

PETITION

TO: THE US NUCLEAR REGULATORY COMMISSION

FROM: THE THREE MILE ISLAND UNIT-2 COMMUNITY ADVISORY PANEL



(TMI Photo: Wikipedia)

REQUIRING: THE U.S. NRC HALT ANY RECENTLY PROPOSED REGULATORY CHANGES INVOLVING PUBLIC AND WORKER RADIATION DOSE LIMITS, LNT, ALARA, ENVIRONMENTAL RELEASES OF RADIOACTIVE MATERIAL AND REPORTING, AND, IMMEDIATELY CONSULT WITH OTHER FEDERAL AND STATE AGENCIES FOR AN UPDATE TO ALL RADIATION PROTECTION RELATED STATUTES, REGULATIONS, STANDARDS, RECOMMENDATIONS, AND ANY RELATED GUIDANCE IN THE USA TO ENSURE CONFORMANCE WITH CURRENT SCIENTIFIC CONSENSUS AND COMPLETE INTERAGENCY UNIFORMITY; AND,

AS THIS PETITION

RELATES TO: The overdue need for updated, uniform, and science-based national Radiation Protection (RP) Regulations, Standards and Guidance in the USA, for this issue has been a major concern of the RP practitioner community for decades, and was recently distorted in a 2025 Presidential Executive Orders (EO), in particular, EO 14300, Section 5(b) referenced below (R1), as well as the NRC's response in their proposed regulations posted in the FR on July 15, 2026 (R30);

DOCKET ID: NRC-2025-1140; and,

WHEREAS: Wilhelm Conrad Roentgen discovered X rays in November of 1895; and,

WHEREAS: Soon after Henri Becquerel discovered natural radioactivity emitted from uranium ore in March of 1896; and,

WHEREAS: Subsequently Marie and Pierre Curie discovered radioactive polonium and radium in the late 1890s; and,

WHEREAS: Very soon after, applications of X rays and radioactivity in medicine, scientific research and industry were initiated; and,

WHEREAS: Exposure to radiation and radioactivity were quickly recognized to be potentially harmful to humans; and,

WHEREAS: These facts are well documented by P. Brown in a book describing 'Martyrs to Roentgen Rays' (R2); and,

WHEREAS: More recently, C. Clark documents in a book on the 'Radium Girls,' the circa 1925 radium poisoning of watch dial and military gauge painters, and failings of government and industry to protect workers (R3); and,

WHEREAS: In the late 1920s, international and national committees were established to develop recommendations to protect workers from the harmful effects of X rays, radium and radiation; and,

WHEREAS: Beginning in the early 1900s, scientific research with X rays, radium, radioactivity and various forms of radiation, has led to many significant discoveries, including the first man-made nuclear reactor in 1942; and,

WHEREAS: This work supported the development and use of the first Atomic Bombs that ended WWII; and,

WHEREAS: Radiation effects in tens of thousands of A-bomb survivors in Japan have been studied for decades; and,

WHEREAS: The USA and former Soviet Union produced thousands of nuclear weapons during the Cold War; and,

WHEREAS: That effort required mining of vast quantities of uranium, causing significantly increased numbers of lung cancer among uranium miners due to elevated occupational radon exposure; and,

WHEREAS: The fabrication of plutonium for nuclear weapons, and their testing in the 1950s and 1960s, has caused related worker, military and public radiation exposure, with documented and potential health effects; and,

WHEREAS: Man-made radioactive fallout from above ground weapons testing by the US, Soviet Union, UK, France and China in the 50s through the 70s has caused environmental contamination and possible health effects in the USA and worldwide; and,

WHEREAS: The use of X rays and RAM* in medicine and industry during the early 20th century has been an enormous benefit to society, but has caused radiation-related health effects in radiology staff and patients; and,

WHEREAS: Such health effects are well documented in national and international studies and reports (R4,5,6); and,

WHEREAS: Despite the potential negative effects of radioactivity and radiation exposure, applications of ionizing radiation are a very useful and necessary part of our modern technology advanced world; and,

WHEREAS: Continued and increasing use of X rays and RAM in the world include countless applications in areas of: medicine, dentistry, industry, energy, agriculture, security, and basic scientific/academic research; and,

WHEREAS: Facility locations using radiation sources include: hospitals/medical/dental clinics, accelerators, colleges/universities, energy production plants, industrial sites; and,

