Good afternoon. My remarks today are my own personal views which may not reflect the views of the State Department or the U.S. government.

Thank you, Austria, for facilitating this critical discourse. I am honored to speak again on the risks of nuclear weapons use. (I previously spoke on the subject at the Nayarit, Mexico conference last year.) How probable their use is -- no one really knows. But the chances are higher than governments care to admit, and they are trending in the wrong direction.

First, the nine countries possessing nuclear weapons today are fielding new types of weapons, shortening the time needed to employ them, and dispersing them more widely. China and others are following in the footsteps of the U.S. and Russia in diversifying and dispersing nuclear forces on ever higher states of alert. All this is straining the ability of command systems to keep nukes under firm control.
Second, many countries are relying more on nuclear weapons, and are lowering the threshold for their intentional use. Russia and Pakistan plan to use nukes first and early during a conventional conflict. Russia’s strategy is called ‘de-escalatory escalation’, which would unleash tens to hundreds of them in a first strike meant to shock an adversary into standing down. While China and India formally pledge not to be the first to use nukes in a conflict, they are alone among the nine.

Third, tension between Russia and the West over the Ukraine crisis is reviving nuclear brinksmanship, in which leaders brandish nukes to deter, coerce or otherwise threaten the very survival of opposing states.

I once participated in such posturing during a Middle East crisis by preparing to fire nuclear-tipped rockets at Russia. As U.S. strategic bombers and submarines ratcheted up their attack readiness, I and other missile crews retrieved launch keys and codes from the safes in our underground bunkers, and strapped into our chairs to brace for an imminent nuclear exchange.

The aim was to warn Russian leaders they had better back down or else face an escalating risk of nuclear war, caused not so much by premeditated aggression, as by events spinning out of control.
Russia knows well this game and is sounding nuclear warnings over the Ukraine crisis, backed by intensified strategic bomber operations and other provocative military activities. Close encounters between Russian and Western military aircraft have spiked. NATO fighters have intercepted Russian aircraft hundreds of times this year. Russian warplanes are also engaged in muscular interdiction. For instance, a U.S. spy plane recently fled into Swedish airspace to escape harassment by Russian fighters. (Soviet fighters shot down a similar spy plane probing Soviet territory in 1983 – or so they thought. Tragically, the plane turned out to be a Korean airliner that had strayed into Soviet airspace.)

The situation is far from a full-blown nuclear crisis, but it’s a slippery slope. There are risk-takers in the game, and deliberate or inadvertent escalation to a higher level of nuclear threat is quite possible if the current situation worsens.

Preparing for nuclear conflict continues to be serious business on both sides. The U.S. spy plane chased into Sweden routinely probes Russian borders looking for holes in air defenses through which U.S. strategic bombers could penetrate to drop bombs on Russia during a nuclear war. The last U.S. nuclear weapon to explode in an all-out war would likely be a bomb dropped on downtown Moscow by a B-2 stealth bomber that had managed to worm itself through one of those holes. It would be the last of about 100 nuclear weapons assigned to hit greater Moscow in such a war today.
All nine countries in fact are preparing for the unthinkable. And in preparing for it they risk causing it – by miscalculation or accident, inadvertent escalation, or without authorization.

The danger that nuclear war planning becomes a self-fulfilling prophecy is most evident in the hair-trigger readiness of U.S. and Russian strategic missiles. Hundreds of them, armed with nearly two thousand warheads, can be launched in seconds or minutes. The go-code from higher U.S. authority triggering such launch, comes as a message that is the length of a tweet. Tweet in hand, U.S. underground crews can then fire all of their missiles in sixty (60) seconds. I personally practiced this hundreds of times. U.S. submarine crews can fire their missiles in twelve (12) minutes. (It takes twelve minutes to spin up the gyroscopes on the sub’s missiles, during which time all other launch preparations including leveling the boat at the proper depth can be completed.)

Russia has shortened the launch time even more, by automating the firing process. High command posts in the Moscow area need only seconds to directly fire rockets out of silos as far away as Siberia. That they are wired for this (as U.S. land-based missiles also are wired to launch as soon as they receive a short stream of computer signals) creates a potential cyber-vulnerability of the first order.
Both sides today plan to send the go-code at the first signs of incoming warheads reported by early warning satellites and ground radar. Under this plan to launch on warning, nuclear decision-making is extremely rushed, and emotionally charged. To prevent panic, it’s pre-scripted, driven by checklists, and rotely (mindlessly) enacted. In some scenarios, after only a three (3)-minute assessment of early warning data, the U.S. president receives a thirty (30)-second briefing on his nuclear response options and their consequences. He then has at most twelve (12) and probably closer to six (6) minutes to choose one.

