Cold War Period Veteran Nuclear Weapons Technician Act of 2024

[(Public Law 118-xxx)]

AN ACT To amend title 38, United States Code, to establish Cold War Veteran Nuclear Weapons Technician Presumptive Service Connections related to Exposure to Ionizing Radiation and Toxic Chemicals.

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

SECTION 1. SHORT TITLE; 38 U.S.C. REFERENCES; TABLE OF CONTENTS

(a) SHORT TITLE.—This Act may be cited as the "Cold War Veteran Nuclear Weapons Technician Act", or "Cold War Veteran Nuclear Weapons Technician Ionizing Radiation and Toxic Exposure Act".

(b) Matters relating to amendments to Title 38, United States Code.—

(1) [38 U.S.C.] REFERENCES.—Except as otherwise expressly provided, when in this Act an amendment is expressed in terms of an amendment to a section or other provisions, the reference shall be considered to be made to a section or other provision of Title 38, United States Code.

(c) TABLE OF CONTENTS.—The table of contents for this Act is as follows:

SEC. 2. PREAMBLE

Since World War II, tens of thousands of military men and women have served our Nation in sustaining its nuclear defense. In the course of their work, they overcame previously unimagined technical and personal challenges. Thousands of these courageous Americans, however, paid a high price for their service, developing disabling or fatal illnesses as a result of their exposure to ionizing radiation, toxic chemicals, and other hazards unique to nuclear

weapons maintenance and testing. Too often, these military veterans were neither adequately protected from, nor informed of, the occupational dangers to which they were exposed.

Existing veterans' compensation programs have failed to provide for the needs of these veterans and their families. Veterans' compensation programs have generally not included these Nuclear Weapons Technicians from the Cold War period. Further, because of long latency periods, the uniqueness of the dangers to which they were exposed, and inadequate exposure data, many of these individuals have been unable to obtain compensation benefits. This problem has been exacerbated by the policies of the Department of Veterans Affairs that discourage many legitimate claims of veterans who sought, and continue to seek, those benefits.

While the Nation can never fully repay these veterans or their families, they deserve recognition and compensation for their sacrifices.

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The preceding statement was adapted from an excerpt of Executive Order 13179, December 7, 2000, "*Providing Compensation to America's Nuclear Weapons Workers*". The statement includes few changes other than related references to Nuclear Weapons Technicians (military veterans) rather than civilian Nuclear Weapons Workers; difficulties with Department of Veterans Affairs claims and appeals in lieu of Department of Energy (DOE) opposition to civilian claims; and the smaller estimated number of veterans in comparison to civilian DOE employees, contractors, and contractor employees.

People throughout our nation are generally unaware of the work and contributions of our veteran Nuclear Weapons Technicians from the Cold War period.

SEC. 3. FINDINGS AND PURPOSE

(a) **FINDINGS.**—Congress finds that—

(1) During the Cold War period, generally, Nuclear Weapons Technician(s)—

(A) routinely maintained, repaired, disassembled, assembled, modified, tested, transported, and conducted other hands-on tasks on the Nation's nuclear weapons stockpile;

(B) completed tasks with hands, arms, faces, and often heads in the live nuclear weapons; as well as torsos pressed against the exterior; exposed to ionizing radiation;

(C) were not aware of the extent of ionizing radiation emitted through the weapon exterior surface (intrinsic radiation);

(D) were not aware that neutron radiation penetrates steel and layers of lead shielding;

(E) worked without time or distance restrictions, nor adequate shielding from ionizing radiation sources during nuclear weapons operations;

(F) worked without established ionizing radiation dose limits;

(G) were not consistently, continuously, and accurately monitored for individual ionizing radiation doses, i.e., with personal dosimeters;

(H) worked without knowledge of individual real-time nor cumulative monthly, annual, and lifetime ionizing radiation doses;

(I) are likely to have received ionizing radiation doses that would have exceeded recommended monthly, annual, or lifetime radiation doses in a properly established and maintained radiation exposure dose monitoring and management program;

(J) historical ionizing radiation exposure records are incomplete or nonexistent due to the inconsistency or absence of appropriate formal programs for personnel radiation dose monitoring, documentation, and management; and

(K) completion of primary job tasks was essentially the embodiment of a radiation-exposed veteran and a toxic-exposed veteran as described in this title.