WHEREAS: The US NRC regulations an extremely small fraction of the sources of radiation exposure in the USA; and,

WHEREAS: Since the terrorist attacks of September 11, 2001, protection of the homeland involves enhanced radioactive source security, vigilance during transport, and radiological emergency response capabilities; and,

WHEREAS: Non-medical X-ray security screening devices for personnel, baggage and packages have been, and continue to be, utilized on the public, workers and inmates in airports, jails and prisons; and,

WHEREAS: Above sea-level and enhanced cosmic rays with secondary radiations can cause increased radiation exposure to the public, aircraft and spacecraft crew; and,

WHEREAS: Man-made and concentrated natural radioactivity (i.e., NORM and TENORM) from oil & gas and mining operations can cause occupational and public exposure, as well as environmental contamination; and,

WHEREAS: Elevated levels of natural radioactive radon gas can cause worker and public exposure in homes, daycare facilities, schools and workplaces; and,

WHEREAS: Both natural and man-made RAM has been, and continues to be, incorporated into consumer products (e.g., smoke detectors) causing low-level public radiation exposure in homes, schools and workplaces; and,

WHEREAS: Radiation protection organizations were formed in the late 1920s to develop the earliest X ray and radium radiation protection standards, with the ICRP and NCRP tracing their origins to these committees (R7); and,

WHEREAS: Due to continued development of nuclear technology in the 40s and 50s, the U.S. and other international governments began to pass related laws and codified radiation protection standards in regulations (R7); and,

WHEREAS: The standards of the ICRP and NCRP have continued to evolve from the studies of the radium dial painters, early X ray users, A-bomb survivors, uranium miners, nuclear reactor and other highly exposed cohorts; and,

WHEREAS: UNSCEAR and the NAS' BEIR committees have regularly reviewed radiation effects since the 1950s, concluding the 'linear non-threshold' (LNT) model for cancer induction, from radiation exposure data in epidemiological evidence and sound science, is a practical and ethical protection approach (R4,5,6); and,

WHEREAS: The ICRP, NCRP, and other radiation protection professionals have developed and utilized for decades - the established safety philosophy of 'as low as reasonably achievable' (ALARA) with respect to reducing radiation exposure to workers and the public; and,

WHEREAS: The standards in ICRP Publications No.1&2 (c1960), No.26&30 (c1976), No.60 (1990), and No.103 (2007) have been the basis of RP regulations in the U.S. and around the world for decades (R8); and,

WHEREAS: These regulations form a system of radiation protection focused on justification, optimization and limitation of radiation exposure for existing conditions, planned scenarios, and emergencies; and,

WHEREAS: Various radiation protection standards have been utilized over the decades to codify U.S. regulations, internal Orders, and recommendations within the: DoD (i.e., Army, Navy, Air Force and USACE), DOE, DOT, EPA, FAA, FDA, NASA, NRC, OSHA, as well as virtually all related State agencies; and,

WHEREAS: Past Presidents of the United States have directed federal agencies over several decades to update their radiation protection regulations; and,

WHEREAS: EO 10831, the Atomic Energy Act (as amended), and federal Reorganization Plan No. 3 of 1970 charged the Administrator of the EPA to "... advise the President with respect to radiation matters, directly or indirectly affecting health, including guidance for all federal agencies in the formulation of radiation standards and establishment and execution of programs of cooperation with States" (R9); and,

WHEREAS: Prior to EO 14300 and other EOs currently under review, President Reagan was the last to Order an update to radiation protection regulations in 1987 (R9); and,

WHEREAS: Some federal agencies (e.g., NRC and DOE) completed that task by the early 1990s, with OSHA [notably] having never completed an update of their RP regulations; and,

WHEREAS: Functionally, if no federal or state agency regulates a worker's exposure to radiation or radon, OSHA's circa 1972 regulations, that are linked to circa 1972 NRC regulations [thus c1960 standards], shall apply; and,

WHEREAS: The FAA does not regulate the occupational exposure to cosmic radiation of airline cockpit or flight crew, with the concern that female crew may exceed fetal dose limit guidance during a declared pregnancy; and,

WHEREAS: Many developed nations now require tracking of airline flight crew's cosmic radiation exposure, however the FAA only has exposure guidance, and, has yet to mandate such a radiation tracking requirement (R10); and,

