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Maine Indoor Air Quality Council Testimony in Support of LD 1437: An Act To Reduce Poisoning from Radon, Arsenic and Other Air or Water Pollutants by Expanding Education, Testing and Mitigation Regarding Those Pollutants

The Maine Indoor Air Quality Council (“MIAQC” or the “Council”) is a 501(c)(3) nonprofit organization dedicated to creating healthy, productive and environmentally sustainable indoor environments in Maine. Our efforts focus on the development of education, communications, and advocacy for safe and healthy indoor environments where Maine citizens live, work, play and learn.

Testimony

Because radon is the number one cause of lung cancer in nonsmokers and the number two cause of lung cancer nationwide, the Maine Indoor Air Quality Council recommends all buildings in Maine be tested for radon and subsequently fixed if the test results show the radon levels to exceed minimum action levels. Maine is at particular risk of buildings with radon problems. It is estimated that one in three Maine buildings likely has a radon problem. A copy of our policy statement on radon is appended at the end of this testimony.

Comments re: Specific Provisions of LD 1437:

- 1) Educate state employees and real estate professionals on radon, arsenic, uranium and other air or water contaminants.** The Maine Indoor Air Quality Council supports all efforts to increase awareness of the risks to health from exposure to these contaminants and strategies to remove them from indoor environments.
- 2) Recommend minor amendments to the real estate testing provisions of the bill:**
 - Clarify that the testing of water for radon, arsenic and uranium needs only be done in private well water systems. The testing and mitigation of public water systems fall under the purview of the Maine Drinking Water Program in accordance with federal guidelines and standards.
 - Recommend clarifying language that radon in both air and private well water should be tested.
 - Recommend adding a provision in the bill that requires the results of the tests to be disclosed to potential buyers.

3) At the very least, we need data. The Maine CDC currently does not collect contaminant testing and mitigation data associated with real property transactions. Consider adding disclosure requirements to real property transactions to better track these activities by state agencies.

The Maine Indoor Air Quality Council can be available for the work session to answer any questions or provide further comment.

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Policy Statement on Radon

Adopted by Board of Directors on September 13, 2006

Revised and readopted: November 10, 2020

Radon is a colorless, odorless radioactive gas that comes from the natural breakdown of uranium in the soil or rock on which buildings are built. Radon can become trapped inside any type or size of building, leading to unsafe concentration levels.

The presence of radon in the indoor air has been proven to cause lung cancer. Extensive research shows that:

- Any level of radon in the indoor air is expected to carry some risk of lung cancer
- Air radon levels above 2 picoCuries per liter (pCi/L) have been found to lead to increased risk of lung cancer above background rates (Air radon levels of 4 pCi/L or above can be effectively reduced)
- Radon in well water increases the levels of radon in the indoor air Significant risk reduction can be achieved by treating well-water with radon levels at or above 10,000 pCi/L.
- Due to the varied pathways that radon takes to enter a structure, without conducting a radon test it is not possible to accurately predict whether or not a building has elevated radon levels, even if neighboring structures have elevated radon levels
- Radon levels in both the air and water, can change over time.

Other factors:

- Radon is the second leading cause of lung cancer in the U.S., and the number one leading cause of lung cancer among nonsmokers
- Radon accounts for 10% of the lung cancer cases in nonsmoking men, and 20% of lung cancers in nonsmoking women. Smoking combined with radon creates especially high risk of lung cancer in both men and women.
- Because of the types of rock and soils found in Maine, high radon concentrations are found throughout the state.
- One in three Maine homes has air radon concentrations above 4 pCi/L, compared to one in fifteen nationally.
- Radon gas can be found in all types and sizes of buildings
- It is not possible to accurately predict if a site will cause a structure built on it to have elevated radon levels because one cannot predict the impact of site preparation on radon entry pathways, or the extent to which the structure itself will pull radon from the ground. Well-researched, usable guidance exists for the testing and mitigation of radon in well water and indoor air, as well as for radon resistant construction.

Because of the increased risk of lung cancer to Maine citizens from exposure to radon, the Maine Indoor Air Quality Council recommends the following.

- 1) *All* new building construction in Maine should include—at a minimum—a system for passive radon mitigation of radon with provisions for active system installation at a later date if needed.
- 2) All buildings in Maine (both new and existing construction) should be tested for radon in the indoor air. Mitigation efforts *should be undertaken* if results show the radon concentrations are at or exceed 4 pCi/L and *should be considered* if levels are between 2 pCi/L and 4pCi/L.
- 3) All buildings in Maine that have a well water source should have the water source tested for radon *and* mitigation efforts should be undertaken if radon concentrations in the water are at or exceed 10,000 pCi/L. and mitigation should be considered if between 4,000-10,000.
- 4) All buildings should be retested every 2-5 years to ensure that radon in air and radon in water levels haven't changed.
- 5.) In order to have impact on public behavior regarding radon, a state-wide public education and communication program is necessary.

Sources

1. Maximum Exposure Guideline for Radon in Drinking Water CAS Registry Number: 10043-92-2 October 2, 2006 Environmental & Occupational Health Program Division of Environmental Health Maine Center for Disease Control & Prevention Maine Department of Health & Human Services
2. National Academy of Sciences' (NAS) report on radon in indoor air, the Biological Effects of Ionizing Radiation (BEIR) VI Report (1999). 516 pages, ISBN number 0-309-056454-4
3. National Academy of Sciences' (NAS) report on radon in water: "Risk Assessment of Radon in Drinking Water". 296 pages, ISBN number 0-309-06292-6.
4. U.S. Environmental Protection Agency: Risk Assessment for Radon, (EPA 402-R-03-003). 2003.
5. National Radon Health Advisory by the U.S. Surgeon General, Press release dated Thursday, January 13, 2005.
- 6 Iowa Radon Lung Cancer Study, Am J Epidemiology 2000; 151:1091-1102.
7. U.S. EPA Indoor Radon and Radon Decay Product Measurement Devise Protocols, EPA 402-R-92-004, July 1992 (revised). This is now an archived EPA document. No newer version.
8. Standard Practice for Installing Radon Mitigation Systems in Existing Low-Rise Residential Buildings, Standard E-1465-2008, ASTM International, Technical committee E06.41 on Air Leakage and Ventilation Performance, 2008.