June 10, 2020

The Honorable Eugene Scalia
Secretary of Labor
200 Constitution Ave NW
C-2318
Washington, DC 20210
executivesecretariat@dol.gov

Re: OSHA 29 CFR 1910.1096, Ionizing Radiation

Dear Secretary Scalia:

We are writing to inform you that OSHA's Ionizing Radiation Standard (IRS) at 29 CFR 1910.1096 is inadequate in ensuring safe and healthful working conditions because it does not protect employees from exposures to cancer-causing radon in workplaces. Specifically, the current standard's provisions are:

(1) insufficiently protective of individuals employed in those workplaces that have some risk associated with radioactive materials because the employer possesses, uses, or transfers radioactive material in the conduct of business and

(2) not relevant to individuals employed in everyday workplaces such as schools, stores and offices where the employer does not possess, use, or transfer radioactive material in the conduct of business.

Pursuant to 29 USC 655(b)(1) [i], we respectfully request that a revised rule and/or supplemental rule be promulgated to address this problem.

Background: Radon

Radon is the leading source of naturally occurring radiation exposure to the average US citizen. Radon is the second leading cause of lung cancer in the US. According to the US Environmental Protection Agency, these cancer cases produce an estimated 21,000 deaths from residential exposure every year. Occupational exposures cause additional risk. There are numerous studies, policies, and statutes that stipulate to radon's presence in the indoor environment and the need to prevent exposure from buildings.

Background: Exposure Limits

The IRS was issued in 1971 as 29 CFR 1910.96 (OSHA 1971). In 1996, OSHA re-designated the standard as 29 CFR 1910.1096 (OSHA1996), the current designation. When OSHA issued the IRS in 1971, it referenced 10 CFR 20 (Atomic Energy Commission Regulations). The Energy Reorganization Act of 1974 transferred the regulatory functions of the AEC to the new Nuclear Regulatory Commission (NRC), and the NRC revised 10 CFR Part 20 regulations most recently in 2014.

The IRS is based on the International Council on Radiation Protection (ICRP) number 2, Permissible Dose for Internal Radiation, 1959 and references AEC's 1971 regulations and tables that are over 50 years old – sixteen times. The 1971 AEC standard for radon-222 of 3,700 Bq/m^3 (100 pCi/L) was intended to protect employees who are potentially exposed to radiation as part of their jobs and was revised by the NRC to 1,110 Bq/m^3 (30 pCi/L) in 1976 – 44 years ago.

If we include the Environmental Protection Agency's Action Level, there are three separate radiation standards/guidelines from three federal agencies:

1) OSHA exposure limit of 3,700 Bq/m^3 (100 pCi/L)
2) NRC exposure limit of 1,110 Bq/m^3 (30 pCi/L)
3) EPA action level of 150 Bq/m^3 (4 pCi/L)

Background: Scope

To complicate matters further, these standards are applied differently and are duplicative for employee populations.

- OSHA regulates exposure to "employees" who may be exposed to natural background radiation and employees may be exposed to variable concentrations of machine-produced radiation such as x rays as part of their jobs.
- NRC regulates exposures to "persons licensed" who are potentially exposed to radiation as part of their jobs, such as nuclear power plant workers or medical personnel using licensed radioactive material. NRC occupational exposure is specifically from licensed material. This type of occupational exposure does not include exposure to natural background radiation or machine-produced radiation, such as x rays.
- EPA has established an Action Level for all buildings. EPA recommends to consumers that homes be fixed if the radon level is 4 pCi/L (picocuries per liter) or more, and consider fixing homes for radon levels between 2 pCi/L and 4 pCi/L. While this benchmark is not a federal regulatory requirement, the Action Level is used in state laws, building codes and voluntary consensus standards as the maximum acceptable level of radon in the buildings subject to each type of policy.

Summary of the Issues and Recommendations

1. The IRS was clearly derived from legacy atomic energy policy to extend protections for atomic energy / nuclear workplaces to the universe of workplaces that possess, use or transfer radioactive material. The standard presents an array of safeguards well-suited to high-risk workplaces where radon levels are dangerously variable. However, the reference for the average concentration limit is outdated and should match the NRC standard. For example, persons running x-ray equipment should not be exposed to radon levels more than three times the limit in a nuclear power plant. **OSHA should revise the IRS to reference the current NRC standard for those persons licensed in accordance with NRC regulations and clarify that it applies to protection of workers whose employers possess, use, or transfer radioactive material in the conduct of business.**

