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June 10, 2015

President Barack Obama
The White House

Mr. President,

Six years have passed since you gave new hope to the world with your Prague speech on the need for a world without nuclear weapons. Despite subsequent achievements like the New START Treaty, and progress in negotiations for a peaceful resolution of the dispute with Iran, recent political conditions internationally and in Washington have not been favorable for further progress on nuclear disarmament. *Nevertheless there are still actions you could take during the remainder of your term, without the necessity for Congressional approval, which would further enhance your legacy and advance the world toward realization of the Prague vision. We write on behalf of Lawyers Committee on Nuclear Policy and Physicians for Social Responsibility to offer two specific suggestions.*

1. Decades after the end of the Cold War, both the United States and Russia still maintain hundreds of nuclear missiles ready for launch on a few minutes notice. On several occasions, through human or computer error, the world has come within minutes of accidental nuclear war.¹ Many senior military and national security experts have criticized this posture as unnecessary and excessively dangerous.² You noted during the 2008 campaign that launch on warning “increases the risk of catastrophic accident or miscalculation,” and that the United States should “work with Russia to end such outdated Cold War policies in a mutual and verifiable way.” Despite all these warnings, the launch posture has thus far remained unchanged. Recent developments, however, have highlighted the issue with increased urgency.

¹ See, e.g., Patricia Lewis et al., “Too Close for Comfort: Cases of Nuclear Near Miss and Options for Policy,” Chatham House 2014, http://www.chathamhouse.org/sites/files/chathamhouse/home/chatham/public_html/sites/default/files/20140428TooCloseforComfortNuclearUseLewisWilliammsPelopidasAghlani.pdf; Eric Schlosser, *Command and Control: Nuclear Weapons, the Damascus Accident, and the Illusion of Safety*, New York, The Penguin Press, 2013

² “U.S. Military and Political Leaders Urge Taking Nuclear Weapons Off Hair-Trigger Alert,” Union of Concerned Scientists 2015, <http://www.ucsusa.org/sites/default/files/attach/2015/01/leaders-against-hair-trigger-alert.pdf>

The deteriorating relations between Russia and NATO, and the increasing number of provocative military gestures and threats, provide a stark reminder of the dangers of great power confrontation. It is sobering to recall that we have just observed the centennial of the First World War, in which great powers blundered and drifted into a conflict which left much of Europe in ruins.

The dangers of accidental or unauthorized nuclear conflicts are also increasing because of developments in cyber warfare and the risk of malicious hacking by rogue states or terrorist groups. A commander of U.S. Strategic Forces has testified before the Senate to being “very concerned with the potential of a cyber-related attack on our nuclear command and control and on the weapons systems themselves.”³ A head of the National Nuclear Security Administration has reported that NNSA’s computers are under “constant attack” by both foreign governments and “fairly sophisticated non-state actors.”⁴ A report by the Defense Science Board (DSB) to the Department of Defense found that “DoD’s networks are built on inherently insecure architecture” and that DoD “red teams” have frequently been successful in penetrating military networks “using attack tools which have been downloaded from the internet.”⁵

Of course, as the State Department has recently noted, “the U.S. employs multiple, rigorous, and redundant technical and procedural safeguards to protect against accidental or unauthorized launch.”⁶ So also, presumably, does the Russian Federation. However, the risk of vulnerability to cyber attack can never be securely eliminated. As the DSB report further noted, “[t]he complexity of the software defending our networks continues to increase exponentially over time, due to increased complexity of the systems they attempt to protect, yet the size of software code used for the average successful attack remains nearly constant. This challenge is as old as the ages: the defense must protect against all possible offenses, and the offense can mass all its resources against the weakest point of the defense.”⁷ The report concludes that “[w]hile there are many tests which can demonstrate vulnerability, there will never be a test that demonstrates or proves the security of a system”.⁸

