. However, we have been assured that such measures could be contrived. The specific measures that each country would take should be explained—and even demonstrated—prior to a de-alerting agreement.

De-alerting would in no way decrease the survivability of the approximately two-thirds of all American SLBMs that are kept at sea at all times. However, due to low tensions and low budgets, virtually all Russian submarines are kept in port today where, in theory, they would be vulnerable to a 'bolt-out-of-the-blue' surprise attack. The Russian Federation attempts to partially compensate for this vulnerability with a launch on warning capability for some of its in-port submarine missiles. This option would have to be abandoned if the forces were de-alerted.

Silo-based ICBMS

Silo-based ICBMs could be de-alerted by introducing increasing delays into the launch process. After President Bush's September 1991 commitment to de-alert American Minuteman II ICBMs, the first step of implementation was to unplug the electrical ignitor circuit for their first stage booster. Later the warheads were removed.

Intermediate steps must be found for the next cycle of de-alerting, however. This became clear shortly after President Yeltsin agreed, at his March 1997 summit with President Clinton in Helsinki, to 'de-activate' by the end of 2003 all those missiles that are to be eliminated under START II. Multiple voices from within the Russian Federation's nuclear establishment asserted almost immediately that appropriate storage for downloaded warheads is not available. Apparently Russian missile silos have systems that tightly control the temperature and humidity to which the missile warheads are exposed and that also monitor their internal condition.

De-alerting steps that do not involve the removal of warheads would deal with the objection that central warhead stores would be vulnerable to a small nuclear attack. Another way to deal with this objection, however, would be to create decentralized warhead storage by partially filling empty silos with concrete so that they could no longer hold missiles but could still provide warheads with all the security, warhead climate-control and monitoring arrangements that are provided by operational silos. This would require an amendment to the START treaties, which currently require that the lids of missile silos be removed and destroyed, and that the upper portions of the silos themselves be blown up before they can be counted as eliminated.

In the context of the START II missile de-activation agreement, Russian nuclear experts have suggested as alternatives to warhead removal that Russian ICBMs could be de-activated by removal of either the gas generators that would flip open their heavy silo lids before missile launch or the dormant batteries that would power the missile guidance systems in flight. It is

claimed that these measures could not be reversed without lifting up the silo covers from the outside with a large crane, an action which could be detected with surveillance satellites or on-site, remotely monitored, tamper-proof sensors. Among other possibilities that have been suggested, the missiles' aerodynamic shrouds (nose cones) could be replaced by non-aerodynamic covers that would prevent normal missile flight.

All these and other ideas should be studied jointly in detail by the military establishments and by independent experts. Some of the proposed measures (e.g. the removal of the guidance batteries) might be susceptible to circumvention by clandestine action. However, at least one of the ideas for de-activation should survive the screening process.

Mobile ICBMS

The need for a launch on warning option was apparently very much an issue when the garages for the Russian Federation's truck-mounted missile launchers were designed. The roofs of these garages can slide open so that the missiles can be erected and launched out of the garages without the launchers being moved. One measure to enforce de-alerting on these missiles while in garrison would therefore be to install structures so that the missiles could no longer be launched out of their garages. In case tensions rose to the point where the Russian Federation feared a nuclear attack, it could still disperse and hide a significant fraction of the truck-mobile missiles. The missiles would then be untargetable and there should be no pressure for their rapid launch. Further actions could be taken to enforce a launch delay by, for example, reversibly disabling the missile-erector mechanisms.

Verification

Confidence in many of the de-alerting measures discussed above could be increased through the random on-site inspections already agreed to in the START I Treaty. The treaty allows the Russian Federation and the United States ten inspections each of randomly selected missiles every year to verify that the missiles do not carry more than the declared number of warheads, and fifteen annual data update inspections of ICBM bases, submarine bases, etc. These inspections could also be used by mutual agreement for verification that W88 warheads are no longer deployed on American Trident II missiles, that the aerodynamic shrouds had been removed from the silo-based missiles, etc. For fixed systems, remotely monitored tamper-proof devices could be installed to verify that these measures had not been reversed between inspections.

Mobile systems such as submarines and truck-mounted missiles could not be monitored continuously in the same fashion when away from their bases because such monitoring would compromise their survivability. However, at spaced intervals, a random submarine or missile launcher could be asked to allow the electronic seals on de-alerted equipment to send a coded status report. The code would be different each time so that a signal could not just be recorded and repeated in response to subsequent inquiries. The exact location of the system could also be concealed in various ways. For example, a submarine could load the signals from the seals into a transmitter on a buoy which would delay its transmission until after the submarine had left the area. Richard Garwin has pointed out that the buoy could even transmit the real-time status of the seal if it was connected to the submarine with an optical fibre tens of kilometers long.

While such new types of verification measures are desirable, we do not think that de-alerting agreements should await their negotiation. History shows that negotiations can be delayed for years by arguments over details. The de-alerted postures proposed here assure that enough warheads can be kept survivable to deter any surprise attack even without additional verification measures.

This decoupling of survivability from the alert status of the forces also protects against instabilities that would give any significant advantage to a country that decided to re-alert first or was able to re-alert more rapidly. Recall that it was such an instability that helped trigger the race to mobilize at the beginning of the First World War.

Abandoning Counterforce

De-alerting will not be possible, however, as long as the United States Strategic Command and the Russian Federation's Strategic Rocket Force believe that they must be prepared to launch a counterattack against the entire structure of the other country's nuclear forces within a few minutes of detection of an incoming attack.

This requirement is an atavism that ignores the truth spoken by Presidents Gorbachev and Reagan at a number of their summits: "Nuclear war cannot be won and must not be fought." Many millions would be killed in nuclear 'counterforce' attacks on the Russian or American nuclear forces and the attacks could not prevent counterstrikes against the attacker's cities. So, what is the point?

The answer to this question from those responsible for nuclear planning is that each nuclear warhead destroyed before it can be launched toward its target represents a potentially large number of lives saved. Our rebuttal is that keeping nuclear weapons in a launch on warning posture, as required by the counterforce strategy, increases the probability of nuclear war more than counterforce would reduce its consequences.

The critical point to emphasize once again is that, even after the full implementation of the stand down we advocate, the United States could still maintain nearly 600 warheads invulnerable at sea and the Russian Federation could maintain at least a few hundred warheads untargetable at sea and a few tens of mobile ICBMs hidden in the field.

Almost a decade after the end of the Cold War and the end of the demonization of the other side that characterized it, such enormous retaliatory capabilities should provide more than ample deterrence.

Notes

1. Bruce Blair, Harold Feiveson and Frank von Hippel, Taking Nuclear Weapons Off Hair-Trigger Alert, *Scientific American*, November 1997, pp. 74–81.
2. United States, *National Defense Authorization Act for Fiscal Year 1998*, section 1054.
3. Gen. Eugene E. Habiger, Commander in Chief, United States Strategic Command, interview with Defense Writer's Group, Washington, D.C., 31 March 1998.
4. Interview with Col. Gen. Vladimir Yakovlev, *RIA-Novosti Daily Review*, 18 December 1997.

De-Alerting Strategic Forces

Bruce Blair

c. 90 pp. / 2000

Paper 0-8157-1007-0

The Strategic Arms Reductions Talks between the United States and Russia call for the de-alerting of certain types of strategic missiles prior to their final elimination. Lowering the alert level of missiles by mutual agreement is a new form of arms control. In this book, Bruce Blair describes various options for de-alerting and analyzes their implications for strategic balance and safety. These options offer an important step toward fulfilling START obligations and, even more importantly, toward the elimination of the "hair trigger" on thousands of strategic weapons poised for immediate launch.

Blair calls for the early implementation of de-alerting measures in order to alleviate the current danger of mistaken or accidental launch of strategic missiles, particularly Russian forces whose command-control and early warning systems continue to deteriorate. Russia's growing reliance on the early use of nuclear weapons in a crisis poses additional risks of inadvertent or unauthorized launch. According to Blair, the United States also depends too heavily on the quick launch of strategic forces in response to attack warning indications. De-alerting in parallel by both countries provides a means of reducing nuclear tensions and increasing the safety of deployed forces. The former adversaries could and should adopt partial de-alerting measures immediately with a view to eventually going to zero alert.