2. The application of an exposure limit suited to workplaces that must follow additional requirements for restricted, radiation, and high radiation areas, to indoor workplaces that lack any real safeguards is highly problematic. Decisions on radon reduction in public buildings such as schools, stores, and offices are made based on the 3,700 Bq/m^3 (100 pCi/L) standard, leaving workers at risk. **OSHA should establish in the IRS a separate exposure limit for those workplaces where no radiation exposure exists except for daily continuous exposure to naturally occurring background radiation (or place this exposure limit in a separate standard per below). This limit should reference the EPA Action Level of 150 Bq/m^3 (4 pCi/L) which is already in federal policy and applies to all buildings.**[ii]
3. The IRS contains 13 subsections with prohibitions, safeguards and documentation requirements. While this array of policies is appropriate for facilities that possess, use, or transfer radioactive material in the conduct of business, it is not appropriate for the hundreds of thousands of schools, libraries, restaurants, banks, office buildings, grocery stores, and other workplaces where the only form of radioactivity present is naturally occurring radon. Those who own such workplaces and their employees should be provided a federal occupational safety and health standard relevant to radon, and not simply advised to prohibit, monitor, and warn against individual exposure. The established means of addressing radon in buildings are engineering controls: test the building's air for radon and mitigate the radon if the radon level is above the EPA action level. There are national consensus standards that clearly present the methods and parameters of measuring and mitigating radon, and private certification programs and state licensing programs to ensure qualified persons perform the work. **OSHA should either create a new subsection of the IRS or create a new standard for naturally occurring background radiation, i.e. radon, in workplaces.**

Again, pursuant to 29 USC 655(b)(1), we respectfully request that a revised rule and/or supplemental rule be promulgated to address these issues.

Please don't hesitate to contact Jane Malone at 410-708-8963 or nationalpolicy@aarst.org should further information be desired. We stand ready to assist DOL and OSHA in correcting this situation.

Thank you for your prompt and thorough attention to this matter.

Sincerely,

American Lung Association
American Association of Radon Scientists and Technologists
AARST Consortium on Radon Standards
Cancer Survivors against Radon (CanSAR)
Citizens for Radioactive Radon Reduction
Conference of Radiation Control Program Directors

cc: Patrick Breysse, Director, National Center for Environmental Health, US CDC / HHS
Jon Edwards, Director, Office of Indoor Air and Radiation, US EPA
Michelle Miller, Acting Director, Office of Lead Hazard Control and Healthy Homes, US HUD

Table 1: Applicability of the Ionizing Radiation Standard (29CFR1910.1096)

Subsection	Applicability
(a) Definitions	General
(b) Exposure of individuals to radiation in restricted areas	Persons in restricted areas
(c) Exposure to airborne radioactive material	Persons in restricted areas
(d) Precautionary procedures and personal monitoring	Radiation hazards incident to production, use, release, disposal or presence of radiation; Restricted areas and high radiation areas
(e) Caution signs, labels, and signals	Restricted areas, high radiation areas, airborne radioactive areas
(f) Immediate evacuation warning signal	All affected persons
(g) Exceptions from posting requirements	Radiation level $\leq$ 5 millirem/hour
(h) Exemptions for radioactive materials packaged for shipment	Inside containers labelled
(i) Instruction of personnel, posting	Radiation area
(j) Storage of radioactive materials	Secure against unauthorized removal
(k) Waste disposal	Transfer to authorized recipient or per NRC
(l) Notification of incidents	Any individual exposed to 5 or more rems
(m) Reports of overexposure and excessive levels and concentrations	Any exposure
(n) Records	Employees subject to personal monitoring
(o) Disclosure to former employee of individual employee's record	Employees subject to personal monitoring
(p) Nuclear Regulatory Commission licensees, contractors, State licensees / registrants	NRC licensees, contractors, registrants

[i] Whenever the Secretary, upon the basis of information submitted to him in writing *by an interested person, a representative of any organization of employers or employees, a nationally recognized standards-producing organization, the Secretary of Health and Human Services, the National Institute for Occupational Safety and Health, or a State or political subdivision*, or on the basis of information developed by the Secretary or otherwise available to him, determines that a rule should be promulgated in order to serve the objectives of this Act, the Secretary may request the recommendations of an advisory committee appointed under section 7 of this Act. The Secretary shall provide such an advisory committee with any proposals of his own or of the Secretary of Health and Human Services, together with all pertinent factual information developed by the Secretary or the Secretary of Health and Human Services, or otherwise available, including the results of research, demonstrations, and experiments. An advisory committee shall submit to the Secretary its recommendations regarding the rule to be promulgated within ninety days from the date of its appointment or within such longer or shorter period as may be prescribed by the Secretary, but in no event for a period which is longer than two hundred and seventy days…

[ii] If a numeric level must be specified in the standard, OSHA should set this limit no higher than the EPA Action Level of 150 Bq/m^3 (4 pCi/L) and should consider the World Health Organization reference level of 100 Bq/m^3 (2.7 pCi/L).