This is obviously a cosmic gamble. And indeed, the U.S. and Russia have come this close to disaster on several occasions involving false alarms. The risk of mistaken launch may be even higher today because of the decrepit state of Russia’s early warning network.

Russia’s command and control will come under further strain as it fields a variety of new weapons. Russia is now deploying missiles in Crimea capable of carrying nuclear warheads and will likely to deploy tactical nuclear weapons there including naval nukes for its Black Sea fleet. Russia is developing a train-mobile strategic missile. It’s testing a new ground-launched cruise missile and may decide to withdraw from the treaty banning it. A force of hundreds may emerge. And Russia has other nuclear weapons in the pipeline, novel weapons that the world has never seen before, that will pose a new set of humanitarian challenges for first-responders.
China. For fifty years it has been a model of nuclear restraint. Practically its entire modest arsenal is concentrated at a single storage complex. China thus runs minimal risks of mistaken or unauthorized launches, accidents, or weapons falling into the hands of terrorists during transportation. (By contrast, Russia’s scattered arsenal is in perpetual motion over nine (9) times zones – moving around on combat alert and shuttling back and forth to manufacturing facilities to remake plutonium pits whose shelf life averages only 8-12 years [compared to 80 years for U.S.]. Since transportation is the Achilles heel of nuclear security, this constant movement runs a risk of terrorist capture.)

China’s restraint may not last. It’s deploying its first strategic submarine as well as new land mobile rockets. China’s nuclear command – the Second Artillery - wants to put these forces on higher alert, and send at least some of them out on patrol armed with warheads. It also wants the President outfitted with a nuclear suitcase in order to expedite launch authorization. In furtherance of this mindset, China is developing an early warning satellite network that could support a policy of launch on warning.

What’s India up to? Its commissioning its first strategic submarine next year (2015), rounding out a triad of nuclear weapons on land, air, and sea. And its nuclear establishment is pressing hard for India to “operationalize” its arsenal for
the first time. This means priming the weapons and the command system for rapid operations in peacetime, crisis, or war.

Similar pressures for “operationalization” are building in Pakistan, which like India normally keeps its nuclear weapons disassembled and separated from the missiles and planes that would deliver them in wartime. In a crisis both countries will come under pressure to assemble and mate nukes to their delivery platforms, and move them to forward locations.

Given both countries’ lack of prior experience in managing such launch-ready forces, given Pakistan’s strategy of early first use, and given flight times of just a few minutes between the neighboring countries, the region would become a nuclear tinderbox in a crisis. Also, the dispersed weapons in this part of the world would be exposed to terrorist capture.

North Korea. Two points. One, the regime is weaponizing. While it makes headway in miniaturizing nuclear warheads to fit atop its missiles, in fact existing missiles have ample space in their nosecones to carry crude nuclear bombs, even today, to targets as far away as Japan. If and when this arming occurs, a nuclear disaster will be waiting to happen in, on, and around the Korean Peninsula. Second: Kim Jong Uen reminds us all that leaders with fingers on the nuclear button are fallible and susceptible to bouts of irrational, reckless and delusional behavior. Mr. Kim is not alone in this category.
I’ll end these snapshots with Israel. It’s deploying, into the Persian Gulf, strategic submarines capable of launching nuclear cruise missiles. Depending on evolving threats in the region, particularly Iran’s, Israel may establish regular nuclear-armed sea patrols in the future.

In conclusion, the clock is ticking on the use of nuclear weapons around the world. We are witnessing a steady lowering of the nuclear threshold, and an increasing danger that nukes will be used – deliberately, or as a result of inadvertent escalation, hasty decision making, miscalculation, unauthorized acts, or capture and use by terrorists.

Believers in nuclear deterrence argue that leaders ought to behave very cautiously indeed in the face of such risks of losing control, and in the face of apocalyptic threats to their homeland. But deterrence requires players to scare the others; its influence stems from taking and manipulating existential risk. This is the opposite of acting extremely cautiously; it involves acting incautiously, as happened repeatedly during past nuclear crises.

This means that we are playing nuclear roulette with nine players in the game, each of whom is counting on a forever perfect run of good luck for its survival.
This is a fool’s errand. We should reject nuclear deterrence as the basis of our collective security, and accept that the only reliable way to reduce the risks over the near term future is to stand own the nuclear forces, take them off of prompt launch alert (i.e., de-alert), and reach a binding agreement among the nuclear weapons possessor nations to refrain from keeping nuclear weapons on high attack readiness. Over the longer term, the only way to prevent a humanitarian calamity is to dismantle and eliminate the arsenals of every country.

Thank you.

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