WHEREAS: Despite the FAA not regulating cosmic radiation exposure to airline crew, they potentially receive as much occupational radiation exposure as a nuclear medicine or radiologic technologist in a medical facility; and,

WHEREAS: "FAA continues to recommend (radiation exposure) limits that essentially combine the ICRP and NCRP recommendations..." (pg. 14-15 of R11); and,

WHEREAS: OSHA, as a federal regulator, has extremely outdated RP regulations that apply to worker radiation exposure to X rays, RAM, TENORM in the oil & gas industry, or clean-up after a radiological terrorism event; and,

WHEREAS: As recently as late 2024, OSHA inspected a Pennsylvania hospital, cited and fined them for using the 2 dosimeter 'under and over the lead apron' method for determining effective whole body dose for physicians and other medical staff performing life-saving X-ray fluoroscopy procedures (R12); and,

WHEREAS: Despite published guidance from the CRCPD, state Radiation Control Programs (including Pennsylvania), and NRC, who all accept the 2 dosimeter approach, OSHA continues to maintain their outdated regulatory definition of 'whole body' in their regulations as stated in a 1999 letter to the AANC (R13); and,

WHEREAS: In June 2020, the CRCPD and other organizations formally communicated to the Secretary of Labor, noting OSHA's Ionizing Radiation Standard regulations in 29 CFR 1910.1096 are inadequate for ensuring safe and healthful working conditions because they do not protect employees from exposures to cancer-causing radon in workplaces (A1); and,

WHEREAS: In August 2020, the CRCPD [again] formally communicated to OSHA noting their regulations 'are not consistent with NRC and state regulations' (A2); and,

WHEREAS: OSHA never responded to concerns raised in these two letters (A1, A2); and,

WHEREAS: OSHA's radiation protection regulations would be applicable to non-radiation workers during an emergency response to a nuclear or radiological accident or incident; and,

WHEREAS: FEMA has the responsibility and regulatory authority to establish policy and procedures for review and approval of State and local emergency plans and preparedness for the offsite effects of a radiological emergency which may occur at a commercial nuclear power plant facility; and,

WHEREAS: FEMA's guidance to state and local emergency responders is to utilize the EPA's published radiation 'protective action guides' or PAGs that have public dose limits for the public in the event of an accident; and,

WHEREAS: FEMA and various other federal agencies, RP organizations and professionals provide scientific expertise, training, support, coordination and information to national and international communities regarding prevention of, response to, and recovery from radiation accidents or incidents; and,

WHEREAS: The EPA states in its 2017 PAG Manual "incident commanders should make every effort to employ the "as low as reasonably achievable" (ALARA) principle after an incident" and,

WHEREAS: For nearly 70 years, the vast majority of States have entered a formal Agreement with the NRC for the regulation of radioactive material use and related radiation protection practices; and,

WHEREAS: Those NRC Agreements with each State require regulatory "compatibility," and often strict conformance, with NRC RP regulations; and,

WHEREAS: In the USA, NRC directly regulates only a very small fraction of the tens of thousands of RAM licensees, and none of the hundreds of thousands medical, dental, and non-medical X-ray equipment users; and,

WHEREAS: The NRC began to update their RP regulations several years ago, but halted that process (R14,15,16); and,

WHEREAS: NRC received 3 formal petitions in February 2015 to abandon the LNT model for radiation protection; and,

WHEREAS: After several years of extensive research and review of ICRP, IAEA, and (most importantly) NCRP recommendations, the NRC recently made an extremely significant decision, and denied those 3 LNT related petitions and published their lengthy analysis in the Federal Register [R17]; and,

WHEREAS: Based on international studies, in January 2017 the NCRP recommended the lowering of the allowed radiation dose to the lens of the eye to prevent cataract induction from radiation exposure (R18), but no federal agency has yet to address this recommendation and initiate a regulatory update; and,

WHEREAS: Thousands of Radiation Protection Professionals within government, industry, medical, educational, and private entities, serve as sources of information and facilitate the benefits of X rays, radiation and radioactivity to the public, while optimizing and keeping ALARA the hazards of radiation exposure; and,

WHEREAS: Traditionally, the vast majority of these professionals have embraced and implemented the ALARA philosophy for worker, public and environmental radiation protection, and the 'optimization' for delivery of diagnostic or therapeutic X rays, radiation, or RAM to patients; and,

WHEREAS: Again, the EPA has the responsibility, that was once empowered to the Federal Radiation Council (FRC) during the 1960s, to recommend updates to radiation protection regulations; and,