<http://backfromthebrink.org/factsheets/>

[*Global Zero Alert for Nuclear Forces*](#)

This book examines changes in nuclear operations that would reduce risks on command procedures in the Former Soviet Union. Remedies range from eliminating targets from missiles to taking all nuclear forces off alert ("zero alert") so that no weapons are poised for immediate launch. Bruce Blair, Brookings Institute, 1995

[*Taking Nuclear Weapons off Hair-Trigger Alert*](#)

An article from Scientific American magazine providing an in-depth look at de-alerting and why it is so important at this time. 1997

<http://backfromthebrink.org/factsheets/qanda/q&a.html>

[*Questions and Answers about De-alerting Nuclear Weapons*](#), 2001

<http://backfromthebrink.org/factsheets/globalzero.html>

Global Zero Alert for Nuclear Forces

Bruce Blair

108 pp. / 1995

Paper 0-8157-0941-2

Bruce Blair examines operational safety hazards for nuclear forces deployed on combat alert in Russia, the United States, and elsewhere. He provides new information on command and control procedures and deficiencies that affect the risks of accidental, unauthorized, or inadvertent use of nuclear weapons, particularly those in the former Soviet Union. Blair proposes changes in nuclear operations that would reduce these risks. Remedies range from eliminating targets from missiles to taking all nuclear forces off alert ("zero alert") so that no weapons are poised for immediate launch. In the "zero alert" scenario, missiles and bombers lack nuclear warheads or other vital components and require extensive preparations for redeployment.

Blair assesses the effects of such measures on strategic deterrence and crisis stability in the event of a revival of nuclear confrontation between the United States and Russia. He also describes the burdens of verification that his remedies impose.

This book is the first in a series devoted to aspects of operational safety and nuclear weapons. Other topics in the series include joint U.S.- Russian missile attack early warning, ensuring the security of dismantled warheads and bomb materials, and command-control problems in the emerging nuclear states.

Bruce G. Blair is president of the Center for Defense Information and the author of numerous books, including The Logic of Accidental Nuclear War (Brookings, 1993).

Order this book from the [Brookings Institution](#)

De-Alerting Russian-U.S. Nuclear Forces and the Path to Lowering the Nuclear Threat

Institute of Global Economic and International Relations,
Moscow, Russia, October 30, 2001

Co-authors include: Vladimir Baronovsky, Deputy Director, Institute of Global Economic & International Relations (Russian Academy of Sciences); Retired Major General Vladimir Belous, former officer, Russian Strategic Rocket Forces; Alexi Arbatov, State Duma member

Summary Conclusions and Recommendations

1. The process of globalization taking over the world, which is gaining more and more momentum in such spheres as the economy, information technologies, high-tech, etc., is extending to the sphere of military security as well. This legitimately results in a higher degree of dependence of the state of national security of each individual country on the level of strategic stability in the world. As President Vladimir Putin pointed out, there is no country that can build a safe world for its own sake, let alone to the detriment of others.
2. What's needed is a constructive dialog in search of mutually acceptable solutions. Russia and the United States must, first of all, achieve results during the consultations on the strategic stability issues within the START/ABM framework, keeping in mind the need to prevent a new round of the arms race and to reduce the accumulated arsenals to the level of reasonable necessity. While holding the negotiations in the START/ABM format, it is necessary to agree on the main military and doctrinal points, ensuring, among other things, the abandonment of the nuclear launch-on-warning posture as one of the main threats of unleashing an accidental nuclear conflict.
3. Only if we abandon the concept of maintaining our nuclear forces on constant alert do we have a real chance of reducing the probability of an accidental nuclear war. De-alerting measures could be discussed and adopted in parallel to the START/ABM and strategic arms limitations consultations. Unilateral, step-by-step measures are also possible, followed by discussion and augmented by confidence-building measures. At the same time, we should keep in mind that in the reality of huge existing arsenals, de-alerting, if performed by way of removing warheads from delivery vehicles, can become quite a complex task due to financial and technical considerations related to storage, transportation and recycling of removed warheads.
4. Steps to de-alert Russian and U.S. SNF could give a new impetus to the Russian-American dialog concerning the new format of strategic relations between the two countries. In particular, Russia could consider the possibility of de-alerting ahead of time a portion of ICBMs which were slated for destruction under START II Treaty, even if this document never becomes effective. The United States, in its turn, could reduce the number of its SSBNs maintained on constant combat patrol. The parties could also consider the possibility of de-alerting their respective SLBMs deployed on submarines kept in base. If the political relations improve, Russia and the United States could take farther-reaching measures, making other nuclear nations join them in these endeavors.

5. One should keep in mind that the alert level of strategic nuclear forces and the resulting probability of an accidental nuclear conflict are in direct dependence on the state of relations between the nuclear powers. This means that by taking unfriendly steps toward Russia, such as eastward expansion of NATO and unilateral withdrawal from the ABM Treaty on the part of the United States, will stand in the way of de-alerting the strategic and tactical nuclear arms.

6. In the conditions of the current complex and dynamic international situation, a significant role in the search for ways of preventing armed conflicts is played by non-governmental and public organizations, the activities of which are free from any commitments and allow to conduct broad research and to search for non-trivial ways of maintaining strategic stability. It is possible to begin discussions at the expert level on the probable ways to de-alert strategic nuclear forces and to institute mutual verification arrangements over the implementation of the existing commitments of Russia and the United States in what concerns efforts to de-alert tactical nuclear weapons.

<http://backfromthebrink.org/factsheets/nunnspeech.html>

<http://backfromthebrink.org/factsheets/nunnspeech.pdf>

<http://www.cdi.org/nuclear/time-warp-pr.cfm>

Nuclear Time Warp

April 8, 2002 by Bruce Blair

<http://www.cdi.org/aboutcdi/nuclearturn.html>

The Nuclear Turning Point: A Blueprint for Deep Cuts and De-Alerting of Nuclear Weapons

Harold A. Feiveson, Editor

420 pp. / 1999

Despite the ongoing drawdown of strategic forces under the terms of START, both the United States and Russia maintain large arsenals of nuclear weapons poised for immediate launch. Under the most optimistic current scenarios, these arsenals will remain very large and launch-ready for more than a decade.

This book, by a distinguished group of coauthors, critically evaluates the current policy of retaining and operating large nuclear arsenals. It reviews U.S. nuclear doctrine and strategy, and the role of nuclear weapons in deterring aggression by former Cold War adversaries and other countries with weapons of mass destruction. The risks of inadvertent as well as deliberate nuclear attack are assessed.

The authors argue that small arsenals (low hundreds) on low alert satisfy all justifiable requirements for nuclear weapons. They present a blueprint for making deep cuts in U.S. and Russian deployments, and for lowering their alert level. They explain the implications of shifting to small arsenals for further constraining anti-ballistic missile defenses, strengthening verification, and capping or reducing the nuclear arsenals of China, France, and Britain as well as the threshold nuclear states. The political challenges and opportunities, both domestic and international, for achieving deep reductions in the size and readiness of nuclear forces are analyzed by the authors and by distinguished experts from other countries.

The coauthors are Bruce Blair, Jonathan Dean, James Goodby, Steve Fetter, Hal Feiveson, George Lewis, Janne Nolan, Theodore Postol, and Frank von Hippel.

An appendix with international perspectives by Li Bin (China), Alexei Arbatov (Russia), Therese Delpech (France), Pervez Hoodbhoy (Pakistan), Shai Feldman (Israel), Harald Mueller (Germany), and Zia Mian and M.V. Ramana (South Asia).

<http://www.cdi.org/issues/proliferation/blairvon.html>

A Longer Nuclear Fuse

By Frank von Hippel and Bruce Blair

As published in the Washington Post Tuesday, June 6, 2000

START II, the latest U.S.-Russian strategic arms reduction treaty, did not take effect when the Russian parliament finally voted approval in April. Conditions were attached. One is that the U.S. Senate first ratify amendments to the Anti-Ballistic Missile (ABM) Treaty negotiated by the Clinton administration in 1997 to allow theater missile defenses. The Senate's Republican leadership seeks instead to jettison the ABM Treaty, in order to clear the way for an ambitious

U.S. national missile defense. Therefore, seven years after Presidents Bush and Yeltsin agreed to reduce deployed ballistic-missile warheads by about 60 percent, implementation of START II may still be many years away.