Moreover, even a hypothetically perfect security system against external attack would not resolve the intolerable dangers of requiring life or death decisions to be made within a few minutes. A panel of international military experts chaired by a former Vice Chairman of the Joint Chiefs of Staff recently warned that “[i]n general, warning and decision timelines are getting shorter, and consequently the potential for fatal human error in nuclear control systems is growing larger.”⁹ The danger is greatly exacerbated by the high probability of communications failures in times of nuclear crisis. In the past, “hotlines” and other emergency communications systems have malfunctioned or otherwise been unavailable when most needed. Studies of past crisis situations, based on declassified documents, interviews, and testimonies by participants, reveal numerous instances in which crucial information was unavailable, misunderstood, or simply not passed on to decision makers.¹⁰ Problems caused by the subjective, incomplete, and sometimes erroneous information available may be further

³ <https://www.armscontrol.org/act/2013-04?Study-Sees-Cyber-Risk-for-US-Arsenal>

⁴ <http://www.usnews.com/news/articles/2012/03/20/us-nukes-face-up-to-10-million-cyber-attacks-daily>

⁵ <http://www.acq.osd.mil/dsb/reports/ResilientMilitarySystems.CyberThreat.pdf>

⁶ U.S. Department of State Fact Sheet, “Myths and Facts Regarding the Nuclear Non-Proliferation Treaty and Regime,” Bureau of International Security and Non-Proliferation, April 14, 2015

⁷ Ibid., p.29

⁸ Ibid., p.31

⁹ Report of the Global Zero Commission on Nuclear Risk Reduction (Gen.(Ret.) James Cartwright, Chair), 2015, http://www.globalzero.org/files/global_zero_commission_on_nuclear_risk_reduction_report.pdf

¹⁰ Lewis 2014, pp.24-30

complicated by the extreme psychological stress experienced by participants and decision makers. In the 1983 incident in which a Soviet radar malfunction falsely reported incoming U.S. missiles, the lieutenant colonel who made the crucial decision that it was a false alarm later reported that he and other participants had been in “a state of shock” after the alarm occurred.¹¹ A U.S. Senator who was present at the time of the 1979 NORAD incident, in which a training tape of a simulated Soviet attack was mistakenly connected with the central warning system, later testified that “panic broke out. It was a very frightening and disconcerting thing.”¹²

Further, as was evident at the recently concluded 2015 NPT Review Conference, the entire nuclear non-proliferation regime is under increasing pressure from non-nuclear weapons states over the pace of nuclear disarmament. Specifically, there is growing frustration over the amount of progress made under the action plan adopted at the 2010 Conference, as well as the Thirteen Steps adopted by the 2000 Conference, reaffirmed in 2010. Goals include diminishing the role of nuclear weapons in security policies and concrete agreed measures reducing the operational readiness of nuclear forces.¹³ Lowering of alert levels would be a tangible step the U.S. and other nuclear powers could point to as evidence that a world safe from the nuclear threat is not just a distant mirage.

Progress on the lowering of alert levels could be made without the necessity for Congressional action, by staged unilateral initiatives with an expectation of reciprocity, by informal understanding, or by executive agreement. To the extent that technical or strategic issues might be perceived as obstacles to some elements of de-alerting, they should be the subject of expedited study in search of solutions. While consultations should not serve as a reason for delay on what is feasible to do now, U.S.-Russian discussions at an expert level and/or discussions within the P5 process would also help to resolve such issues. As the International Court of Justice concluded, Article VI of the Nonproliferation Treaty obliges the nuclear weapons states to not only pursue but also “bring to a conclusion” good faith negotiations for nuclear disarmament.¹⁴ Under this standard, the appropriate response to a technical obstacle is redoubled effort, not the declaration of an impasse.