WHEREAS: EPA also has the responsibility to monitor national and international radiation protection recommendations and standards, and work internally within the agency, as well as with other federal and state agencies, to update national RP regulations and guidance; and,

WHEREAS: In that EPA and NRC continued to have conflicting RP site/facility clean-up standards and regulations, at the urging of [then] Senator John Glenn (R19), these two agencies and others formed the ISCORS in 1995; and,

WHEREAS: Because of ongoing conflicting RP regulations, radiological clean-up standards, and radioactive waste disposal standards of the EPA and NRC, the GAO recommended in 2000 – that these agencies develop a consensus on the issues (R20,21); and,

WHEREAS: These conflicting and overlapping regulation of radioactive sources and radiation protection standards were reported 20 years prior, and publicized in national media a few months after the Three Mile Island Unit-2 accident in March 1979 (R22); and,

WHEREAS: Traditionally, with the input from NRC, DOE and other federal agencies, the EPA has been tasked with making recommendations to the President regarding RP regulations in the U.S.A.; and,

WHEREAS: The current federal RP regulations have not been updated in a routine manner, the U.S. regulations are now based on RP recommendations ranging in time from circa 1960 to 2007, and are (thus) outdated, non-uniform, and (potentially) not protective of the public, patients and their families, workers and environment; and,

WHEREAS: The following examples (only) of such outdated, non-uniform, but LNT-modelled and/or ALARA-based federal radiation protection regulations, standards, and guidance now require a prompt review by the EPA (via ISCORS) for update include:

NRC - regulations in and guidance respective to: 10CFR 20.1101 related to licensees having programs to achieve occupational and public doses ALARA; 10CFR 20.1201 thru 20.1208 relating to 5,000 mrem/yr WB, 50,000 mrem/yr extremity and 15,000 mrem/yr lens of eye occupational dose limits including ALARA, and 500 mrem/yr dose to the embryo/fetus; 10CFR 20.1301 thru 20.1302 relating to 100 mrem/yr public dose limit; 10CFR 20.1401 thru 20.1403 relating to facility radiological release criteria and dose limits for unrestricted and restricted release including ALARA; 10CFR 20.1601 relating to access control of high radiation areas and ALARA; 10CFR 20.1702 relating to an ALARA analysis for use of engineering controls versus respirators; 10CFR 20.2002 relating to waste disposal and ensuring that doses are maintained ALARA; 10CFR 20.2105 relating to planned special exposures and records describing how doses were maintained ALARA; 10CFR 34.42 relating to qualifications, training, and experience for RSOs for industrial radiography and establishing and overseeing all operating, emergency, and ALARA procedures; 10CFR 50 Appendix I stating a 3 mrem/yr total body and 10 mrem/yr any organ public dose limits from NPPs with them being ALARA and ALAP; 10CFR 60.136 relating to pre-closure dose limits from release of radioactivity from HLW disposal sites and ; 10CFR 63.311 public dose limits [same as EPA's 40CFR197.25]; 10CFR 61.41 relating to public dose limits from release of radioactivity from LLRW disposal sites including ALARA; 10CFR 71.47 relating to 2, 10, 200 mrem/hr dose rate limits [respective] to the public from transported RAM in vehicle occupied space, vehicle outer surface and package surface; and,

DOE - regulations in and guidance related to: 10CFR835 on Occupational Radiation Protection, and DOE Order 458.1, Change 5, on Radiation Protection of the Public and the Environment, such as 10CFR835.101 noting "each RPP shall be commensurate with the nature of the activities performed and shall include... the ALARA process," 10CFR835.204(d)(3) noting written consent for a planned special exposure include "measures to be taken to keep the dose ALARA," 10CFR835.901(c) noting radiation safety training shall include the following topics "measures implemented at the facility to manage doses and maintain doses ALARA," 10CFR835.1001(a) noting for design and control "measures shall be taken to maintain radiation exposure in controlled areas ALARA through engineered and administrative controls," 10CFR835.1002(a) noting for design and modification "Optimization methods shall be used to assure that occupational exposure is maintained ALARA in developing and justifying facility design and physical controls," 10CFR835.1003(b) noting for workplace controls "the ALARA process is utilized for personnel exposures to ionizing radiation," Order 458.1 notes the "Requirement" in 4(b) for "Public Dose Limit... comply with ALARA" 4(d) "a documented ALARA process must be implemented to optimize control and management of radiological activities so that doses to members of the public (both individual and collective) and releases to the environment are kept ALARA," 4(f)(1) "radiological activities must be conducted in a manner such that the release of radioactive material to the atmosphere will... be evaluated using the ALARA process;" and,