(2) After a two-year Department of Energy (DOE)/Department of Defense (DOD) study, the related "*Intrinsic Radiation Intercomparison Workshop Report",* January 25, 1983, acknowledged critical problems with radiation measurements that were subsequently used by military organizations and VA to estimate personal radiation exposures, stating:

*(*A) "A review of over 20 years of data showed that, in general, [radiation] measurements made at different times on any particular weapon type could differ significantly."

(B) "As this report shows, all the causes underlying the measurement diversity are not clearly understood…"

(C) "A general comment applies to all of the gamma series: an unknown portion of measurement-range variability results in the various ways in which source energies and intensities are translated into dose rates."

(D) Neutron radiation: "…the same type of instrument in the hands of different participants performed differently. It is impossible to decide whether better or poorer performance is due to the instrument, or the procedures and calibration techniques used."

(E) "The range of results was excessive for warhead measurements."

(3) In spite of the numerous critical problems cited in the Department of Energy (DOE)/Department of Defense (DOD) "*Intrinsic Radiation Intercomparison Workshop Report",* January 25, 1983, the Department of Veterans Affairs subsequently cited, or otherwise improperly considered, the 1983 DOE/DOD report as a premise for denial of veterans' claims. [e.g. VA Appeal Citation NR: 9607194 va.gov/vetapp96/files1/9607194.txt]

(4) Nuclear Weapons Technicians were not protected from ionizing radiation through programs such as the intrinsic radiation (INRAD) and As Low as Reasonably Achievable (ALARA) safety programs that were first published on 29 October 1990 (AFR 122-28, Air Force Nuclear Weapons Intrinsic Radiation Safety Program).

(5) A DOD Nuclear Task Force investigation (2008) revealed failures by the Air Force to provide adequate INRAD and ALARA Programs to Nuclear Weapons Personnel as late as 2007.

(6) Nuclear Weapons Technicians routinely used toxic and carcinogenic chemicals, organic solvents; and handled, cleaned, and abraded toxic metals; during nuclear weapons and related equipment maintenance tasks without adequate personal protective equipment or restrictions.

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(b) **PURPOSE.**—The purpose of this Act is to amend and enact law to:

(1) Designate the duties of a Nuclear Weapons Technician as a "Radiation-Risk Activity" and each Nuclear Weapons Technician considered a "Radiation-Exposed Veteran".

(2) Presume service-connection for ionizing radiation exposures.

(3) Designate the duties of a Nuclear Weapons Technician as a "Toxic Exposure Risk Activity" and each Nuclear Weapons Technician considered a "Toxic Exposed Veteran".

(4) Presume service-connection for exposure to toxic and carcinogenic chemicals, organic solvents, and metals including beryllium, cadmium, and magnesium-thorium.

TITLE I—EXPANSION OF HEALTH CARE ELIGIBILITY

Subtitle A—Ionizing Radiation-Exposed Nuclear Weapons Technicians

SEC 101. DEFINITIONS, ANALYSIS, AND HOSPITAL/MEDICAL CARE RELATING TO RADIATION-EXPOSED VETERAN NUCLEAR WEAPONS TECHNICIANS.

(a) DEFINITIONS RELATING TO RADIATION-EXPOSED VETERANS AND RADIATION-RISK ACTIVITY.

(1) **[38 U.S.C. 1112] PRESUMED IONIZING RADIATION EXPOSURE.**—

(A) Subparagraph 1112(c)(3)(B) is amended by adding at the end the following:

"(viii) Service as an active-duty veteran Nuclear Weapons Technician whose primary duties and responsibilities were to perform maintenance, operations, and related tasks working on, with, and in close physical proximity to live nuclear weapons or nuclear warheads in the operational or custodial control of the Department of Defense, during the period beginning September 2, 1945, and ending on December 26, 1991."

"(I) EXCEPTION.—Clause (viii) does not apply to administrative staff whose duties did not require active participation in live nuclear weapons maintenance activities or to remain in intrinsic radiation-risk areas. It does not apply to work with nuclear weapon trainers; nor to missile launch crew members, air crew members, and other job titles, classes, rates, ratings, or military operational specialties where close physical proximity to live nuclear weapons and exposure to ionizing radiation was both minimal and infrequent."

