

NOVEMBER 2024

DEFINITION

A “dirty bomb” (i.e. radiological dispersal device) uses conventional explosives to spread radioactive material.

Unlike nuclear weapons, which require highly enriched uranium or weapons-grade plutonium, the materials used in dirty bombs do not need to be specially developed for weapons use and could potentially be gathered from research, industrial, energy, agricultural or medical sources.

Their relatively small size allows these devices to be positioned by foot or transported by vehicle, making them more accessible to malign non-state actors.³ Despite, never being successfully used,¹⁸ the psychological effects of the detonation and subsequent decontamination efforts have led these devices to be characterised as “weapons of mass *disruption*” rather than “weapons of mass *destruction* (WMDs)”.^{6,7,14}

COMPARISON



Nuclear Weapon

- Massive nuclear chain reaction.
- Widespread destruction.
- Catastrophic casualties.



Dirty Bomb

- No nuclear chain reaction.
- Radiation spreads hundreds of meters.
- Relatively few immediate fatalities.

OBJECTIVES

Since at least 2015, Russian disinformation actors have propagated a narrative containing false accusations that Ukraine is preparing to detonate a dirty bomb on its own territory and blame Russia (*see timeline*). The narrative peaked sharply in intensity and outreach in October 2022, causing Western officials to become concerned that the sudden increase in messaging might serve as cover for a false-flag operation or pretext for tactical nuclear weapons use.⁸

At the time, Moscow was experiencing significant battlefield setbacks and Western intelligence agencies had intercepted communications from senior Russian military leaders discussing the circumstances in which Moscow might use tactical nuclear weapons against Ukraine.⁹ Considering these broader developments, Moscow was plausibly attempting to achieve one, or a combination, of the following objectives:



Prepare Info Space:
Shape narratives for possible nuclear use on the battlefield.



Influence Adversaries: Affect Ukrainian and Western decision-making.



Express Concern:
Question Kyiv’s intentions due to inaccurate intelligence.



Bolster Domestic Support: Reinforce public backing for mobilisation.

TACTICS

Russian disinformation campaigns have employed a variety of tactics to mislead audiences, shape perceptions and justify political or military actions. Many of the most common and influential strategies employed by Russia were present in an October 2022 letter to the UN Security Council.^{19, 21} This letter included the following disinformation tactics (*see page two graphic*):

TIMELINE 4, 5, 7, 11, 18, 22

- 2015 - 2021**
Sporadic appearance of dirty bomb narrative in Russian language media/social media.
- January - March 2022**
Russian state media reports on alleged Ukrainian dirty bomb manufacturing, possibly to help justify its invasion.
- 23 October 2022**
Surge in Russian state media reporting about a potential dirty bomb ‘provocation’.
- Russian defence officials discuss concerns with French, UK and US counterparts.
- 24 October 2022**
France, UK and US leaders reject Russia’s dirty bomb narrative.
- US officials express fears that Russia’s claims may be used as a pretext for tactical nuclear weapons use in Ukraine.
- Chief of the Russian Armed Forces claims a dirty bomb is nearly complete and that the military is preparing to operate in a radioactive environment.
- Russia’s UN ambassador writes to the UN Secretary General stating his concerns about dirty bomb use.
- 25 October 2022**
President Biden warns that tactical nuclear weapons use would be a “serious mistake”.
- 26 October 2022**
Russia’s defence minister contacts Chinese and Indian counterparts to warn them of the dirty bomb threat.







(Timeline continues on the next page)

UNDERSTANDING DISINFORMATION IN UKRAINE

DIRTY BOMBS AND NUCLEAR ESCALATION THREATS



TACTICS

 EXPLOIT DIVISIONS	Russia claimed that the provocation may have been planned with Western support. By suggesting the West was engaging in reckless nuclear behaviour, Russia exploited divisions amongst communities that were already distrustful of political institutions.
 ABUSE TECHNICAL LANGUAGE	Russia exploited the technical complexity of radiological and nuclear issues by making inaccurate claims about the source of materials for a dirty bomb and its potential effects, knowing the public lacked the expertise to counter these assertions effectively. ²
 DISTRACT & MISDIRECT	The confusion created by these claims diverted attention away from Russia's actions, such as the then ongoing partial mobilisation and annexation of Ukrainian territory. ¹
 APPEAL TO AUTHORITY	By implying that their information came from undisclosed "intelligence sources" and official-sounding institutions, Russia falsely boosted the credibility and legitimacy of its disinformation. ^{17, 21}
 EMOTIONAL TRIGGERS	Russia employed nuclear fearmongering, using terms such as "nuclear terrorism" and "large-scale radiological contamination" to emphasise mass casualties and environmental catastrophes.
 FIREHOSE OF FALSEHOODS	Russia amplified its accusations by claiming Ukrainian forces would sabotage nuclear power plants. Using mainstream and social media, along with official statements, Russia flooded the information space with multiple, sometimes conflicting, narratives, obscuring the truth. ^{15, 16}

RESPONSE

As Russia's dirty bomb narrative and resulting public concern increased, the West implemented several tactics to mitigate Moscow's information operations.