This means that the United States and Russia are each likely to keep an extra 1,000 missile warheads on alert, ready to launch within minutes if space- or ground-based sensors report an incoming missile attack.

The U.S. nuclear bureaucracy continues to be heedless of the dangers of this hair-trigger configuration. This was recently revealed in leaked U.S. government "talking points" from the January session of the negotiations aimed at persuading Russia to accept a "thin" U.S. national missile defense. Incredibly, the United States argued that, if Russia launched its missiles on warning of an incoming U.S. missile attack, enough would survive even a surprise attack to overwhelm U.S. defenses. This would only reinforce Russia's reliance on hair-trigger readiness and increase the risk of accidental firing of hundreds to thousands of nuclear warheads at the United States.

Presidents Clinton and Putin could dramatically reduce the risk of accidental launch by repeating the bold actions of Presidents Bush and Gorbachev when faced with a similar conundrum over START I implementation in 1991. To reduce the danger quickly, the presidents ordered immediate removal from launch readiness of a large fraction of the missiles slated for elimination.

Presidents Clinton and Putin should similarly accelerate the downloading and storage of the approximately 3,000 warheads to be taken off missiles on each side by START II. This could be verified during the short-notice, on-site inspections allowed by START I. Final irreversible measures, such as destroying missile launchers, would be taken only after the START II treaty officially comes into force.

President Clinton, as the head of the country with much more invulnerable forces, should initiate this action, just as President Bush did in 1991. Wearing his hat as commander in chief, Bush announced that redundant U.S. missiles and bombers would unilaterally be taken off alert, and called on President Gorbachev to reciprocate. Russia's nuclear forces have become much more vulnerable since then, and President Putin probably cannot take the first step. If the United States led, however, world opinion would press Putin to follow suit.

In a recent speech, presidential candidate George W. Bush urged the rapid, even unilateral, de-alerting of nuclear missiles. He should join forces with a bipartisan effort to overturn Republican legislative strictures that attempt to limit the president's authority to change missile alert levels and warhead loadings. Former president Bush enjoyed wide latitude in this area. So should the sitting and future presidents.

Last weekend, at the Moscow summit, Presidents Clinton and Putin announced plans for a center in Moscow where early-warning data will be shared to address the growing danger of false warnings from Russia's crumbling missile-attack early-warning system. This is a constructive move. But the United States has only offered data that have been filtered through U.S. computers. The Russian military would surely disregard such data if it suspected a deliberate U.S. attack. In any case, this plan leaves the nuclear hair-trigger in place.

The immediate removal of the warheads in excess of the START II deployment limits would substantially reduce the risk of accidental nuclear attack. The United

States would still have an enormous deterrent, including more than 1,000 survivable nuclear warheads in submarines at sea. Whoever occupies the White House after the election should take additional actions to lengthen the nuclear fuse.

Frank von Hippel is a professor of public and international affairs at Princeton University.

[Bruce Blair](#) is president of the Center for Defense Information

[Arms Control Chronology](#)

Compiled by Jack Mendelsohn, CDI Senior Associate

David Grahame, Cambridge University Honors Graduate

January 2002

This 139-page document gathers together and organizes in one document the record of arms control efforts undertaken since the beginning of the nuclear age through 2002.

<http://www.ceip.org/files/projects/npp/resources/nuclearposturereview.htm>

NUCLEAR POSTURE REVIEW- Quick Resources

[Nuclear Posture Review](#)- Excerpts from the classified report to Congress. Posted March 14, 2002 by www.globalsecurity.org

[DoD Briefing on the Nuclear Posture Review](#), 9 January 2002

- [Briefing Slides](#)
- [Cover Letter Forwarding the NPR to Congress](#) (pdf)
- [Prequel to the Nuclear Posture Review, "Rationale and Requirements for U.S. Nuclear Forces and Arms Control,"](#) National Institute for Public Policy, January 2001 (**pdf**)
- [A Deeply Flawed Review](#), Testimony by Joseph Cirincione before the Senate Foreign Relations Committee, 16 May 2002

[New Nuclear Weapons Page](#)- Reports and Resources concerning low yield/"bunker-buster" nuclear weapons

UNIDIR Newsletter

United Nations Institute for Disarmament Research

<http://www.unog.ch/UNIDIR/E38-98.HTM>

UNIDIR NewsLetter No 38:

**Nuclear De-alerting: Taking a Step Back
1998**

<http://www.unog.ch/UNIDIR/E38-1I.HTM>

De-alerting: the Debate

**De-alerting:
A Move Towards Disarmament**

Jonathan Dean

<http://www.unog.ch/UNIDIR/E38-1II.HTM>

**De-alerting: A 'Jump Start'
for Nuclear Disarmament?**

Arjun Makhijani

<http://www.unog.ch/UNIDIR/E38-1III.HTM>

De-alerting Russian and American Nuclear Missiles

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Commission Recommendations

All five commissions and international bodies whose reports are reviewed on this web page have offered recommendations for de-alerting the global nuclear arsenal.

*Among the immediate steps recommended by **Canberra Commission** [<http://www.zero-nukes.org/howtogettozero.html#canberracommission>] in 1996 were:*

Taking nuclear forces off alert.
Removal of warheads from delivery vehicles.

*In its 1997 report the **Committee on International Security and Arms Control of the National Academy of Sciences** [<http://www.zero-nukes.org/howtogettozero.html#nas>] called upon the United States and Russia to:*

Eliminate the practice of maintaining nuclear forces on continuous alert status so that the launch sequence for nuclear weapons would require hours, days, or even weeks rather than minutes. Such a provision would have to be accompanied by reliable means of determining compliance.

*Among the measures recommended in 1998 by the **New Agenda Coalition** [<http://www.zero-nukes.org/howtogettozero.html#newagendacoalition>] was:*

Abandoning present hair-trigger postures by proceeding to de-alerting and de-activating their weapons.

*The **Tokyo Forum** (1999) [<http://www.zero-nukes.org/howtogettozero.html#tokyoforum>] offered a recommendation for:*

Zero nuclear weapons on hair-trigger alert.

*Among the practical steps adopted by the **2000 NPT Review Conference** [<http://www.zero-nukes.org/howtogettozero.html#2000nptreview>] was:*

Concrete agreed measures to further reduce the operational status of nuclear weapons systems.

*More recently the **Institute of International Economy and Foreign Relations of the Russian Academy of Sciences** in 2001 published a report on "[De-alerting Russian and US Nuclear Weapons: A Path to Reducing Nuclear Dangers](http://www.ieer.org/russian/pubs/dlrtbk-e.html)". [<http://www.ieer.org/russian/pubs/dlrtbk-e.html>] This report spoke of the "danger which stems from maintaining excessive nuclear arsenals and from the potential of their use." Excerpts from the report are the following:*

It seems that the launch-on-warning concept, which presupposes continuous combat readiness of the most vulnerable systems, such as silo-launched ICBMs, coupled with a flawed early warning system (EWS), increases the probability of an accidental nuclear war. The most apparent way to prevent the consequences of a mistake or incorrect

interpretation of EWS data is to de-alert the strategic nuclear forces and to extend the decision-making time vis-a-vis a nuclear attack.

The high alert status of nuclear weapons increases the risk of an accidental nuclear war for a number of reasons, which can be grouped as follows:

- data processing and combat command and control systems errors;
- technical faults and failures of combat systems;
- inadequate evaluation of the evolving situation by the top political and military command and erroneous decision-making; and
- erroneous or unauthorized actions as well as mental breakdowns of the attending military personnel in charge of the nuclear weapons.

If nuclear forces of both sides are maintained at lower levels of combat readiness, there is no need to have large quantities of warheads and delivery vehicles, which are maintained out of the fear that a large portion of the arsenal could be destroyed in a preventive surprise strike by the adversary.

Only if we abandon the concept of maintaining our nuclear forces on constant alert do we have a real chance of reducing the probability of an accidental nuclear war.

The authors of this report on "De-alerting Russian and US Nuclear Weapons" are Alexei Georgievich Arbatov, Vladimir Semyonovich Belous, Alexander Alexeevich Pikaev, and Vladimir Georgievich Baranovsky, all members of the Russian Academy of Sciences.

Marie,

The De-alerting addition to How to Get to Zero is quite complicated. Generally it looks good, but a number of detailed corrections are needed. Here they are:

(1) In the index at the top of the page, provide a link between "De-alerting" and the place where the subject is presented.