(B) Subsection 1112(c) is amended by adding the following new paragraph (5) as follows:

"(5) The Secretary may not require evidence of a certain ionizing radiation dose, dose rate, absorbed dose, biological dose, cumulative dose, effective dose, equivalent dose, dose estimation, dose reconstruction, nor other dose to determine that a veteran Nuclear Weapons Technician as described in this Title is a radiation-exposed veteran." **[**clerical note: "nor" is the correct term as used**]**

(b) **ELIGIBILITY FOR HOSPITAL CARE AND MEDICAL SERVICES**—

(1) **[38 USC 1710]** IN GENERAL.**—**

(A) Subparagraph 1710(a)(2)(F) is amended by striking "or" at the end.

(B) Subparagraph 1710(a)(2)(G) is redesignated as subparagraph "(H)".

(C) Paragraph 1710(a)(2) is amended by inserting the following: "**(**G) who is a radiation-exposed veteran in accordance with 1112(c)(3) of this title; or".

(c) **[38 U.S.C.] DEFINED TERMS AND ANALYSIS.—**The following definitions and analysis shall apply:

(1) **NUCLEAR WEAPONS TECHNICIAN.**—The term Nuclear Weapons Technician means "a military veteran whose duties included operations working on, with, or in close physical proximity to live nuclear weapons or exposed radioactive nuclear weapon components in the operational or custodial control of the Department of Defense; and includes nuclear weapons technical inspectors, supervisors, and managers whose duties included both close physical proximity to live nuclear weapons and exposure to ionizing radiation. The Armed Services branches referred to a 'Nuclear Weapons Technician' by various titles, rates, and specialties."

(A) Analysis.—Tasks were routinely conducted with hands, arms, face, and head in, on or near the weapons; as well as torsos pressed against the exterior. Primary duties exposed Nuclear Weapons Technicians to ionizing radiation emitted through the external case of nuclear weapons, and from exposed nuclear weapon components.

(2) **NUCLEAR WEAPONS OPERATION.**—The term Nuclear Weapons Operation includes "nuclear weapons tasks such as handling, disassembly, limited life component exchange, assembly, test, repair, calibration, modification, inspection, transporting, moving, storing, and other directly related tasks."

(3) **NUCLEAR WEAPONS MAINTENANCE.**—The term Nuclear Weapons Maintenance "is synonymous with 'Weapons Maintenance' and 'Maintenance' for operations and activities conducted by a Nuclear Weapons Technician", in this Act.

(4) **NUCLEAR WEAPON and NUCLEAR WARHEAD.**—The term Nuclear Weapon "is synonymous with 'Nuclear Warhead,'" in this Title.

(5) **RADIATION.**—The term Radiation means "ionizing radiation in the form of alpha particles, beta particles, gamma rays, or neutrons," in this Title.

(6) **IONIZING RADIATION.**—The term Ionizing Radiation means "Electromagnetic radiation (gamma rays or X-rays) or particulate radiation (alpha particles, beta particles, neutrons, etc.) capable of producing ions, i.e., electrically charged particles, directly or indirectly, in its passage through matter." [Source: DOE-DTRA Technical Procedure (TP) 4-1, Glossary of Nuclear Weapons Material and Related Terms, IC 1-1, 30 July 2016].

(A) Analysis.—Ionizing radiation has sufficient energy to alter and damage sensitive living tissue and cause severe damage to cells and DNA. Gamma radiation penetrates metal, and neutron radiation also penetrates lead shielding. Neutron radiation is continuously emitted through nuclear weapon exterior cases, interacts with other neutron radiation sources (i.e., nearby nuclear weapons), and causes other items to become radioactive. The radiation weighting factor (biological damage) from neutron radiation is five to twenty times greater than gamma radiation. Alpha particles, if inhaled, swallowed, or entered through a cut or other injury, have a radiation weighting factor twenty times greater than gamma radiation.

(7) **IONIZING RADIATION-RISK ACTIVITY AND IONIZING RADIATION EXPOSURE.**—The terms "'ionizing radiation-risk activity' and 'ionizing radiation exposure' are synonymous in regard to live nuclear weapons maintenance operations."