EPA – regulations in: 40CFR Chapter 1, Subchapter D, Part 132, Appendix C defines the 'Linearized multi-stage model, (as) a conservative mathematical model for cancer risk assessment, this model fits linear dose-response curves to low doses, it is consistent with a no-threshold model of carcinogenesis, i.e., exposure to even a very small amount of the substance is assumed to produce a finite increased risk of cancer;' and EPA has used this cancer risk model in numerous RP dose limits and secondary RAM concentration limits throughout various regulatory 40CFR Parts such as 40CFR141.66 that limits radionuclides in drinking water to protect public health to 4 mrem/yr, the 40CFR61 NESHAPS 10 mrem/yr public dose limit for radon-222 from underground uranium mining and DOE facilities, Subpart T of 40CFR61 limits radon-222 emissions from uranium mill tailings piles that are no longer operational to 20 picocuries per square meter per second, 40CFR190 limits radiation releases and doses to the public from the normal operations of nuclear power plants and other uranium fuel cycle facilities to 25 mrem to the whole body, 75 mrem to the thyroid and 25 mrem to any other organ, 40CFR190 limits radiation releases for members of the public in the general environment around Yucca Mountain from the management and storage of SNF and HLRW to 15 mrem per year for the first 10,000 years after disposal and then 100 mrem per year out to a million years, 40CFR197.25 establishes the 15 mrem/yr (up to 10,000 yr) and 100 mrem/yr (after 10,000 yr) radiological release public dose limits for HLRW and SNF disposal criteria; and,

USACE – was given the directive by Congress to administer and executed cleanup of pre-AEA facilities at eligible FUSRAP sites pursuant to the provisions of the Energy and Water Development Appropriations Act, 1998, (Title I, Public Law 105-62, 111 Stat. 1320, 1326), the Energy and Water Development Appropriations Act, 1999, (Title I, Public Law 105-245, 112 Stat. 1838,1843), and in accordance with, and subject to regulation under CERCLA as amended, 42 U.S.C. 9601 et seq., and the NCP, 40 C.F.R., Chapter 1, Part 300, and both DOE and USACE have acknowledged that DOE does not have regulatory responsibility or control over the FUSRAP activities of USACE or their contractors for radiation protection of workers, the public and environment, therefore, the radiological clean-up standards and radiation active waste disposal criteria for these FUSRAP sites are based on EPA cancer risk estimates for low-level radiation exposure and state solid waste disposal criteria; and,

DoD – the Army's goal as stated in Regulation 385-10 [24July2023] is to 'keep radiation exposures ALARA to soldiers, civilians, contractors, and the general public in accordance with 10CFR20.1003 and 29CFR1910.1096 while meeting applicable environmental requirements,' 'the ALARA concept is the basis of ARSOHP regarding exposure to radiation,' 'develop a formal ALARA program with occupational personnel dose equivalent investigational levels as specified in this regulation,' 'determine the proper radiological controls to assure ALARA,' 'use eye dose limits to determine if the head-and-neck badge dose limit requires an ALARA investigation,' 'use the TEDE dose limit to determine the whole-body dose that will require an ALARA investigation,' 'recommended set point for self-reading alarming electronic dosimeters should be ALARA investigation level,' 'declared pregnant woman will make efforts to maintain the monthly occupational radiation exposure rate ALARA and relatively uniform,' 'maintain radiation exposure control measures to ensure anticipated and actual occupational doses are maintained ALARA and do not exceed the limits,' 'always reduce radioactive contamination to ALARA levels,' the Navy states in their Occupational Radiation Exposure Report NT-24-3 [dated May 2024] they 'keep exposure ALARA,' 'control of radiation exposure has always been based on the assumption that any exposure, no matter how small, may involve risk,' 'therefore, work is planned and executed in a manner that minimizes total personnel exposure as much as reasonably achievable,' the Navy states in their Radiation Health Protection Manual NAVMED P-5055 [2Dec2022] 'exposure to personnel from ionizing radiation shall be reduced to levels ALARA,' 'underlying principle for these controls is that the storage, handling, transportation and disposal of radioactive material and use of devices that generate ionizing radiation will be controlled so that personnel will not be exposed to radiation unnecessarily and that any exposures received will be maintained ALARA;' and,