(2) Where De-alerting starts under INTERIM MEASURES, use larger type for "De-alerting".

(3) At that point list the four sub-topics:

* *Civil Sector Advocates*

* *Commission Recommendations*

* *Military Leaders' Proposals*

* *Views of Religious Organizations*

Each of these should be linked to where they appear below.

(4) In the opening section, beginning with "Definition", I want certain words in bold face for emphasis. Apparently bold face in italic didn't come through when you download my attachment. I am sending a more precise Word attachment for this section with instructions for bold face.

(5) In the introductory paragraphs, you didn't provide linkage for underlined words as requested. In the attachment I am indicating where underlining should occur.

(6) In the box for De-alerting: Civil Sector Advocates, each entry should be linked with the presentation for that person or organization. Also, the bullets should be larger.

(7) The heading for Back from the Brink is missing. In the first paragraph "Back from the Brink" should be in bold face.

(8) The heading for Bruce Blair is missing. In the first paragraph use bold face rather than underlining for Bruce Blair, Ph.D. Also bold face instead of underlining for "Global Zero Alert for Nuclear Forces". In the third paragraph use bold face for Harold A. Feiveson, Ph.D., Frank N. von Hippel, Ph.D (but not the "and").

(9) In the indented section "How to De-alert", have no space after "How to De-alert". Indent four items so that the bullets are under "How".

(9) The heading for George W. Bush is missing. In the first paragraph use bold face rather than underlining for George W. Bush.

(10) The heading for Jonathan Dean is missing. Also his photo, which is at <http://www.ucsusa.org/news/expjd.html>. In the first paragraph use bold face rather than underlining for Jonathan Dean.

(12) The heading for Arjun Makhijani is missiing. Also his photo, which is at <http://www.usatoday.com/community/chat/0907makhijani.htm>. In the first paragraph use bold

face rather than underlining for Arjun Makhijani, Institute for Energy and Environmental Research (IEER).

(13) In the indented section, have no space after "Short-term De-alerting Measures" and indent the four items so that the bullets are under "Short-term". The same applies to "Medium-Term Measures".

(14) The heading for Sam Nunn is missing. Also his photo, which is at http://www.nti.org/b_aboutnti/b1b.html. In the first paragraph use bold face rather than underlining for Sam Nunn, Nuclear Threat Initiative.

(15) The heading for Republican Party Platform is missing.

(16) The heading for Russian Academy of Sciences is missing. In the first paragraph put in bold face "Institute of International Economy and Foreign Relations of the Russian Academy of Sciences."

(17) The heading for Articles is missing. In the first paragraph put in bold face "The New England Journal of Medicine". Same in second paragraph for "The UNIDIR NewsLetter No. 38 (1998).

(18) At the end of the paragraph on the UNIDIR newsletter, underline "comments by General Lee Butler" and link to where this appear later under Military Views.

(19) At the end of Civil Sector Advocates and before Commission Recommendations, you might want to put back to top.

(20) Re-write the introduction to Commission Recommendations as follows:

[Italics] "Elsewhere this web page reviews [begin underscoreing] Reports of Commissions and International Bodies [end underscoreing; provide linkage to this item in the index at near the top of this page]. Five of them offered recommendations for de-alerting the global nuclear arsenal.

(21) Use bold face instead of underlining for the names of the five commissions.

(22) At end of Commission Recommendations box put "back to top" and provide more space.

(23) The heading for Military Leaders Proposals is missing.

(24) The names of the general and admirals should be bold face rather than underlined.

(25) At the end of Military Leaders Proposals put "back to top" and provide more space.

(26) The heading for Views of Religious Organizations is missing.

(27) Put the following in bold face rather than underlining:

General Board of American Baptist Churches

Ernie Regehr...Project Ploughshares...Canadian Council of Churches

Godfried Cardinal Daneels, president of Pax Christi International
the Rev. Dr. Konrad Raiser, general secretary of the World Council of Churches
Friends Committee on National Legislation
1992 United Methodist General Conference
2000 United Methodist General Conference

(28) Change the linkage on "letter to the Canadian prime minister" to: <http://www.ccc-cce.ca/english/jp/index.html?nuclear03-02.htm~main>

(29) A better linkage for the 2000 United Methodist General Conference is <http://www.zerounukes.org/religiousstatements.html#sayingno>.

(30) At the end of the box on Views of Religious Organizations, put "back to top".

Introductory paragraphs for "De-alerting"

[italic, bold face] Definition. De-alerting refers to the process of lowering the alert status of nuclear weapons, that is, lengthening the time needed to launch these weapons.[end bold face] The United States and Russian still keep thousands of weapons on "hair-trigger alert" ready for quick launch on short notice. De-alerting would change to this status to require several hours, days, or months to prepare for launching. The weapons would still be available for use, but it would require time to re-activate them.

[bold face] Reasons.[end bold face] Some propose de-alerting primarily as [bold face] a safety measure [end bold face] to guard against accidental launch and to provide political and military leaders sufficient time to decide whether to use nuclear weapons in moments of crisis. Others share the safety objective but also advocate de-alerting as [bold face] a step toward de-activation and dismantlement of nuclear weapons. [end bold face] As such de-alerting is an interim measure on the road to total abolition.

[bold face] Advocates. [end bold face] During the last ten years advocacy of de-alerting has come from a variety of sources: [bold face] civil sector, military leaders, religious organizations, study groups and international commissions. [end bold face] We summarize their recommendations below and provide linkage to full statements and reports.

*[bold face] Why not? If such a diverse group supports de-alerting nuclear weapons, why hasn't it happened. In an article quoted below, [bold face, underline] [Bruce Blair](#), [link to Blair below, end underlining, continue bold face] **Harold A. Feiveson**,[end bold face] and [bold face] **Frank N. von Hippel** [end bold face] provide the answer. They indicate: [end italic]*

De-alerting will not be possible, however, as long as the United States Strategic Command and the Russian Federation's Strategic Rocket Force believe that they must be prepared to launch a counterattack against the entire structure of the other country's nuclear forces within a few minutes of detection of an incoming attack.

[italic] Experts from the [bold face] [Russian Academy of Sciences](#) [linkage with below; end bold face, underlining] say something similar. They write: [end italic]

If nuclear forces of both sides are maintained at lower levels of combat readiness, there is no need to have large quantities of warheads and delivery vehicles, which are maintained out of the fear that a large portion of the arsenal could be destroyed in a preventive surprise strike by the adversary.

[italic] In short, [bold face] adherence to the Cold War doctrine of mutual assured destruction, [end bold face] still in place in the U.S. Nuclear Posture Review and in the Strategic Offensive Reductions Treaty of 2002,[bold face] is a primary roadblock to de-alerting.[end bold face]

Addition to How to Get to Zero page

I. Near the top of page where sections are indexed

(A) Put "INTERIM MEASURES" ahead of
"SCENARIOS FOR ACHIEVING ZERO NUCLEAR WEAPONS"

(B) Add to Interim Measures as follows with each item linked to entree below.

INTERIM MEASURES

- **De-alerting**
 - Civil Sector Advocates**
 - Commission Recommendations**
 - Military Leaders' Proposals**
 - Views of Religious Organizations**
- **Reductions Approaching Zero**

II. In the body of the page after Reports of Commissions and International Bodies (and before the "SCENARIOS...." section).

(A) Put the section on INTERIM MEASURES

(1) Retain existing lead paragraph

(2) Then add a new section on "De-alerting", as follows. Each item should be linked to entree below.

De-alerting

- ***Civil Sector Advocates***
- ***Commission Recommendations***
- ***Military Leaders' Proposals***
- ***Views of Religious Organizations***

[no box for introductory paragraphs]

Definition. *De-alerting refers to the process of lowering the alert status of nuclear weapons, that is, lengthening the time needed to launch these weapons. The United States and Russian still keep thousands of weapons on "hair-trigger alert" ready for quick launch on short notice. De-alerting would change to this status to require several hours, days, or months to prepare for launching. The weapons would still be available for use, but it would require time to re-activate them.*

Reasons. *Some propose de-alerting primarily as a safety measure to guard against accidental launch and to provide political and military leaders sufficient time to decide whether to use nuclear weapons in moments of crisis. Others share the safety objective but also advocate de-alerting as a step toward de-activation and dismantlement of nuclear weapons. As such de-alerting is an interim measure on the road to total abolition.*

Advocates. During the last ten years advocacy of de-alerting has come from a variety of sources: **civil sector, military leaders, religious organizations, study groups and international commissions.** We summarize their recommendations below and provide linkage to full statements and reports.