2. A growing body of scientific evidence indicates that any extensive use of nuclear weapons would have catastrophic consequences for the inhabitants of the entire planet, including the population of the country launching a nuclear attack. Smoke and soot generated by nuclear firestorms would linger in the stratosphere for decades, causing temperatures not seen since the last Ice Age, resulting in a massive collapse of world agriculture.¹⁵ An exchange of even the reduced arsenals permitted by New START would threaten the survival of the human species, and the climate consequences of even a limited regional nuclear war would put two billion people at risk of famine.¹⁶

¹¹ Lewis 2014, p. 24

¹² Hearing before Committee on Foreign Relations, “Nuclear Arms Reduction Proposals,” U.S. senate, 97th Congress, Second session, April-May 1982, Government Printing Office

¹³ NPT/Conf.2000/28 (Parts I and II), pp.14-15, <http://www.un.org/disarmament/WMD/Nuclear/2000-NPT/pdf/FD-Part1and2.pdf>; NPT/CONF.2010/50 (Vol. I), pp. 19, 21,

[http://www.un.org/ga/search/view_doc.asp?symbol=NPT/CONF.2010/50%20\(VOL.I\)](http://www.un.org/ga/search/view_doc.asp?symbol=NPT/CONF.2010/50%20(VOL.I))

¹⁴ Legality of Threat or Use of Nuclear Weapons, Advisory Opinion of 8 July 2006, I.C.J. Reports 1996, p. 226, para. 105(2)F

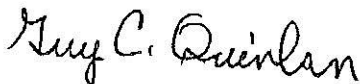
¹⁵ Robock, Alan and Owen Brian Toon, 2012, “Self-Assured Destruction: The Climate Impacts of Nuclear War,” *Bulletin of the Atomic Scientists*, 68(5), 66-74

¹⁶ Xia, Lili, Alan Robock, Michael Mills, Andrea Stenke and Ira Helfand, 2015, Decadal Reduction of Chinese Agriculture after a Regional Nuclear War, *Earth’s Future*, 3, 37-48; Helfand, Ira, 2013, “Two Billion People at

These facts are clearly of crucial importance for issues of nuclear arms control and security, and yet they have had no discernible effect on the decision-making process in the nuclear weapons states. The Russian Federation, for example, refuses to discuss possible reductions from 1,500 to 1,000 strategic warheads, disregarding - or simply overlooking - scientific evidence that detonating even a fraction of the lower figure would be literally suicidal. In the early 1980s, publication of the first “nuclear winter” studies influenced Gorbachev and Reagan in taking steps toward nuclear arms control; research since 2007 indicates that these studies were if anything understated, in part because the then-existing climate models did not reflect the full effects of the smoke and black carbon.¹⁷ By using the power of your office to focus serious attention on the scientific evidence- for example, by a major speech at the United Nations or elsewhere, or by calling for a definitive study by the National Academy of Science- you could take a major step forward toward the goal of a world without nuclear weapons.

Mr. President, you were absolutely right when you stated in Prague that “we must stand together for the right of people everywhere to live free from fear in the 21st century,” and that “as the only nuclear power to have used a nuclear weapon, the United States has a moral responsibility to act.” During the remainder of your term, we urge you to act on the nuclear danger boldly and decisively.

Very truly yours,



Guy Quinlan, President
Lawyers Committee on Nuclear Policy

Catherine Thomasson, MD, Executive Director
Physicians for Social Responsibility

cc:

Ambassador Susan Rice, National Security Advisor
Ben Rhodes, Deputy National Security Advisor
Jon Wolfsthal, Senior Director for Arms Control and Nonproliferation,
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Wade Boese, Director for Arms Control, National Security Council Staff
Richard C. Johnson, Director for Nonproliferation, National Security Council Staff
Rose Gottemoeller, Under Secretary of State for Arms Control and International Security

Risk: Global Impacts of Limited Nuclear War on Agriculture, Food Supplies, and Human Nutrition,” International Physicians for the Prevention of Nuclear War/Physicians for Social Responsibility

¹⁷ Mills, Michael J., Owen B. Toon, Julia Lee-Taylor, and Alan Robock, 2014, “Multi-decadal Global Cooling and Unprecedented Ozone Loss Following a Regional Nuclear Conflict,” *Earth’s Future*, 2, 161-76; Toon, Owen B., Alan Robock and Richard P. Turco, 2008, “Environmental Consequences of Nuclear War,” *Physics Today*, 61, No. 12, 37-42