- **Fact-checking** by officials, media platforms and research institutes¹⁰ enhanced efforts to debunk Moscow's dirty bomb narrative, with strategies such as reverse image searching and feasibility analysis undertaken by experts. The International Atomic Energy Agency, which undertook verification activities and conducted research within Ukraine, also categorically rejecting Moscow's claims.²⁰
- **Backchannel diplomacy** was conducted to encourage Russia's partners to dissuade Moscow from employing a dirty bomb or nuclear weapon. China's leader, Xi Jinping, likely warned President Putin against using nuclear weapons. India also issued a public statement condemning nuclear weapon use by any state.⁷
- **Threats of retaliation** were reportedly privately conveyed to Russia by French, UK and US officials. Western leaders reportedly warned that they may respond to tactical nuclear weapons use by conventionally striking Russian forces directly.¹³

CONCLUSION

Moscow's dirty bomb narrative highlights how false or misleading information can be used to exploit global radiological and nuclear fears, shape public opinion, obscure intentions and sow confusion.¹²

Western debunking efforts likely played a role in calming public anxiety and challenging Russia's accusations. However, combating future disinformation, especially during rapidly evolving crises, may need to increasingly leverage advanced technologies such as AI-driven analytics and real-time data verification to identify and counter misleading narratives before they gain momentum.

TIMELINE (CONTINUED)

- **26 October 2022**
NATO's secretary general warns of severe consequences in response to nuclear weapons use.
- India's defence minister publicly warns against nuclear weapons use.
- **27 October 2022**
President Putin repeats dirty bomb allegations.
- The US defence secretary warns of significant retaliation if Russia uses nuclear weapons.
- **28 October 2022**
Moscow's dirty bomb warnings abruptly end. Disinformation returns to baseline frequency.



Scan the QR code for references.