Why not? If such a diverse group supports de-alerting nuclear weapons, why hasn't it happened. In an article quoted below, **Bruce Blair**, [link to Blair below] **Harold A. Feiveson**, and **Frank N. von Hippel** provide the answer. They indicate:

De-alerting will not be possible, however, as long as the United States Strategic Command and the Russian Federation's Strategic Rocket Force believe that they must be prepared to launch a counterattack against the entire structure of the other country's nuclear forces within a few minutes of detection of an incoming attack.

Experts from the **Russian Academy of Sciences** [linkage with below] say something similar. They write:

If nuclear forces of both sides are maintained at lower levels of combat readiness, there is no need to have large quantities of warheads and delivery vehicles, which are maintained out of the fear that a large portion of the arsenal could be destroyed in a preventive surprise strike by the adversary.

In short, adherence to the Cold War doctrine of mutual assured destruction, still in place in the U.S. Nuclear Posture Review and in the Strategic Offensive Reductions Treaty of 2002, is a primary roadblock to de-alerting.

[begin a box, using the model of the Religious Statements page

De-alerting [in colored box]

Civil Sector Advocates

- ***Back from the Brink Campaign***
- ***Bruce Blair and colleagues***
- ***George W. Bush***
- ***Jonathan Dean***
- ***Arjun Makhijani***
- ***Sam Nunn***
- ***Republican Party Platform***
- ***Russian Academy of Sciences***
- ***Articles***
 - New England Journal of Medicine***
 - UNIDIR Newsletter***

Back from the Brink

Back from the Brink [<http://backfromthebrink.org/index.html>], a campaign to take nuclear weapons off high-alert status, is comprised of over 40 national arms control and disarmament organizations and hundreds of local and regional groups. Ira Shorr serves as director. *Back from the Brink* has available organizing resources [<http://backfromthebrink.org/organizing>] and a variety of fact sheets and other information sources, including:

- A briefing book, *Short Fuse to Catastrophe: The Case for Taking Nuclear Weapons Off Hair-trigger Alert* [<http://backfromthebrink.org/factsheets/newbk.html>]
- *Timeline to Catastrophe* [<http://backfromthebrink.org/factsheets/timeline.html>], a graphic presentation of what it means to have nuclear weapons on hair-trigger alert.
- *Questions and Answers about De-alerting Nuclear Weapons* [<http://backfromthebrink.org/factsheets/qanda/q&a.html>]

Bruce G. Blair and colleagues

[photo of Bruce Blair from <http://www.brook.edu/dybdocroot/scholars/bblair.htm>]

Bruce G. Blair, Ph. D [<http://backfromthebrink.org/board/board.html#blair>] is **president of the Center for Defense Information**. He is America's foremost authority on de-alerting nuclear weapons. From his service in the U.S. Air Force as a Minuteman ICBM launch control officer, he gained first-hand knowledge of nuclear weapons. In thirteen years as a senior fellow at the Brookings Institution, he conducted studies and wrote reports about different aspects of strategic nuclear weapons.

In a 1995 Brookings paper, ***Global Zero Alert for Nuclear Forces***, [<http://backfromthebrink.org/factsheets/globalzero.html>] Dr. Blair analyzed the unstable nuclear posture of both Russia and the United States and the specter of nuclear anarchy in the former Soviet Union. He noted:

Taking all nuclear weapons off alert so that none remain poised for immediate launch is the ounce of prevention for nuclear anarchy in its many forms.

Dr. Blair joined with ***Harold A. Feiveson, Ph.D.*** and ***Frank N. von Hippel, Ph.D.***, both from Princeton University, in an article on "*Taking Nuclear Weapons off Hair-Trigger Alert*" [linkage to be supplied] that appeared in the November 1997 issue of *Scientific American*. They laid out "a prescription for change" that specified a sequence for reducing the alert level for categories of nuclear weapons systems. They concluded:

This blueprint for taking U.S. and Russian nuclear forces off alert would substantially diminish the ability of either country to mount a first strike. Thus, it would eliminate both the capacity and rationale for keeping missiles ready to fire on warning. Leaders would have to wait out any alarm of an attack before deciding how to respond, drastically reducing the risk of a mistaken or unauthorized launch.

Blair, Feiveson, and von Hippel returned to this subject in 1998 in an article entitled "De-alerting Russian and American Nuclear Missiles" [<http://www.unog.ch/UNIDIR/E38-1III.HTM>] published in Newsletter No. 38 of the United Nations Institute for Disarmament Research. Having talked with both American and Russian nuclear planners and heard their objections to de-alerting, they laid out a scenario designed to meet these concerns. In outline their plan was as follows:

How to De-alert

- Put American 'anti-silo' warheads in storage
- Deploy American submarines in a less threatening manner
- De-activate to Start III levels*
- Reversibly de-alert the remaining missiles

* A level that President Clinton and President Yeltsin agreed to in Helsinki in March 1997. In the Strategic Offensive Reductions Treaty of 2002 President Bush and President Putin agreed to approximately this same level.

But the three scholars warned:

De-alerting will not be possible, however, as long as the United States Strategic Command and the Russian Federation's Strategic Rocket Force believe that they must be prepared to launch a counterattack against the entire structure of the other country's nuclear forces within a few minutes of detection of an incoming attack.

On September 6, 2001 Bruce Blair spoke at a Capitol Hill news conference on "The Decay of Russia's Early Warning Satellite System".

[<http://backfromthebrink.org/factsheets/russiadecay.html>] *He indicated:*

Taking nuclear missiles off of hair-trigger alert in Russia would greatly reduce the risks of their mistaken launch on false warning or their unauthorized launch. De-alerting would lengthen the decision time available to leaders and buy a large margin of safety against a failure of control that could trigger an unintended nuclear exchange. In order to motivate Russia to de-alert its nuclear forces, the United States must relax its own nuclear posture

Currently, the United States projects a constant threat of the sudden decimation of the Russian arsenal, a threat that keeps Russia on hair-trigger alert. By standing down the most lethal weapons in the U.S. arsenal, such as the MX Peacekeeper force, Russia would gain confidence in the survivability of its arsenal, confidence that would allow it to reciprocate by de-alerting its own arsenal.

George W. Bush

[photo of Bush]

*During the 2000 presidential campaign, **George W. Bush**, then governor of Texas, offered his views on nuclear weapons in a speech on May 23, 2000 at the National Press Club. He stated:*

America should rethink the requirements for nuclear deterrence in a new security environment. The premises of Cold War nuclear targeting should no longer dictate the

size of our arsenal. . . . We should not keep weapons that our military planners do not need. These unneeded weapons are the expensive relics of dead conflicts. And they do nothing to make us more secure.

In addition, the United States should remove as many weapons as possible from high-alert, hair-trigger status – another unnecessary vestige of Cold War confrontation. Preparation for quick launch – within minutes after warning of an attack – was the rule during the era of superpower rivalry. But today, for two nations at peace, keeping so many weapons on high alert may create unacceptable risks of accidental or unauthorized launch. So, as president, I will ask for an assessment of what we can safely do to lower the alert status of our forces.

President George W. Bush, however, has not followed through on this campaign commitment. The Nuclear Posture Review, completed in January 2002, makes no provision for de-alerting. The Strategic Offensive Reductions Treaty, signed by President Bush and Russian President Putin, in May 2002, provides for reduction of actively deployed strategic warheads to 1,700-2,200 by December 2012. In a sense that could be considered "de-alerting" those taken out of service. However, in the meantime they remain on high-alert until deactivated. Under present arrangements the United States will retain between 1,500 and 2,000 warheads on high-alert after 2012.

Jonathan Dean

[photo from <http://www.ucsusa.org/news/expjd.html>]

*As an ambassador in the U.S. Foreign Service, **Jonathan Dean***

[<http://www.ucsusa.org/news/expjd.html>] was an arms control negotiator on European security. He is now an advisor on global security issues for the Union of Concerned Scientists. His 1998 article, "[De-alerting: A Moved Toward Disarmament](http://www.unog.ch/UNIDIR/E38-11.HTM)" [<http://www.unog.ch/UNIDIR/E38-11.HTM>] in the newsletter of the United Nations Institute for Disarmament Research, explores the relationship between de-alerting and disarmament.

