Blast Overpressure Defense Act

Cohort of Overpressured Warfighters

I am Todd Strader, founder of the Cohort of OverPressured Warfighters and am grateful for your attention today to discuss a critical threat to our servicemembers on training grounds. While live-fire exercises are essential for readiness, they unknowingly cause harm. Blast overpressure exposure from heavy weapons creates pressure waves that science and media consistently show can penetrate the skull and body. Cumulative excessive exposures lead to chronic health symptoms, including neurological and behavioral issues. Studies indicate this exposure can increase suicide risk by 40 percent, with over 70 percent of these exposures occurring during training, not combat. This impacts a significant portion of our fighting force across numerous Tier-1 ranges nationwide.

A critical gap exists in specialized oversight to mitigate this hazard during live-fire events. Current Range Safety Officers manage logistics but lack the specific training and resources for blast overpressure risks. Despite DoD policies mandating monitoring and the NDAA 2025 requiring data collection and TBI prevention, no dedicated role enforces this during live-fire operations.

This brings me to the Blast Overpressure Defense Act (BODA) which aims to mandate the Department of Defense to establish Blast Safety Officers for all Tier-1 heavy weapon live-fire ranges and explosive training sites. These officers will focus solely on mitigating occupational blast overpressure for our fighting force. Their responsibilities will include conducting safety briefings, overseeing blast overpressure-reducing PPE and wearable sensors, real-time monitoring with the authority to call "cease-fire" if thresholds are exceeded, investigating incidents, collecting data, and coordinating with existing range personnel.

The DoD will ensure these Blast Safety Officers are trained and certified, ideally through veteran-owned small business contractors, and deployed to Tier-1 ranges. This act seeks to align with the 2026 NDAA, leveraging existing infrastructure to protect servicemembers efficiently. This is about ensuring accountability and proactive defense against a recognized, devastating occupational hazard. This problem is real, it causes injury, and it is time for proactive defense for our servicemembers.

Todd Strader, Founder – Cohort of Overpressured Warfighters

Blast Overpressure Defense Act (BODA): DoD to create Blast Safety Officers

by Todd Strader, Founder – Cohort of OverPressured Warfighters

The Problem

Military Tier-1 heavy weapon ranges and explosives training sites where mortars and artillery conduct live-fire exercises, and operators practice breaching, all currently do so without a single expert dedicated to mitigating the health hazards of blast overpressure exposure. Current Range Safety Officers focus on a multitude of concerns, but they are not equipped to also sufficiently address the invisible risks of blast waves, which science shows can devastate neurological health. 2024's Blast Overpressure Safety Act mandated protective measures, and the Pentagon's RMA Memos reinforced the need for immediate action, yet no one on these ranges is tasked with enforcing these critical policies. Without a designated blast safety expert, the military cannot effectively implement or monitor compliance, this gap leaves troops exposed to preventable harm, undermining existing laws and DoD directives designed to keep them safe.

The Solution

The Blast Overpressure Defense Act (BODA) solves the critical gap on Tier-1 weapons and explosives training sites by creating Blast Safety Officers. These specialized experts are dedicated to preventing blast-related brain injuries during live-fire training events, will be trained to implement and enforce protective measure mandates and directives by ensuring compliance with safety doctrine that currently go unenforced, bridging the divide between policy and practice. Their primary responsibilities: to equip and monitor troops with protective gear and blast sensors, advise and coordinate with Range Safety Officers to minimize harmful blast exposure, informs range medical personnel of health hazards to detect early injury signs and to train soldiers and staff on blast overpressure awareness, hazards and prevention.

Impact

BODA revolutionizes military training safety by establishing Blast Safety Officers, safeguarding troops from preventable brain injuries through enforced protective measures on Tier-1 weapon and explosives live-fire training sites.

Draft Language: ***Blast Safety Officers***

- ***Establish Role****: The Department of Defense shall appoint Blast Safety Officers at Tier-1 weapon ranges and explosives training sites to mitigate blast-related brain injuries.*
- ***Duties****: Blast Safety Officers shall:*
    - *Deploy protective equipment and safe training protocols.*
    - *Monitor health and blast exposure.*
    - *Train personnel on injury prevention.*

Blast Overpressure Defense Act (BODA)

by the Cohort of OverPressured Warfighters – www.overpressured.com

119th CONGRESS
H.R. [TBD]

A BILL

To require the Department of Defense to establish Blast Safety Officers for all Tier-1 heavy weapon live-fire ranges and explosive training sites to mitigate occupational blast overpressure exposure.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

PREAMBLE

The United States military faces a hidden threat on training grounds. Exercises required to sharpen readiness can also cause harm. Blast overpressure exposure from heavy weapons delivers pressure impulse waves. Science and media consistently report these waves penetrate the skull and body, with cumulative excessive exposures leading to chronic health symptoms including neurological and behavioral issues. Studies show that excessive blast overpressure exposure can raise suicide risk by 40 percent, and over 70 percent of these exposures happen occupationally during training, not combat, impacting a significant portion of our fighting force at numerous Tier-1 ranges and explosive sites nationwide. A critical gap persists in specialized oversight to mitigate this hazard during live-fire training events, as programs like the Warfighter Brain Health Initiative have yet to propose a dedicated role to implement their mitigation recommendations, despite emerging efforts and urgent media attention. Range Safety Officers currently manage live-fire operations but lack the training and resources needed, their broad duties already dedicated to other safety concerns. DoD's 2024 policies mandate monitoring to keep exposures below 4 pounds per square inch. The NDAA 2025 mandates data collection and TBI prevention. A Blast Safety Officer role dedicated to these ends is needed for Tier-1 live-fire and breaching events. This Act hopes to align with the 2026 NDAA, using DoD infrastructure and small business contractors to protect service members with a realistic timeline.