OSHA - regulations in 29CFR1910.1096(b)(1)(2) 'Exposure of individuals to radiation in restricted areas,' 29CFR1910.1096(b)(1) 'no employer shall possess, use, or transfer sources of ionizing radiation in such a manner as to cause any individual in a restricted area to receive in any period of one calendar quarter from sources in the employer's possession or control a dose in excess of the limits specified in Table G-18: Whole Body 1.25 rem per quarter, Hands & Forearms or Feet & Ankles 18.75 rem per quarter, Skin of the Whole Body 7.5 rem per quarter,' 29CFR1910.1096(b)(2)(i) 'during any calendar quarter the dose to the whole body shall not exceed 3 rems, and,' 29CFR1910.1096(b)(2)(ii) 'the dose to the whole body, when added to the accumulated occupational dose to the whole body, shall not exceed 5 (N-18) rems, where "N" equals the individual's age in years at his last birthday,' OSHA states on their website related to Radiation Emergency Preparedness and Response 'radiation doses should be kept to a level that is ALARA,' 'in these later phases, standard worker protections, including the 1.25 rem per quarter occupational dose limit normally apply,' 'in all cases, reasonably achievable actions should be taken to minimize doses, i.e., maintain doses ALARA;' and,

FEMA – regulations in 44CFR350.1 states 'the purpose of the regulation in this part is to establish policy and procedures for review and approval by FEMA of state and local emergency plans and preparedness for the offsite effects of a radiological emergency which may occur at a commercial nuclear power facility,' 'review and approval of these plans and preparedness involves preparation of findings and determinations of the adequacy of the plans and capabilities of state and local governments to effectively implement the plans,' 'both the planning and preparedness standards and related criteria contained in NUREG-0654/ FEMA-REP-1, Rev. 1 are to be used by FEMA and the NRC in reviewing and evaluating State and local government radiological emergency plans and preparedness,' that document contains 'evaluation criteria for each planning standard of 10CFR50.47(b) and 44CFR350.5(a) that provide specific guidance for developing radiological emergency plans,' and FEMA's REP Program Manual [dated December 2019] states they provide radiological preparedness support and oversight for state, local, tribal, and territorial governments surrounding nuclear power plants, and the use of 'quality health physics practices and the philosophy of ALARA indicate that the plans / procedures provide for decontamination of individuals, vehicles, service animals, and pets found to be contaminated during the monitoring process;' and,

DOT – regulations in 49CFR appear to be relatively up to date and in harmony with the IAEA standards for national and international transport of RAM, but do require a review with respect to the 2025 edition of IAEA *Regulations for the Safe Transport of Radioactive Material* published in March 2026; and,

FAA – recommendations in DOT/FAA/AM-21/8 (pg. 14-15) appear to be conforming to ICRP Publication 103, and note limiting air crew radiation exposure to 2 rem per year averaged over 5 years, with no year above 5 rem, and dose limit to a conceptus of a declared pregnant women to 0.050 rem in any month and a total of 0.1 rem during the remainder of the pregnancy (R11); however, the NAS recently recommended FAA codify these recommendations (R31); and,

FDA – regulations in 21CFR892.2100, relating radiological acquisition and/or optimization guidance systems and upholding the ALARA principle with associated device controls/options, and FDA's website states with respect to balancing benefits and risk 'while the benefit of a clinically appropriate X-ray imaging exam generally far outweighs the risk, efforts should be made to minimize this risk by reducing unnecessary exposure to ionizing radiation,' 'to help reduce risk to the patient, all exams using ionizing radiation should be performed only when necessary to answer a medical question, treat a disease, or guide a procedure,' 'if there is a medical need for a particular imaging procedure and other exams using no or less radiation are less appropriate, then the benefits exceed the risks, and radiation risk considerations should not influence the physician's decision to perform the study or the patient's decision to have the procedure,' 'however, the ALARA principle should be followed when choosing equipment settings to minimize radiation exposure to the patient,' and regulations in 21CFR900 state 'the average glandular dose delivered during a single cranio-caudal view of an FDA accepted phantom simulating a standard breast shall not exceed 300 millirad per exposure;' and,