Ambassador Dean believes that substantial de-alerting would involve considerable time-consuming negotiation. He writes:

A large-scale de-alerting programme of parallel action by two or more NWS [nuclear weapon states] would require six or more . . . steps:

- agreement not to increase the number of deployed warheads;
- complete data exchange;
- agreement on how many deployed delivery systems and warheads each party has, how many will be de-alerted and how many will remain operational;
- agreement on how de-alerting will be carried out;
- far-reaching de-alerting requires participation of all five NWS;
- as with the deep-cuts programme [which he outlined], a specific part of the nuclear forces of participants might be left deployed to deter cheating and breakout; and
- verification.

Ambassador Dean notes that many of these steps are similar to what is required in the negotiation of an agreement for deep cuts in the nuclear arsenal. Therefore, a de-alerting agreement would reduce the time required for achieving a deep cuts agreement.

Arjun Makhijani

[photo from <http://www.usatoday.com/community/chat/0907makhijani.htm>]

*With a Ph.D in physics, **Arjun Makhijani** [<http://www.ieer.org/vitaarj.html>] is president of the **Institute for Energy and Environmental Research (IEER)** [<http://www.ieer.org>] in Takoma Park, Maryland. He is the author of numerous books and reports on nuclear weapons, nuclear waste, and other energy and environmental issues.*

In "De-alerting: A 'Jump Start' for Nuclear Disarmament?" [<http://www.unog.ch/UNIDIR/E38-III.HTM>], a 1998 article in the newsletter of the United Nations Institute for Disarmament Research, Dr. Makhijani outlines ways to achieve de-alerting, as follows:

Short-term De-alerting Measures

- Reducing the number of strategic submarines on patrol and the number of warheads per SLBM;
- Removing guidance modules of missiles;
- Pinning open missile motor switches and removing the pneumatic missile cover opening systems;
- Covering of missile silos with large mounds of earth;
- Removing tritium bottles, especially from warheads that could be used in a first strike, and storing these bottles at remote locations;
- Separating bombs from bombers and storing the bombs at remote locations, if secure storage sites are available;
- Separating warheads from missiles to the extent that secure storage space is available;
- Stuffing pits of warheads designated for permanent removal from arsenals;
- Stopping all nuclear-weapons production activities and dismantling nuclear warheads deemed to be unsafe or unreliable instead of replacing them.

Medium-Term Measures

- Removing and remotely storing all warheads separately from delivery systems under multilateral monitoring;
- Storing all guidance systems at locations remote from delivery systems under multilateral monitoring; and
- Multilateral verification of all materials accounts for weapons-usable materials to ensure compatibility of warhead declarations, numbers of de-alerted warheads and stored weapons-usable materials.

Dr. Makhijani concludes:

The longest-term de-alerting approaches slide into disarmament measures. They include dismantlement of warheads and storage of all weapons-usable fissile materials under IAEA safeguards or in non-weapons usable forms. These measures will take one or more

decades, depending on the technologies chosen to implement them. These measures would be considered part of a de-alerting process if the facilities to reconstitute nuclear arsenals are maintained. They would be part of nuclear disarmament if the warhead and associated materials production and processing facilities are also dismantled.

Sam Nunn

[photo of Sam Nunn from http://www.nti.org/b_aboutnti/b1b.html]

*A former U.S. senator, **Sam Nunn** [http://www.nti.org/b_aboutnti/b1b.html] is co-chairman and chief executive officer of the **Nuclear Threat Initiative** [<http://www.nti.org/>], an organization working to reduce the risk of use and prevent the spread of weapons of mass destruction. In his congressional career Senator Nunn served as chair of the Senate Armed Services Committee.*

In a speech entitled "Toward a New Security Framework"

[<http://backfromthebrink.org/factsheets/nunnspeech.pdf>] given at the Woodrow Wilson Center in Washington, D.C. on October 3, 2001, Senator Nunn proposed an integrated approach for dealing with weapons of mass destruction, including measures for arms reduction, de-alerting, non-proliferation, security for nuclear material, and defense. On de-alerting he was particularly concerned about the short time that President Bush and President Putin have to respond to a possible nuclear attack. He noted

The events of September 11 gave President Bush very little time to make a very difficult decision -- whether to give orders to shoot down a commercial jetliner, filled with passengers. Our current nuclear posture in the U.S. and Russia could provide even less time for each President to decide on a nuclear launch that could destroy our nations.

I suggest that the two Presidents issue an order directing their military leaders, in joint consultation and collaboration, to devise operational changes in the nuclear forces of both nations that would reduce toward zero the risk of accidental launch or miscalculation and provide increased launch decision time for each President. Such an order should emphasize that it is the intention of the U.S. and Russia to "stand down" their nuclear forces to the maximum extent practical consistent with the security interests of each country. They could start immediately with those weapons systems that are to be eliminated under the START II Treaty.

Republican Party Platform

The Republican Party Platform adopted at the 2000 Republican National Convention contained the following provision:

The United States should work with other nuclear nations to remove as many weapons as possible from high-alert, hair-trigger status -- another unnecessary vestige of Cold War confrontation. -- to reduce the risks of accidental or unauthorized launch.

Russian Academy of Sciences

*In 2001 the **Institute of International Economy and Foreign Relations of the Russian Academy of Sciences** in 2001 published a report on "De-alerting Russian and US Nuclear Weapons: A*

Path to Reducing Nuclear Dangers". [http://www.ieer.org/russian/pubs/dlrbk-e.html] The authors are Alexei Georgievich Arbatov, Ph.D., General Vladimir Semyonovich Belous, Alexander Alexeevich Pikayev, Ph.D., and Vladimir Georgievich Baranovsky, Ph.D., all members of the Russian Academy of Sciences.

This Russian report spoke of the "danger which stems from maintaining excessive nuclear arsenals and from the potential of their use." Excerpts from the report are as follows::

It seems that the launch-on-warning concept, which presupposes continuous combat readiness of the most vulnerable systems, such as silo-launched ICBMs, coupled with a flawed early warning system (EWS), increases the probability of an accidental nuclear war. The most apparent way to prevent the consequences of a mistake or incorrect interpretation of EWS data is to de-alert the strategic nuclear forces and to extend the decision-making time vis-a-vis a nuclear attack.

The high alert status of nuclear weapons increases the risk of an accidental nuclear war for a number of reasons, which can be grouped as follows:

- data processing and combat command and control systems errors;
- technical faults and failures of combat systems;
- inadequate evaluation of the evolving situation by the top political and military command and erroneous decision-making; and
- erroneous or unauthorized actions as well as mental breakdowns of the attending military personnel in charge of the nuclear weapons.

If nuclear forces of both sides are maintained at lower levels of combat readiness, there is no need to have large quantities of warheads and delivery vehicles, which are maintained out of the fear that a large portion of the arsenal could be destroyed in a preventive surprise strike by the adversary.

Only if we abandon the concept of maintaining our nuclear forces on constant alert do we have a real chance of reducing the probability of an accidental nuclear war.

In January 2002 two of the authors of the Russian report, General Vladimir Belous and Dr. Alexander Pikayev, participated in a Washington, D.C. Forum on "Strategic Partners or Nuclear Targets" [http://backfromthebrink.org/factsheets/russianexpert/russianexpert.html], co-sponsored by Back from the Brink and the Non-Proliferation Project [http://www.ceip.org/files/projects/npp/npp_home.ASP] of the Carnegie Endowment for International Peace.

Articles

The New England Journal of Medicine, volume 338, number 18, April 30, 1998 contains a special report, "Accidental Nuclear War -- A Post-Cold War Assessment". The article by Lachlan Forrow, M.D. and eight co-authors noted:

- U.S. and Russian nuclear-weapon systems remain on high alert.

- This fact, combined with the aging of Russian technical systems, has recently increased the risk of an accidental nuclear attack.
- As a conservative estimate, an accidental intermediate-sized launch of weapons from a single Russian submarine would result in the deaths of 6,838,000 persons from firestorms in eight U.S. cities. Millions of other people would probably be exposed to potentially lethal radiation from fallout.
- An agreement to remove all nuclear missiles from high-alert status and eliminate the capability of a rapid launch would put an end to this threat.