(A) Analysis.—Ionizing radiation is emitted continuously by nuclear weapons and certain related components, including gamma and neutron radiation emitted through weapon surfaces, and neutron radiation penetrates lead shielding. Any activity of a Nuclear Weapons Technician in close proximity to a nuclear weapon exposes a person working on or near those weapons to ionizing radiation in real time, the specific amount of which was generally not provided to Nuclear Weapons Technicians who worked with those weapons during the Cold War period.

(8) **INTRINSIC RADIATION (INRAD).**—The term Intrinsic Radiation (INRAD) means "Ionizing radiation emitted through the nuclear weapon surface or directly from exposed weapon components." [Source: DOE-DTRA Technical Procedure (TP) 4-1, 30 July 2016]

(9) **INVERSE SQUARE LAW.**—The term Inverse Square Law means: "The law which states that when radiation (thermal or nuclear) from a point source is emitted uniformly in all directions, the amount received per unit area at any given distance from the source, assuming no absorption, is inversely proportional to the square of that distance." [Source: DOE-DTRA Technical Procedure (TP) 4-1, 30 July 2016]

(A) Analysis and significance.—Radiation measurements described in Department of Energy (DOE)/Department of Defense (DOD) January 25, 1983 "*Intrinsic Radiation Intercomparison Workshop Report*" were reportedly taken at a distance one-meter from the radiation source. Measurements at closer distances, if obtained, were apparently maintained in classified documents and not generally promulgated to those who worked with the operational nuclear weapons. Per the Inverse Square Law, starting one-meter from a radioactive source and reducing the distance from the source by one-half, five times, the energy increases 1,024 times at approximately 3 centimeters. Cutting the distance in half once more, the increase would be 4,096 times at 15 millimeters. The neutron radiation weighting factor (biological damage), five to twenty times that of gamma and beta, increases the significance of the radiation dose.

(10) **ALARA (As Low As Reasonably Achievable).**—The term ALARA (As Low As Reasonably Achievable) means "restrictions related to time, distance, and shielding from intrinsic radiation sources."

(11) **CLOSE PHYSICAL PROXIMITY.**—The term close physical proximity means "Access in such a manner as to allow the opportunity to tamper with or damage a nuclear weapon." [Source: DOE-DTRA Technical Procedure (TP) 4-1, 30 July 2016]

(A) Analysis.—Examples include the interior of nuclear weapon maintenance bays, storage structures, compartments, magazines, torpedo rooms, vaults, aircraft hangers, cargo aircraft/transport, and other internal or external areas under "Two-Person Rule" or equivalent physical nuclear weapons security requirement.

(12) **TWO-PERSON RULE.**—The term Two-Person Rule means "A system designed to prohibit access by an individual to nuclear weapons and certain designated components by requiring the presence at all times of at least two authorized persons each capable of detecting incorrect or unauthorized procedures with respect to the task to be performed." [Source: DOE-DTRA Technical Procedure (TP) 4-1, 30 July 2016]

Subtitle B—Toxic-Exposed Veteran Nuclear Weapons Technicians

Sec. 111. DEFINITION AND ANALYSIS OF TOXIC EXPOSURE RISK ACTIVITY

(a) **[38 USC 1710]** IN GENERAL.—Clause 1710(e)(4)(C)(i) is amended by striking "or" at the end.

(b) **[38 USC 1710]** IN GENERAL.—Clause 1710(e)(4)(C)(ii) is amended by replacing the period at the end with a semi-colon and adding "or".

(c) **[38 USC 1710]** DEFINED TERM AND ANALYSIS OF TOXIC EXPOSURE RISK ACTIVITY.—Subparagraph 1710(e)(4)(C) is amended by adding at the end the following clause:

"(iii) that required a veteran Nuclear Weapons Technician to routinely use toxic and carcinogenic chemicals, organic solvents, and other substances to maintain nuclear weapons and their associated equipment during the period beginning September 2, 1945, and ending on December 26, 1991. Those tasks are defined as toxic exposure risk activity. Service-connection for toxic exposure is presumed."

