



# GNSI DECISION BRIEF

*Nuclear Weapons on the Battlefield:  
Arriving sooner rather than later?*

Photo Credit: U.S. Army Footage of Atomic Bomb Blast, 1952, Nevada USA

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(Ret) Frank McKenzie, please go to:  
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## Will “Nuke ‘em!” become a New Battlefield Order?

### Introduction

Imagine a Russian Colonel receiving an order from Moscow to deploy a tactical nuclear weapon (TNW) on the Ukrainian frontline. His next order – “Nuke ‘em” – rapidly changes the battlespace and in fact, the world. Since the inception of nuclear weapons in 1945, the threat of nuclear war has loomed over the globe. J. R. Oppenheimer, after the first successful test of an atomic bomb, recalled the Hindi scripture Bhagavad Gita: “Now I am become Death, the destroyer of worlds.” The power of nuclear weapons, along with the possibility of their use has only escalated since then. Starting in 1947, the threat of nuclear annihilation has been measured in part by the renowned “Doomsday Clock.” Today, the clock reads the closest to global catastrophe than at any other time in its history.<sup>i</sup> As the war in Ukraine drags on, and the frontlines stagnate, global decision makers fear that President Vladimir Putin’s Russia may look to turn the tide or gain a domestic win by making good on his threats to use nuclear weapons. In 2022, Putin made it clear that, “To defend Russia and our people, we doubtlessly will use all weapons [and] resources at our disposal... This is not a bluff.”<sup>ii</sup>

General (Ret) Frank McKenzie discussed how Russia’s strategy to de-escalate a situation is to escalate their way out of it. [He offered](#), “we should take the threat of Russia using a tactical nuclear warhead very seriously” and “The poor performance of Russian conventional forces has made it more likely that they are going to have to do something like this... they have very few levers left to pull conventionally, and [that’s] a potential problem... the fact of the matter is nuclear weapons are coming back as battlefield weapons.”<sup>iii</sup> Further, Putin has recently moved nuclear weapons into Belarus, where President Alexander Lukashenko warned, “God forbid I have to make a decision to use those weapons today, but there would be no hesitation if we face an aggression.”<sup>iv</sup> A week later he stated, “Yes, nuclear [bombs], they’re weapons too... we’re talking about tactical nuclear weapons here.”<sup>v</sup> No one wishes for a nuclear crisis, possibly even Putin himself, but he may feel it is his only way to win the war in Ukraine.



Figure 1: Troops from Operation Tumbler-Snapper (1952) advance toward an exploded TNW from foxholes 7,000 yards away.

### Winning a Nuclear War

Since 1945, over 2,000 nuclear weapons have been detonated at test sites across the globe.<sup>vi</sup> The Soviet Union and the US conducted most of the tests as they adjusted their nuclear strategies. During the Cold War, the US strategy held that an all-out war between nuclear powers would be so

destructive that there would be nothing left to win. The Soviets thought a nuclear war could be won, however, and planned accordingly. The US focused on the reactive strategy of Mutually Assured Destruction (MAD). As one Cold War analyst described it, “[MAD] posited that the principal mission of the US military under conditions of an ongoing nuclear operation... to shut its eyes, grit its teeth and reflexively unleash an indiscriminate and simultaneous reprisal against all Soviet... pre-established targets.”<sup>vii</sup> Today, the US strategy of integrated deterrence marks a similar goal of holding the status quo and reflexively reacting to adversary actions.<sup>viii</sup> [General McKenzie noted](#), “they [Russia] also hold to a doctrine that emphasizes early use ... the United States has always considered nuclear weapons, tools of the last resort,” and “Russia, and to a large degree China, do not suffer [from] the same hesitancy and reluctance that we do when we consider the use of tactical nuclear weapons... they have thought deeper and harder and actually more clearly about how to use nuclear weapons on the battlefield.” This observation is especially alarming in light of China recent expansion and acceleration of their ballistic missile capabilities.