The UNIDIR NewsLetter No. 38 (1998), published by the United Nations Institute for Disarmament Research, is a special issue on "Nuclear De-alert: Taking a Step Back". [<http://www.unog.ch/UNIDIR/E38-98.HTM>]. Elsewhere on this web page references are made to articles in this NewsLetter by Bruce Blair et al, Jonathan Dean, and Arjun Makhijani. It also has articles related to Great Britain and South Asia and comments by General Lee Butler. [[link to General Butler below under Military Views](#)]

[End box for Civil Sector Advocates]

top of page

[Begin a new box]

De-alerting [in colored box]

Commission Recommendations

All five commissions and international bodies whose reports are reviewed on the How to Get to Zero [<http://www.zero-nukes.org/howtogettozero.html>] page of this web site have offered recommendations for de-alerting the global nuclear arsenal.

*Among the immediate steps recommended by **Canberra Commission** [<http://www.zero-nukes.org/howtogettozero.html#canberracommission>] in 1996 were:*

- Taking nuclear forces off alert.
- Removal of warheads from delivery vehicles.

*In its 1997 report the **Committee on International Security and Arms Control of the National Academy of Sciences** [<http://www.zero-nukes.org/howtogettozero.html#nas>] called upon the United States and Russia to:*

- Eliminate the practice of maintaining nuclear forces on continuous alert status so that the launch sequence for nuclear weapons would require hours, days, or even weeks rather than minutes. Such a provision would have to be accompanied by reliable means of determining compliance.

*Among the measures recommended in 1998 by the **New Agenda Coalition** [<http://www.zero-nukes.org/howtogettozero.html#newagendacoalition>] was:*

Abandoning present hair-trigger postures by proceeding to de-alerting and de-activating their weapons.

*The **Tokyo Forum** (1999) [<http://www.zero-nukes.org/howtogettozero.html#tokyoforum>] offered a recommendation for:*

Zero nuclear weapons on hair-trigger alert.

*Among the practical steps adopted by the **2000 NPT Review Conference** [<http://www.zero-nukes.org/howtogettozero.html#2000nptreview>] was:*

Concrete agreed measures to further reduce the operational status of nuclear weapons systems.

[end box for Commission Recommendations]

top of page

[begin box]

De-alerting [in colored box]

Military Leaders Proposals

<http://www.zero-nukes.org/howtogettozero.html>

Several of the military officers presented on the [Military Leaders Speak Out](http://www.zero-nukes.org/militaryleaders.html) [<http://www.zero-nukes.org/militaryleaders.html>] page of this web site have advocated de-alerting or have proposed other ways to take the deployed nuclear arsenal out of active service.

General Lee Butler [<http://www.zero-nukes.org/militaryleaders.html#generalbutler>], formerly commander-in-chief of the U.S. Strategic Command, was a [Special Commentator](http://www.unog.ch/UNIDIR/E38-SC.HTM) [<http://www.unog.ch/UNIDIR/E38-SC.HTM>] in the *UNIDIR NewsLetter No. 38 (1998)* on "Nuclear De-alert: Taking a Step Back". He wrote:

It was my privilege (and, I believed, my responsibility as the Cold War was ending) to recommend to the President of the United States that we begin reducing the alert posture of our strategic nuclear forces beginning with long range bombers. Upon the President's direction, I gave the order to reduce bomber launch readiness in September of 1991, nearly seven years ago. At the time, I believed that it would be possible to begin the process of reducing the alert status of land-based and sea-based missiles within a matter of months. That aspiration has been rendered moot as bureaucratic inertia and political timidity have taken increasing hold of the arms control arena.

Nonetheless, the issue of reducing further strategic nuclear weapon system postures, more commonly known as de-alerting, has taken on renewed importance thanks to the reasoned and persistent attention given to the subject by a growing coterie of individuals and organizations.

Admiral Eugene J. Carroll, Jr., [http://www.zero-nukes.org/militaryleaders.html#eugenecarroll] in a 1998 address to the Olaf Palme Institute in Sweden outlined a series of steps that could lead to the ultimate elimination of nuclear weapons. Among them was:

Take thousands of nuclear warheads off of alert status.

On another occasion Admiral Carroll spoke of the tasks that must be accomplished to achieve the abolition of nuclear weapons. Among them, he noted:

- we work for the de-alerting of strategic weapons
- we work for separation of warheads from delivery vehicles

Admiral Noel Gayler [http://www.zero-nukes.org/militaryleaders.html#admiralgayler] has developed an approach to a general nuclear settlement that removes nuclear weapons from active service. He advocates:

Let weapons be delivered to a single point, there to be dismantled, the nuclear material returned to the donors for use or disposal, and the weapons destroyed.

Admiral Stansfield Turner [http://www.zero-nukes.org/militaryleaders.html#admiralturner] favors moving nuclear weapons from active deployment to a strategic reserve. He explains:

- You take a thousand warheads off of missiles in the United States today and you move them maybe 300 miles away, so they can't just go back overnight. You ask the Russians to put observers on that storage site where you've put the thousand warheads. They can count what went in, they can count if anything went out. . . .
- You don't need detailed verification procedures that take years to negotiate in a treaty. What you hope is the Russians then take a thousand off and put our observers on them. . . .
- We do another thousand, they do another thousand. I mean from today's numbers, we can be down into hundreds in a matter of, in my opinion, four or five years if we do this. And the most urgent thing for the United States today is to get the Russian nuclear arsenal off alert, get it down to as few of these as possible.
- And my ultimate objective is to get every nuclear warhead in the world in escrow so nobody can pull the trigger today, but if somebody cheats, like Saddam Hussein, and

decides to threaten the world because he's got the nuclear weapons that he shouldn't, then you still have the warheads in escrow and you can bring them back.

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[begin box for Religious Views]

De-alerting [in colored box]

Views of Religious Organizations

A number of religious organizations represented on the Religious Statements [<http://www.zero-nukes.org/religiousstatements.html>] page of this web site have spoken in favor of de-alerting the nuclear arsenal. They see this as way to provide safety from accidental nuclear attack and as a step toward nuclear abolition.

*The **General Board of American Baptist Churches, USA** in its 1992 Resolution on Arms Reduction: [<http://www.abc-usa.org/resources/resol/armsred2.htm>]*

Calls on all nuclear powers to take all nuclear weapons off alert status.

*In a letter to the Canadian prime minister [<http://www.ccc-ccc.ca/english/jp/index.html>] **Ernie Regehr**, director of **Project Ploughshares**, an agency of the **Canadian Council of Churches**, indicated:*

We urge the Government of Canada to advocate measures to remove nuclear weapons from alert status, to support de-mating (separating warheads from delivery systems), and in the case of tactical weapons to keep them out of the control of operational units.

*In their 1998 statement to the NPT Preparatory Committee [<http://www.zero-nukes.org/religiousstatements.html#npt>], **Godfried Cardinal Danneels**, president of **Pax Christi International**, and the **Rev. Dr. Konrad Raiser**, general secretary of the **World Council of Churches**, asked the delegates to call upon the nuclear weapon states to:*

Take all nuclear forces off alert and remove warheads from delivery vehicles.

*The **Friends Committee on National Legislation** in an "An Overview of De-alerting Nuclear Weapons" [http://www.fcnl.org/issues/arm/sup/nuclear_weapons_overview.htm] notes that*

Taking nuclear weapons off hair-trigger, or 'de-alerting' the weapons, would significantly reduce the chance of nuclear disaster.

In January 2001 FCNL provided leadership for a Religious Leaders' Appeal to President Bush to De-Alert Nuclear Weapons [http://www.fcnl.org/issues/arm/sup/nuclear_weapons_religldr.htm]. In this letter Christian, Jewish, Muslim, Unitarian, and Native American religious leaders stated:

Within our faith communities, policies concerning nuclear weapons raise profound questions about our moral responsibilities, the integrity of God's creation, and human destiny. These moral questions persist as long as the threat of nuclear war continues. As an interfaith community, we assert that the de-alerting of all nuclear weapons is a prudent and necessary step toward eliminating the threat of nuclear war.

