

CBRNe World reached out to a range of nuclear experts and asked their opinions on the potential for nuclear tipped responses in Ukraine

It only takes a minuteman

Dr Pavel Podvig, independent analyst on Russian Nuclear Forces¹, senior research fellow at the UN Institute for Disarmament Research and a researcher at Princeton University.

What red lines do you think Ukraine needs to cross for Putin to use nuclear weapons?

We can say with some certainty that if Ukrainian tanks got to Moscow, a red line would have been crossed! Everybody has territorial integrity in mind, and the possibility of Ukraine reclaiming its territories. It's hard to be sure, but I don't think that's a red line. I'm extremely skeptical about Russia using nuclear weapons against Ukraine. All the references to nuclear weapons are directed at the west, in the context of them attacking in Russia and Russia defending itself.

What do you see as the most likely target set for any potential use?

I don't think there's a real possibility that Russia would respond to Ukrainian advances, for example, with a nuclear strike. But I do think there's consensus among experts that these weapons would not be particularly useful on the battlefield, or change much in terms of the military situation there. If you're using nuclear weapons in a strategic sense, to deliver a shock and deter Ukraine, it has to be truly shocking. It would have to be an attack on cities and kill tens or even hundreds of thousands of people and we are not at that point. The recent attacks against infrastructure killed about 20 people, which is still too many, but it tells me that the Russian leadership is not prepared to attack civilians in a strategic sense. I'm not saying it is absolutely impossible, but we are not yet there.

Could there be a show of force, a display detonation?

A show of force, would be a show of resolve, but resolve to do what? Unless you are prepared to show that you would attack civilians and kill tens of

thousands of people, then it doesn't show anything. People would just say, 'that's a nice explosion'. I hope we are not at the point where that kind of use is conceivable.

Dr Philipp Bleek, associate professor, nonproliferation and terrorism studies, Middlebury Institute of International Studies².

What red lines do you think Ukraine needs to cross for Putin to use nuclear weapons?

At this juncture in his Ukrainian 'special operation', I still think it's unlikely Putin will resort to nuclear weapons, but the risk has surely increased. Fundamentally, I worry about Putin resorting to nuclear weapons if he thinks - and maybe more importantly, feels - that the alternative is intolerable. (And if he does use nuclear weapons, my guess is he'll eventually come to regret it, assuming he's still around to feel regret.)

So what might he view as intolerable? I think his red lines include severe perceived threats to his continued rule in Russia. I also think he'd perceive profound humiliation as intolerable, both because of the threat it would pose politically but, at least as importantly, his ability to look at himself in the mirror.

What, specifically, could Ukraine do that Putin would perceive as a threat to his rule and/or humiliating? The shortlist includes not only conceding utter military defeat - perhaps even including Crimea changing hands - but also certain especially provocative actions, like assassinating members of his inner circle in Russia.

What do you see as the most likely target set for any potential use?

The fundamental purpose of escalating to nuclear use would be to send a costly signal. The nuclear rhetoric Putin has used to date is a pretty cheap signal; the fact that it entails few costs and risks also undercuts its impact.

One perplexing implication of the costly signals dynamic is that things the US or others do to make nuclear weapons use more costly for Putin may be less effective, or even encourage such use in some circumstances, precisely because they make nuclear use more costly. In another context, I've long wondered whether Syria's al-Assad started using chemical weapons about a decade ago not despite, but in part because of Obama's red line threats, which enabled Assad to send more costly signals to internal and/or external audiences.

While Ukrainians would surely prefer not to be nuked, their leadership may have fewer incentives for caution than one might instinctively suppose. The more Putin acts out, the more the rest of the world turns against him. Yes, limited nuclear weapons use in Ukraine would be devastating. But assuming it stayed limited, I think it would be more likely to tip the balance toward Ukraine. And I think - and fervently hope - that deep down, Putin knows that, too.

Jez Littlewood, policy analyst in Alberta, previously an assistant professor in the Norman Paterson School of International Affairs at Carleton University³.