### Tactical Nuclear Weapons (TNWs) on the Battlefield

TNWs are typically defined as nuclear weapons with a limited range (under 500 kilometers established by the Intermediate Nuclear Forces Treaty of 1987) and a low yield generally considered between 1-100kt (the explosion measured in kilotons (kt) or megatons (Mt) of TNT).<sup>ix</sup> For reference, the bombs dropped on Hiroshima and Nagasaki measured roughly 15kt and 21kt respectfully.<sup>x</sup> TNWs of this size (15-20kt) cause catastrophic damage (buildings destroyed and deadly radiation levels) within a mile radius of the explosion. At a 2-mile radius, buildings suffer severe damage, fires, and serious injuries occur. Expanding out to a 6-mile radius, damages include broken windows and minor injuries along with radiation fallout that could spread as far as 25 miles based on the terrain, weather patterns, and the type of detonation (ground or air burst).<sup>xi</sup> Despite these devastating effects, the US and other nuclear powers have planned and trained on the use of TNWs on the battlefield. A 100kt TNW could blast a 3-mile-wide hole in the enemy defensive line allowing an army to pour thousands of troops into the gap. The US trained units in these very tactics with real nuclear explosions in the 1950’s (Figures 1 and 2).<sup>xii</sup> During that same era, General Matthew Ridgway theorized that wars



Figure 2: Soldiers of the 11th AB Div. watch the mushroom cloud of an atomic bomb in the desert of Nevada (1951).

which would include TNWs would require larger field armies to address the high casualty rate, increased battlefield depth, and the radiological contamination.<sup>xiii</sup> President Eisenhower even suggested that nuclear weapons should be regarded as, “simply another weapon in our arsenal.”<sup>xiv</sup> Over time the US halted nuclear testing, planning, and training for TNW use on the battlefield as bombs got stronger. In 1961, the Soviet Union dropped the largest nuclear weapon ever detonated: the Tsar Bomba. It exploded with the force of 50Mt, more than 3,000 times more powerful than the bomb dropped on Hiroshima. This explosion caused catastrophic damage in a radius of roughly 22 miles and broke windows out to 560 miles away.<sup>xv</sup> A strategic nuclear weapon of this size would instantly obliterate an entire major metropolitan area. The immense power of strategic nuclear weapons has made their use almost unimaginable, yet the use of TNWs has been viewed differently and remains conceivable.<sup>xvi</sup>

### A Case Analysis of TNW use in Ukraine – Bakhmut

Putin and his inner circle may see the use of a TNW as necessary and aligned with Russian doctrine. Such a strike would need to be limited (to avoid a global response), but symbolic to demoralize the Ukrainians and boost Putin’s domestic support. The storied battle for Bakhmut has cost both sides high casualties and has significant political value. Although Russian forces (notably the Wagner Group) have captured the city, they have been stymied outside of it. With the Wagner Group now off the battlefield, would a desperate Putin use a TNW to unlock the stalemate at Bakhmut or repel Ukraine’s counterattack in this area? If a 100kt TNW was used near the frontline town of Khromove (as of early July 2023) it could open a gap two or three miles wide as illustrated in Figure 3.<sup>xvii</sup> Although this would allow Russian forces to take a tactical initiative, little else would change along the 600-mile front. Putin could order the use of multiple TNWs, but this would significantly increase the probability of direct NATO and US involvement. Multiple US wargames have shown that the use of even one TNW inevitably leads to

a larger nuclear exchange.<sup>xviii</sup> Putin using a TNW would yield primarily negative strategic results in exchange for a relatively minor tactical advantage. Ukraine would likely keep fighting, albeit with more global support.

### Deterrence and the Nuclear Taboo

To date, no two nuclear powers have fought a war against each other. Pakistan and India have had infrequent border skirmishes as has China with India, but no war. As G. John Ikenberry noted about nuclear powers, “Stability was achieved through nuclear deterrence. For the first time, nuclear weapons and the doctrine of MAD made war between the great powers irrational.”<sup>xix</sup> Nina Tannenwald has argued that an international taboo against nuclear weapons has restrained their use. The US could have used nuclear weapons during the Korean Conflict without fear of nuclear reprisal as the Soviets were still developing their delivery systems. Yet, they chose otherwise. The United Kingdom did not use nuclear weapons against Argentina (1982), nor did the Soviets in Afghanistan (1979-1989). The question then becomes why have nuclear weapons failed to deter attacks on nuclear powers, as with Argentina’s attack on the UK (1982) or North Vietnam’s attack on US forces in South Vietnam (1965-1973).<sup>xx</sup> In 1953 Secretary of State John Foster Dulles offered an explanation, “In the present state of world opinion we could not use an A-bomb, we should make every effort now to dissipate this feeling, especially since we are spending such vast sums on the production of weapons we cannot use.”<sup>xxi</sup> World opinion has only hardened against nuclear use in the 70 years since.