The 1992 United Methodist General Conference adopted a resolution entitled "Nuclear Weapons: The Zero Option". At that time the successor to the Soviet Union was called the Commonwealth of Independent States. The General Conference indicated:

- We recommend that the United States and the Commonwealth of Independent States immediately and concurrently deactivate their entire land- and sea-based strategic arsenal. They should:
 - bring all strategic submarines into port, remove their missiles, and take off the warheads;
 - open all ICBM silos, take out the missiles, place them on the ground, and remove the warheads.
- We hope that Great Britain, France, and China will understand the necessity to deactivate immediately their strategic arsenal: land-, air-, and sea-based.

The 2000 United Methodist General Conference [<http://www.zero-nukes.org/religiousstatements.html#methodist>] returned to this subject in a resolution on "Saying No to Deterrence" that called upon all possessors of nuclear weapons to carry out a number of actions, including:

- immediately take all nuclear weapons off alert by separating warheads from delivery vehicles and by other means

[end box for Religious Views]

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Overview of De-alerting Nuclear Weapons

January, 2001

The Danger of Accidental Nuclear War

January 25, 2001, marks the 6th Anniversary of a narrowly avoided nuclear war with Russia! On January 25, 1995, Russian radar misinterpreted a U.S. weather research rocket launched from Norway as an incoming U.S. nuclear strike. The U.S. had notified Russia of its plans to launch the research rocket, but the information had not reached the appropriate Russian officials. Current Russian policy is to launch retaliatory missiles upon the warning of a possible nuclear strike without taking time to determine the validity of the warning. Fortunately, President Yeltsin chose to ride out the crisis and not follow policy. The world narrowly avoided a nuclear holocaust.

The Continuing Threat of Nuclear War

As highlighted by the mis-communication that occurred in 1995, nuclear danger did not end with the end of the Cold War. The United States and Russia still each have about 2,500 war heads on hair-trigger alert. This means that both countries have nuclear weapons that are ready to fire in as little as three minutes! Keeping weapons on hair-trigger alert leaves arsenals vulnerable to accidental and unauthorized launches. Russia's desperate economic condition exacerbates this situation. The government can no longer afford to pay many of its guards at nuclear sites, meaning that many nuclear weapons facilities are left unsupervised and vulnerable. Russia's early detection system has deteriorated to such an extent that two thirds of its ground-based radar and satellites are inactive or failing.

A Practical Step to Reducing the Nuclear Threat

Taking nuclear weapons off hair-trigger, or "de-alerting" the weapons, would significantly reduce the chance of nuclear disaster. Removing nuclear weapons from hair-trigger alert would lengthen the time needed to launch a nuclear missile, therefore making human and computer error less likely to occur.

De-alerting nuclear weapons means increasing the time needed to prepare missiles for launching from minutes to days, weeks or longer. Some methods of de-alerting include:

- removing nuclear warheads from missiles and storing them separate from their delivery vehicles
- pinning open the safety switches on missile motors to avoid accidental firing
- removing guidance systems from missiles
- covering land-based missile silo covers with mounds of dirt that must be moved before the doors could be opened

Legislative History and Proposals for De-alerting

In the 106th Congress, Representative Ed Markey of Massachusetts introduced a resolution to urge the United States to remove its nuclear weapons from hair-trigger status and to work with Russia to do the same. The resolution asked for an agreement to be negotiated with Russia and other nuclear powers to take all nuclear weapons off hair-trigger status, for the U.S. to be the first to change the missile status, and for the Department of Defense to study methods for gradually increasing the time needed to launch nuclear missiles. In August of 1999 the resolution was

referred to the House International Relations Committee (HICR). The HICR took no action on the bill during the 106th Congress.

In a major national security speech during his campaign, President George W. Bush suggested that "the United States should remove as many weapons as possible from high-alert, hair-trigger status." The Friends Committee on National Legislation has helped to [facilitate a letter to President Bush from religious leaders](#) asking that he follow through with the campaign promise to remove nuclear weapons from hair-trigger status. This letter was delivered by FCNL staff to the White House on January 25, 2001, the six year anniversary of the near nuclear tragedy with Russia.

<http://www.ieer.org/russian/pubs/dlrbk-e.html>

De-alerting Russian and US nuclear weapons: A path to reducing nuclear dangers

Institute of International Economy and Foreign Relations
Russian Academy of Sciences
(IMEMO RAS)

Authors: A.G. Arbatov, V.S. Belous, A.A. Pikaev, V.G. Baranovsky
Moscow, 2001

<http://www.ieer.org/latest/de-alert.html>

De-Alerting: A First Step

By: Arjun Makhijani

Photos

Bruce Blair

<http://www.brook.edu/dybdocroot/scholars/bblair.htm>

Arjun Makhijani

<http://www.usatoday.com/community/chat/0907makhijani.htm>

Jonathan Dean

<http://www.ucsus.org/news/expjd.html>

Forum with Russians

<http://backfromthebrink.org/factsheets/russianexpert/russianexpert.html>

Raiser Danneels

<http://www.zero-nukes.org/religiousstatements.html#nptactnow>

Take all nuclear forces off alert and remove warheads from delivery vehicles.

<http://www.ccc-cce.ca/english/jp/index.html>

we urge the Government of Canada to advocate measures to remove nuclear weapons from alert status, to support de-mating (separating warheads from delivery systems), and in the case of tactical weapons to keep them out of the control of operational units.

13 March 2002

The Rt. Hon Jean Chrétien
The Prime Minister
House of Commons
Ottawa, ON
Dear Prime Minister

This view was elaborated by Ernie Regehr, director of Project Ploughshares, a national peace and disarmament agency of the Canadian Council of Churches. He asked Canada to:

Call on the United States and NATO to explicitly reject all nuclear first-use options and to issue unequivocal public commitments to a policy of no-first-use. Advocate measures to remove nuclear weapons from alert status, to support de-mating (separating warheads from delivery systems), and in the case of tactical weapons to keep them out of the control of operating units.

<http://www.wcc-coe.org/wcc/who/cc2001/pi5-e.html>

World Council of Churches
CENTRAL COMMITTEE
Potsdam, Germany
29 January - 6 February 2001

Document No. **PI 5**

Adopted

STATEMENT ON NUCLEAR DISARMAMENT, NATO POLICY AND THE CHURCHES

The churches have a long history of addressing nuclear weapons issues, and in recent years the European and North American churches have worked together on NATO nuclear policy questions. In April 1999 the Canadian Council of Churches, the Conference of European Churches, and the National Council of the Churches of Christ in the USA sent a joint letter to all NATO members declaring that "Contrary to NATO's current strategic concept, nuclear weapons do not, cannot guarantee security. They deliver only insecurity and peril through their promise to annihilate life itself and to ravage the global ecosystem upon which all life depends."

The Councils called on the governments of all NATO members to ensure that NATO policy:

- affirms NATO's support for the rapid global elimination of nuclear weapons and commits the Alliance to take programmatic action to advance this goal;
- commits NATO to reducing the alert status of nuclear weapons possessed by NATO members, and to pursuing effective arrangements for the rapid de-alerting of all nuclear weapons possessed by all states; and
- renounces the first-use of nuclear weapons by any NATO members under any circumstances, and commits NATO to the pursuit of equivalent commitments from other states possessing nuclear weapons.

As part of the same initiative, the World Council of Churches sent a similar letter to the governments of all non-NATO nuclear-weapons states.

Views of Religious Organizations

A variety of religious organizations have spoken in favor of de-alerting the nuclear arsenal. They see this as way to provide safety from accidental nuclear attack and as a step toward nuclear abolition.

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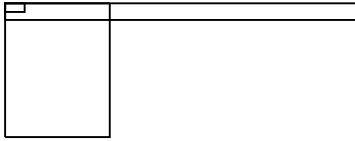
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<http://www.ucsusa.org/index.html>



fact sheet

A De-alerting Primer

[0mapsec.html](#)

[0mapsec.html](#)program overview
[missile defense](#)

[0weapons.html](#)nuclear weapons
[test ban](#)

[international cooperation](#)

by Tony Taylor

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[The Russian Threat](#)

[De-alerting Proposals](#)

[by James Goodby and Harold Feiveson](#)

[by the National Academy of Sciences](#)

[by Bruce Blair](#)

[Conclusion](#)

[Sources](#)

Summer 1997