What red lines do you think Ukraine needs to cross for Putin to use nuclear weapons?

Attempting to identify when Russia will use nuclear weapons during the Ukraine war is speculation, however two aspects of Russian nuclear doctrine offer some guidance. Firstly, there's "use of nuclear weapons or other types of weapons of mass destruction by an adversary against the Russian Federation and/or its allies". An alleged use of chemical or biological weapons might be a red line, but a false allegation as a pretext for nuclear weapons use would be stretching credulity even for Russia.

Secondly, there's "aggression against the Russian Federation with the use of conventional weapons when the very

existence of the state is in jeopardy". Assuming that Russia considers the illegally annexed Ukrainian territory as part of the Russian Federation, and views an attack on Crimea as aggression threatening the very existence of the state, Ukrainian forces reclaiming Crimea or repeated strikes or incursions into legally recognised Russian territory are the most probable red lines.

What do you see as the most likely target set for any potential use?

Nuclear use against targets in illegally claimed Russian territory seems unlikely, but Crimea, if lost by Russia and reclaimed by Ukrainian forces, might be a target simply to prevent a Ukrainian win. Since Ukrainian forces are currently deployed in smaller, dispersed units, rather than massed, a military target against one or more such units is possible. Ukrainian military logistics hubs or core infrastructure for the transport of weapons and ammunition into Ukraine may be additional targets. If Russia's pretext is the false allegation of chemical or biological weapons use, it may target Ukrainian laboratories that hold culture collections or facilities that it deems to be weapons production facilities. Assuming any such nuclear use is limited to one or very few warheads, the impact would be of political rather than military significance.

Brigadier General (rtd) William King, CWMD senior fellow and principal/director, Booz Allen Hamilton⁴

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Russia's use of chemical and tactical nuclear weapons cannot be ruled out. The use of battlefield nukes is part of standard Russian military doctrine. Rather than lose in humiliating fashion, President Putin may calculate the military benefits are worth the risks. The prospect is horrific to contemplate, but this is the reality of a world with

dictators on the march after decades of western complacency.

Ukraine's advances are encouraging, but President Putin's threat to the world is far from over. I believe that no one actually knows the answer to this, since the conditions associated with Russian nuclear weapons use may be changing as Presidents Putin and Zelensky along with Nato and the US take various actions. The obvious answer is that direct threats against Putin and his authority and Moscow/Russia's national operating capability would be the bold red line. Additionally, threats and direct actions on national and strategic nodes within Russia, as well as deployment into Ukraine of extended range deep strike capabilities could also be the red line for nuclear weapons use.

What do you see as the most likely target set for any potential use?

The scenarios of how the Russians might do it vary widely. They could fire a shell from artillery on Ukrainian soil,

or a warhead from a missile located over the border in Russia. The targets could be a Ukrainian military base or a small city. How much destruction and the lingering radiation would result depends on factors including the size of the weapon and the winds. But even a small nuclear explosion could cause thousands of deaths and render a base or downtown area uninhabitable for years. The most likely targets for tactical nuclear weapons use would be a consolidation of the Ukrainian governing body or a large consolidation or concentration of Nato and/or US extended range deep strike capabilities. The primary utility would be as part of a last-ditch effort by President Putin to halt the Ukrainian counteroffensive, by threatening to make parts of Ukraine uninhabitable. I believe many strategists are now revisiting the former war doctrine concept, escalate to de-escalate, and how might a tactical nuclear weapon use unintentionally escalate to use of strategic weapons.



I hope the Russian's love their children too... Putin's decisions will have an impact on a generation ©Kremlin

¹ <https://russianforces.org/>

² <https://www.middlebury.edu/institute/people/philipp-c-bleek>

³ <https://thebulletin.org/biography/jez-littlewood/>

⁴ <https://www.ndia.org/events/2021/9/22/cbrn-quarterly-forum/speaker/william-king>