"(I) Substances described in clause (iii) include:

(aa) Acetone (ab) Alodine (ac) Benzene (ad) Beryllium (ae) Cadmium (af) Chromic acid (ag) Chromium trioxide (ah) Dry cleaning solvent (ai)Epoxy & Vinyl Resins (aj) Ethylbenzene (ak) Hydrofluoric acid (al) Kerosine (am) Magnesium-thorium alloy (an) Methanol, ACS	(ao) Methyl ethyl ketone (ap) Methyl isobutyl ketone (aq) Naptha aliphatic (ar) N-Hexane (as) Nitric acid (at) Phosphoric acid (au) Resin-Acid (av) Tetrachloroethylene (PCE, PEC, PERC) (aw) Tetrachloromethane (Carbon Tetrachloride) (ax) Tetrahydrofuran (THF)	(ay) Thiner, Dope and Lacquer, Acrylic/ Nitrocellulose (az) Toluene (ba) Trichloroethane (methyl chloroform) (bb) Trichloroethylene (TCE) (bc) Trichlorotrifluoroethane (bd) Triethylenetetramine (be) Xylene (bf) Zinc chromate primer"
Sources: AEC-DNA TP 35-51/Army TM-39-35-51/Navy SWOP 35-51/AF T.O. 11N-35-51, *General Instructions for Cleaning, Preservation, Packaging, and Identification Marking*, 26 Nov 1962, Change 6, 7 Jun 1972; and AEC-DNA TP/TM/SWOP/TO 11N-40-54, *General Maintenance Instructions*, 20 Aug 1962, Change 16, 6 Feb 1973; Mg-Th Alloy, NIOSH, Oak Ridge Association University Team, 13 Aug 2014		

(d) Analysis.—The analysis required by clause (iii) follows:

(I) Nuclear Weapons Technicians worked on live nuclear weapons during the Cold War period without adequate respiratory and other personal protective equipment (PPE), fuming hoods, and other facility safety equipment. Personnel safety programs were limited or nonexistent, and Nuclear Weapons Technicians generally worked in secrecy and without restrictions.

(II) The Atomic Energy Commission and Defense Atomic Support Agency; later renamed Department of Energy and Defense Nuclear Agency, respectively; authorized use of specific toxic and carcinogenic chemicals and organic solvents. Those substances were used during routine maintenance, disassembly, assembly, modification and repair of live nuclear weapons, related components, hardware, and handling equipment during the Cold War period. Abrasive materials and solvents were used to clean, abrade, smooth, and repair surfaces of items containing metals such as beryllium, cadmium, and magnesium-thorium. [Sources: AEC-DNA TP 35-15/Army TM-39-35-51/Navy SWOP 35-51/AF T.O. 11N-35-51, *General Instructions for Cleaning, Preservation, Packaging, and Identification Marking*, 26 Nov 1962, Change 6, 7 Jun 1972; and AEC-DNA TP/TM/SWOP/TO 11N-40-54, *General Maintenance Instructions*, 20 Aug 1962, Change 16, 6 Feb 1973; both published under authority of the Secretaries of the Army, Navy and Air Force; Director, Defense Nuclear Agency, and the Atomic Energy Commission.]

Sec. 112. DEFINITION RELATING TO TOXIC-EXPOSED VETERANS

(a) **[38 USC 1710] TOXIC-EXPOSED VETERAN NUCLEAR WEAPONS TECHNICIAN.**—Paragraph 1710(e)(1) is amended by adding at the end, the following subparagraphs:

"(J) In the case of a Nuclear Weapons Technician described in this Title, such veteran; while serving on active duty for a period of no less than ninety days, during the period beginning on September 2, 1945, and ending on December 26, 1991; has presumed service-connection for toxic exposure and is eligible for hospital care (including mental health services and counseling), medical services, and nursing home care under subsection (a)(2)(F) for any disease or disability, notwithstanding that there is insufficient medical evidence to conclude that such disease or disability may be associated with such exposure. In reference to the substances listed in (e)(4)(C)(iii), such services and care shall also include, but not be limited to, the illnesses or conditions listed in (e)(1)(F) and sections otherwise related in this Title."

Subtitle C.—Severability

Sec. 121. If any provision of this Act or the application thereof to any person or circumstance is held invalid, the remainder of this Act, or the application of that provision to persons or circumstances other than those as to which it is held invalid, is not affected thereby.