SECTION 1. SHORT TITLE

This Act may be cited as the Blast Overpressure Defense Act (BODA).

SECTION 2. FINDINGS

(a) Nature and Risks of Blast Overpressure Exposure in Training. Congress finds that blast overpressure during military training, impacting 70 percent of our fighting force in Tier-1 roles like artillery and Special Operations at numerous ranges, causes severe harm (NY Times, 2024). Pressure waves lead to chronic issues, neurological damage, and a 40

percent suicide risk rise (Gama Sosa et al., 2019; McEvoy, 2024; Stone, 2024). DoD's 2024 policies mandate monitoring to keep exposures below 4 pounds per square inch, yet no dedicated role enforces this during live-fire operations (Hicks, 2024; Vazirani, 2024).

(b) Range Safety Officer Limitations and Precedent for Dedicated Role. Range Safety Officers manage live-fire logistics, lacking training to address blast overpressure risks, their duties limiting focus on this science (AR 385-63, 2014; DA Pam 385-63, 2014). Yet their model of enforcing safety through briefings and data logging can adapt to a blast overpressure-focused role, offering a precedent for dedicated oversight at Tier-1 sites.

(c) Need for Specialized Blast Safety Officer Role. The NDAA 2025 mandates data collection and TBI prevention, supporting a specialized safety officer role (NDAA, 2025). DoD policies add blast overpressure safety tasks, overburdening Range Safety Officers at Tier-1 sites managing live-fire and breaching, necessitating distinct roles: Range Safety Officers for traditional safety, Blast Safety Officers to mitigate blast overpressure (Hicks, 2024; Vazirani, 2024).

SECTION 3. DOD MANDATE: BLAST SAFETY OFFICERS FOR TIER-1 RANGES

(a) Establishment. The Secretary of Defense shall promptly establish the Blast Safety Officer role for all Tier-1 heavy weapon live-fire ranges and explosive training sites, including breaching exercises. Blast Safety Officers shall mitigate occupational blast overpressure for our fighting force, present at live-fire training events to ensure blast safety oversight.

(b) Role and Responsibilities. Blast Safety Officers shall focus on blast overpressure mitigation, tasked with:

(1) Safety Briefings. Conducting briefings before live-fire and explosive training, educating personnel on health risks and mitigation protocols like stand-off distances, adapting Range Safety Officer methods.

(2) Equipment Oversight. Overseeing blast overpressure-reducing PPE and wearable sensors when procured, ensuring compliance with safety standards per NDAA 2025's measures.

(3) Real-Time Monitoring. Monitoring blast overpressure levels during operations, calling "cease-fire" if exposures exceed safe thresholds, protecting personnel per DoD's 2024 requirements.

(4) Incident Response. Investigating blast overpressure-related incidents, reporting findings, and coordinating with medical personnel to address health threats.

(5) Data Collection. Maintaining blast overpressure exposure logs to support future mitigation, following NDAA 2025 data mandates.

(6) Coordination. Working with Range Safety Officers and range personnel, integrating

mitigation into operations while prioritizing safety.
(7) Continuous Expertise. Maintaining current blast overpressure knowledge, staying updated on mitigation techniques per DoD's 2024 mandates.

(c) Implementation. The DoD shall ensure Blast Safety Officers are trained and certified through a veteran-owned small business contractor, deployed to Tier-1 ranges, and overseen by range control to align with DoD's 2024 policies, with provisions that could integrate into the NDAA 2026, scheduled for a vote this Fall, ensuring swift adoption within existing frameworks.

SECTION 4. EFFECTIVE DATE
This Act shall take effect immediately upon passage.

SECTION 5. SEVERABILITY
If any provision is held invalid, the remainder remains unaffected.

REFERENCES

- Gama Sosa, M.A., et al. (2019). Occupational Overpressure Exposure and Cognitive Decline in Military Personnel. *Military Medicine*, 184(Suppl 1), 561-567.
- McEvoy, A. (2024). Cumulative Blast Impulse Is Predictive for Changes in Chronic Neurobehavioral Symptoms. *Journal of Military Medicine*, 189(3-4), 456-463.
- Stone, J.R. (2024). Neurological Effects of Repeated Blast Exposure. *Neurology Research International*, 2024, Article ID 8855443.
- NY Times (2024). "Signs of Brain Injury in Mortar Soldiers."
- Hicks, K. (2024). Memorandum: Department of Defense Requirements for Managing Brain Health Risks from Blast Overpressure. Office of the Deputy Secretary of Defense.
- Vazirani, A.S. (2024). DoD Implementation Guidance for Managing Brain Health Risks from Blast Overpressure.
- DePalma, R. (2022). VA Research Currents, S06.8A Code: Primary Blast Injury of Brain. October 26, 2022.
- AR 385-63 (2014). Range Safety. Department of the Army.
- DA Pam 385-63 (2014). Range Safety Procedures. Department of the Army.
- FM 3-22.9 (2008). Rifle Marksmanship M16-/M4-Series Weapons. Department of the Army.
- FM 17-12-8 (1993). Light Cavalry Gunnery. Department of the Army.
- NDAA (2025). National Defense Authorization Act for Fiscal Year 2025, Blast Overpressure Safety Act Provisions.