WHEREAS: There is a 'Million Person Study' of biological effects of radiation well underway by the NCRP, and the ICRP is performing a 'Fit For Purpose' review of all their radiation protection recommendations (R23,24); and,

WHEREAS: The late Lauriston Taylor, one of the world's most respected health physicists and founding member of the ICRP, NCRP and HPS noted of the early development of RP regulations - "radiation protection is not only a matter for science, it is a problem of morality, and of philosophy, and the utmost wisdom" (R25); and,

WHEREAS: The U.S. President has issued EO 14154 on January 20, 2025, and EO 14300 on May 23, 2025, with reference to Section 3(a) of EO 14154 stating "The heads of all agencies shall review all existing regulations, orders, guidance documents, policies, settlements, consent orders, and any other agency actions (collectively, agency actions) to identify those agency actions that impose an undue burden on the identification, development, or use of domestic energy resources - with particular attention to oil, natural gas, coal, hydropower, biofuels, critical mineral, and nuclear energy resources..." and Section 5(b) of EO 14300 stating "Adopt science-based radiation limits. In particular, the NRC shall reconsider reliance on the linear no-threshold (LNT) model for radiation exposure and the 'as low as reasonably achievable' standard, which is predicated on LNT. Those models are flawed, as discussed in Section 1 of this order. In reconsidering those limits, the NRC shall specifically consider adopting determinate radiation limits, and in doing so shall consult with the Department of Defense (DoD), the Department of Energy (DOE), and the Environmental Protection Agency;" and,

WHEREAS: Under the Charter of the TMI Unit-2 CAP to communicate cleanup concerns to the site licensee, public and government agencies, as well as the need to support all workers and Radiation Protection Professionals in the Commonwealth remediating the Unit-2 radiological contamination (R26); and,

WHEREAS: The CAP are community representatives in frequent contact with state and federal agencies who have the duty to protect workers, patients, the public and environment from the hazards associated with ionizing radiation and radioactivity; and,

WHEREAS: CAP members live in the community where the radioactive releases from TMI Unit-1 (if restarted) will expose the public and environment to potential hazards associated with ionizing radiation and radioactivity; and,

WHEREAS: Despite frequent calls over the past decade by the CAP Chairperson and countless others requesting all federal officials and agencies to improve and remedy this clear lack of RP regulatory uniformity, asking for action to update all radiation protections regulations and guidance in the U.S.A. (R27); and,

WHEREAS: The LNT and ALARA radiation exposure construct and philosophy (respectively) have been a longstanding approach for regulation of low-level radiation protection, with continued support by scientific organizations such as the U.S. Congressionally chartered NCRP, the ICRP, IAEA and UNSCEAR (R28,29); and,

- WHEREAS:** No practical alternative(s) to the LNT and ALARA construct and philosophy have been proposed by those in opposition that would cover all age groups, sex, or genetically sensitive members of the public; and,
- WHEREAS:** The use of LNT and ALARA in RP regulations and guidance is science-based, but reviewed and debated for appropriateness since first proposed, and was recently noted in a 'Project 2025' report (R32); and,
- WHEREAS:** The NRC has grossly underestimated the level of effort and cost to the states and regulated community for the proposed removal of 'ALARA' from its regulations and implementing procedures, vs. providing well-defined guidance and lower dose limit for applying ALARA to occupational and public radiation exposure; and,
- WHEREAS:** Under the U.S. Constitution, as Amendment I states, "Congress shall make no law... abridging the freedom of speech, or of the press, [and] to petition the Government for a redress of grievances," in addition, the administrative rules of the NRC in Title 10 CFR Part 2.803 allow such action; therefore,

WE NOW PETITION:

The Chairman of the NRC to: instruct staff to halt drafting, proposing, reviewing and implementing of any radiation protection regulation related to worker, public, clean-up and environmental dose limits; RAM releases from licensed facilities; continue the use of the LNT construct and ALARA approach in RP; contact the Secretary of the Department of Labor to request OSHA's RP regulations be rescinded immediately (and if needed) to incorporate NRC's current related RP regulations by reference; formally consult with the Administrator of the EPA and Secretary of Energy to (collectively) direct the ISCORS with all Federal and State agencies officially represented (e.g., DHS, DOE, DOT, FDA, OSHA, et al.) as well as those not officially represented on the ISCORS (e.g., DoD's US Navy, FAA, FEMA, NASA, NIST, et al.) having ionizing radiation protection regulations or recommendations with public, worker, patient, and environmental RP dose limits, (to) review all such regulations in 6 months via a cross-walk of the existing regulations and requirements for inter-agency conflicts and conformance with current national and international science-based recommendations of the NCRP, ICRP and IAEA; and,