For the West to be successful in deterring Putin from using a TNW, it may have to refine its nuclear strategy. Putin has shown that he is not deterred by sanctions or the threats they pose. Luckily, the West is not alone in opposing the use of nuclear weapons. Other nuclear powers, including China, have cautioned against their use. In November 2022, Xi Jinping said that the world should, “jointly oppose the use of, or threats to use nuclear weapons...[and] advocate that nuclear

weapons cannot be used, a nuclear war cannot be waged...”<sup>xxii</sup> No leader should be left to believe that nuclear weapons are a viable option. As [Dmitry Gorenburg noted](#), “In this fight, Russian nuclear weapons would be seen as crossing a line, and something that China couldn’t support.”<sup>xxiii</sup> He continued that the US and its allies have “...made it clear that these kinds of threats are deeply irresponsible and will not change the US or its Allies policies... [and] that any use of WMDs by Russia will result in a strong and forceful response...” The consensus seems to be that nuclear weapons will only be used if the Russian regime feels an existential threat from without or within, ignoring all consequences to quell that threat. It seems that “Nuke ‘em” is not likely to enter the lexicon of the battlefield – at least not just yet.

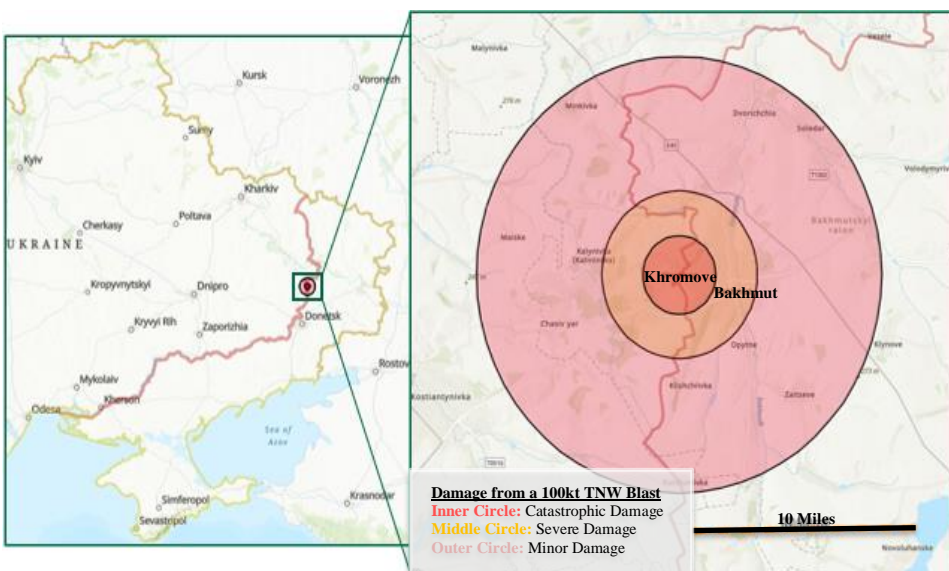


Figure 3: A doomsday scenario of dropping a 100kt TNW on Khromove outside of Bakhmut. The Redline represents the roughly 600-mile frontline as of early July 2023. Source material from [BBC Nuclear weapons impact](#). Map created using ERSI ArcGIS Online software.

## Decision Points

- What is the proportional response from the United States should Russia use a TNW on the battlefields of Ukraine? What if Russia uses several TNWs?
- How can the United States, its allies, and the world continue to deter the use of nuclear weapons? The current US nuclear deterrent in Europe includes “...around 200 such weapons, half of which are at bases in Europe. These 12-ft B61 nuclear bombs, with different yields of 0.3 to 170 kilotons, are deployed at six air bases across Italy, Germany, Turkey, Belgium, and the Netherlands.”<sup>xxiv</sup>
- How does the United States work with nations such as India and China to deter the use of a TNW on the battlefields of Ukraine?
- If Russia sinks into civil unrest, suffers a coup, or worse and their nuclear weapons risk falling into the hands of non-state actors, what is the appropriate US response?
- Should the US create revised battlefield strategies that includes using TNW in case of a larger great power conflict where the other side has already used a TNW?

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