UNDERSTANDING DISINFORMATION IN UKRAINE

DIRTY BOMBS AND NUCLEAR ESCALATION THREATS



REFERENCES

1. András Rácz. 'Russia Goes for Annexation and Mobilization'. German Council on Foreign Relations, 22 September 2022. <https://dgap.org/en/research/publications/russia-goes-annexation-and-mobilization>.
2. Borger, Julian, and Peter Beaumont. 'Russia Steps up Ukraine "Dirty Bomb" Claim in Letter Delivered to UN'. *The Guardian*, 25 October 2022, sec. World news. <https://www.theguardian.com/world/2022/oct/25/russia-to-raise-ukraine-dirty-bomb-claim-at-un-security-council>.
3. Brookes, Peter. 'Russia's Dirty Bomb Claim Is a Dirty Lie'. The Heritage Foundation, 4 November 2022. <https://www.heritage.org/global-politics/commentary/russias-dirty-bomb-claim-dirty-lie>.
4. Delegation of the European Union to the People's Republic of China. 'Disinformation About Russia's Invasion of Ukraine - Debunking Seven Myths Spread by Russia'. Delegation of the European Union to the People's Republic of China, 18 March 2022. https://www.eeas.europa.eu/delegations/china/disinformation-about-russias-invasion-ukraine-debunking-seven-myths-spread-russia_en?s=166.
5. Digital Forensic Research Lab. 'Russian War Report: Kremlin Recycles Old Narratives to Claim Ukraine Is Constructing Dirty Bombs and Bioweapons'. Atlantic Council, 7 March 2022. <https://www.atlanticcouncil.org/blogs/new-atlanticist/russian-war-report-kremlin-recycles-old-narratives-to-claim-ukraine-is-constructing-dirty-bombs-and-bioweapons/>.
6. Government of Massachusetts. 'Nuclear Regulatory Commission (NRC): Fact Sheet on Dirty Bombs'. Government of Massachusetts. Accessed 8 April 2025. <https://www.mass.gov/info-details/nuclear-regulatory-commission-nrc-fact-sheet-on-dirty-bombs>.
7. Heather Williams, Kelsey Hartigan, Lachlan MacKenzie, and Reja Younis. 'Deter and Divide: Russia's Nuclear Rhetoric & Escalation Risks in Ukraine'. Center for Strategic & International Studies. Accessed 8 April 2025. <https://features.csis.org/deter-and-divide-russia-nuclear-rhetoric>.
8. Heather Williams, Kelsey Hartigan, Lachlan MacKenzie, and Reja Younis. 'Russian Nuclear Calibration in the War in Ukraine'. *Center for Strategic & International Studies*, 23 February 2024. <https://www.csis.org/analysis/russian-nuclear-calibration-war-ukraine>.
9. Helene Cooper, Julian E. Barnes, and Eric Schmitt. 'Russian Military Leaders Discussed Use of Nuclear Weapons, U.S. Officials Say'. *The New York Times*, 2 November 2022, sec. U.S. <https://www.nytimes.com/2022/11/02/us/politics/russia-ukraine-nuclear-weapons.html>.
10. International Atomic Energy Agency. 'IAEA Inspectors Complete In-Field Verification Activities at Three Ukraine Locations, No Indications of Undeclared Nuclear Activities and Materials'. Text. IAEA, 3 November 2022. <https://www.iaea.org/newscenter/pressreleases/iaea-inspectors-complete-in-field-verification-activities-at-three-ukraine-locations-no-indications-of-undeclared-nuclear-activities-and-materials>.
11. Katherine Lawlor and Kateryna Stepanenko. 'Warning Update: Russia May Conduct a Chemical or Radiological False-Flag Attack as a Pretext for Greater Aggression against Ukraine'. Institute for the Study of War, 9 March 2022. <http://dev-isw.bivings.com/>.
12. Lachlan MacKenzie. 'Six Days in October: Russia's Dirty Bomb Signaling and the Return of Nuclear Crises', 3 September 2024. <https://www.csis.org/analysis/six-days-october-russias-dirty-bomb-signaling-and-return-nuclear-crises>.
13. Max Seddon. 'Why Vladimir Putin Toned down His Nuclear Rhetoric'. *Financial Times*, 1 November 2023, sec. War in Ukraine. <https://www.ft.com/content/d98446ac-b56e-4f1d-bfa9-ebaed4e26884>.
14. Meyer, Samuel, Sarah Bidgood, and William C. Potter. 'Death Dust: The Little-Known Story of U.S. and Soviet Pursuit of Radiological Weapons'. *International Security* 45, no. 2 (1 October 2020): 51–94. https://doi.org/10.1162/isec_a_00391.
15. Permanent Mission of the Russian Federation to the International Organizations in Vienna. 'Russia's Foreign Ministry Spokeswoman Maria Zakharova's Comment in Connection with the Latest Failure to Rotate IAEA Secretariat Experts at the Zaporozhskaya NPP and Ukraine's New Provocation against This Plant', 12 February 2025. https://viennamission.mid.ru/en/news/russia_s_foreign_ministry_spokeswoman_maria_zakharova_s_comment_in_connection_with_the_latest_failure/.
16. Permanent Mission of the Russian Federation to the International Organizations in Vienna. 'Statement by Permanent Representative of the Russian Federation to the International Organizations in Vienna Mikhail Ulyanov on the Agenda Item 3 of the Session of the IAEA Board of Governors «Nuclear and Radiation Safety: Nuclear Safety Review 2025»', 3 March 2025. https://viennamission.mid.ru/en/news/statement_by_permanent_representative_of_the_russian_federation_to_the_international_organizations_i_03032025/.
17. Permanent Mission of the Russian Federation to the United Nations. 'Remarks to the Press by First Deputy Permanent Representative Dmitry Polyanskiy Following Security Council's AOB Discussion of the Possibility of Ukraine Creating a "Dirty Bomb"', 25 October 2022. https://russia.un.org/en/news/stakeout_251022#.
18. Reuters. 'Russia, without Evidence, Says Ukraine Making Nuclear "Dirty Bomb"'. *Reuters*, 6 March 2022, sec. Europe. <https://www.reuters.com/world/europe/russia-without-evidence-says-ukraine-making-nuclear-dirty-bomb-2022-03-06/>.
19. Russian Federation. 'Letter Dated 24 October 2022 from the Permanent Representative of the Russian Federation to the United Nations Addressed to the Secretary-General and the President of the Security Council'. United Nations, 24 October 2022. <https://digitallibrary.un.org/record/3995910>.
20. The Guardian. 'US Dismisses "Transparently False" Russian Claims of Ukraine Plan to Use "Dirty Bomb"'. *The Guardian*, 24 October 2022, sec. World news. <https://www.theguardian.com/world/2022/oct/24/us-dismisses-transparently-false-russian-claims-of-ukraine-plan-to-use-dirty-bomb>.
21. 'Summary Record (Partial) of the 18th Meeting, Held at the Vienna International Centre, Vienna, on Friday, 11 August 2023: Preparatory Committee for the 2026 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons, 1st Session'. United Nations, 7 September 2023. <https://documents.un.org/doc/undoc/gen/n23/239/51/pdf/n2323951.pdf>.
22. United States Nuclear Regulatory Commission. 'Background on Dirty Bombs'. United States Nuclear Regulatory Commission, February 2022. <https://www.nrc.gov/reading-rm/doc-collections/fact-sheets/fs-dirty-bombs.html>.