MAY IT BE FURTHER RESOLVED AND PETITIONED:

The NRC Chairman shall formally contact EPA Administrator within 2 weeks of docketing of this Petition, to officially task the ISCORS [as outlined above], and report the Committee's regulatory review findings within 30 days of completion to all federal agencies involved, within 15 days publish these ISCORS findings and recommendations in the FR for a 90 day comment period, and within that 30 day initial FR publication period, report them at an ISCORS public meeting, and after a full subsequent public review and comment resolution, within an additional 30 days deliver the ISCORS recommendations to the President, and if approved for implementation by the President, shall ensure all applicable agencies develop a timeline for promptly developing a full revision of their federal radiation protection regulations within 6 months; and (when complete) all proposed final draft regulations and statutory reform (with background information) shall be published in the FR by all federal agencies for a 90 day public comment period prior to finalization and implementation.

David J. Allard (e-signature)

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Note: this *Petition* was researched and crafted by the Chairperson, with drafts distributed to, and discussed with, the TMI Unit-2 CAP Members. No member opposed on submitting it to the NRC.

Copies with cover letter to:

US NRC Chairman and Commissioners

Interagency Steering Committee on Radiation Standards

Department Secretaries and Head Administrators for: DOE, EPA, DoD, DOL, OSHA, FDA, DHS, FEMA, DOT, NASA, NIST

National Governors Association

Governor of the Commonwealth of Pennsylvania

Secretary of the Pennsylvania Department of Environmental Protection

Presidents, Boards, and members of: HPS, CRCPD, AAPM, OAS, LLW Forum, NCRP, ICRP, IAEA, ASRT, RSNA, ANS, NEI

Various Media Organizations

Attachments:

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* Abbreviations, Acronyms and Initials:

AANC - American Association for Nuclear Cardiology

AAPM - American Association of Physicists in Medicine

ALARA - as low as reasonably achievable

ALAP - as low as practicable

ANS - American Nuclear Society

ARSOHP – Army Radiation Safety and Occupational Health Program
ASRT – American Society of Radiologic Technologist
BEIR – (NAS committee on the) Biological Effects of Ionizing Radiation
CAP – Community Advisory Panel
CERCLA – Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CFR – Code of Federal Regulations
CRCPD - Conference of Radiation Control Program Directors, Inc.
DHS - Department of Homeland Security
DoD – Department of Defense
DOE – Department of Energy
DOT – Department of Transportation
EPA – Environmental Protection Agency
FAA – Federal Aviation Administration
FDA – Food and Drug Administration
FEMA – Federal Emergency Management Agency
FR – Federal Register
FUSRAP – Formerly Utilized Sites Remedial Action Program
GAO – Government Accountability Office
HLW or HLRW – High Level (Radioactive) Waste
HPS – Health Physics Society
IAEA – International Atomic Energy Agency
ICRP – International Commission on Radiological Protection
ISCORS – Interagency Steering Committee on Radiation Standards
LNT - Linear No-Threshold
NAS – National Academy of Sciences
NASA – National Aeronautics and Space Administration
NBS - National Bureau of Standards
NCP – National Oil and Hazardous Substances Pollution Contingency Plan
NESHAPS – National Emission Standards for Hazardous Air Pollutants
NIST - National Institute of Standards and Technology
NORM – Naturally Occurring Radioactive Material
NCRP – National Council on Radiation Protection and Measurements
NPP – nuclear power plant
NRC – Nuclear Regulatory Commission
OAS – Organization of Agreement States
OSHA – Occupational Safety and Health Administration
PAG – Protective Action Guide
RAM – Radioactive Material
RNSA – Radiological Society of North American
RP – Radiation Protection
RPP – Radiation Protection Program
RSO – Radioactive Safety Officer
SNF – Spent Nuclear Fuel
TEDE – Total Effective Dose Equivalent
TENORM - Technologically Enhanced Naturally Occurring Radioactive Material
TMI – Three Mile Island Nuclear Power Plant Site
USACE – U.S. Army Corps of Engineers
UNSCEAR – United Nations Scientific Committee on the Effects of Atomic Radiation
WB – Whole Body