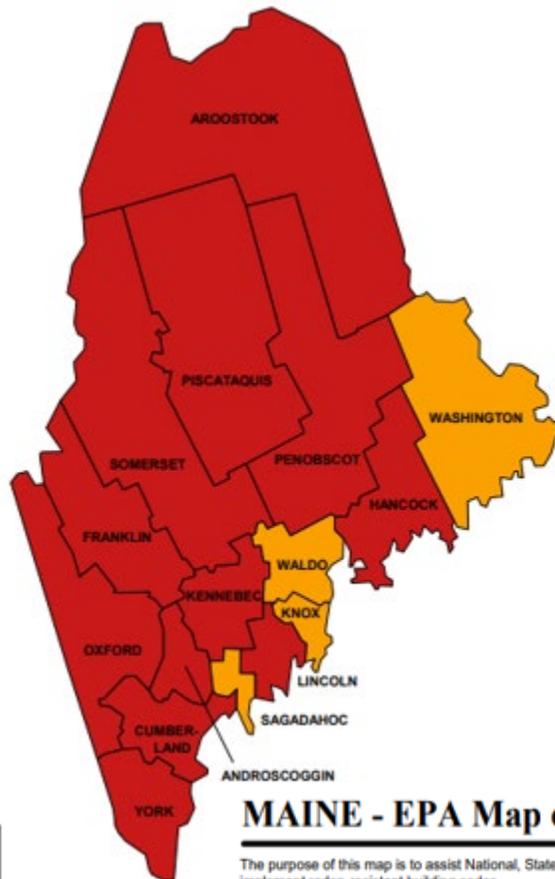




HUD Lead Paint Hazard Control and Healthy Homes Supplemental *Environmental Review Radon Plan*



Zone 1

Zone 2

Zone 3

MAINE - EPA Map of Radon Zones

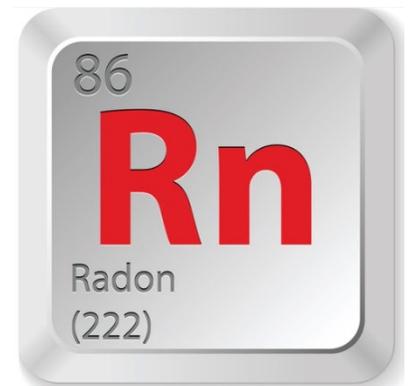
The purpose of this map is to assist National, State and local organizations to target their resources and to implement radon-resistant building codes.

This map is not intended to determine if a home in a given zone should be tested for radon. Homes with elevated levels of radon have been found in all three zones.

All homes should be tested, regardless of zone designation.

<http://www.epa.gov/radon/zonemap.html>

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I Introduction

The implementation of this Environmental Review Radon Plan (“Radon Plan”) is crucial due to the significant health risks posed by radon exposure, particularly in conjunction with lead

contamination. Given the HUD Lead Program’s mandate to ensure safe and healthy housing for vulnerable populations, integrating a comprehensive Radon Plan is essential to mitigate the dangers posed by this deadly gas.

II Radon

Radon is a radioactive gas that has no smell, color or taste. It forms when radium and certain other radioactive metals break down in rocks, soil, and water. It is found in nearly all soils and moves through the soil to the air and into structures through cracks and other areas of permeability. Building materials and groundwater may also be a source of indoor radon. Once inside, radon concentrations can build to high levels, regardless of the age, condition, or design of the building.

The most common pathway for human exposure to radon is inhalation indoors. Exposure to radon is the number one cause of lung cancer in non-smokers and the second leading cause of lung cancer overall. The risk of adverse health effects from radon in indoor air depends largely on two main variables: the level of radon exposure and the length of time exposed. Many radon-induced lung cancers can be prevented by testing and reducing radon levels in existing buildings and by using radon resistant construction techniques for all new construction.

The goal for mitigating radon in buildings is to reduce radon concentrations in indoor air as low as reasonably achievable and practical considering the efficacy of current industry-standard radon reduction systems and environmental conditions (e.g., geology and climate). The most effective strategy to protect the health and safety of occupants is to prevent radon from entering the building by using radon resistant construction techniques; another effective strategy is to reduce the level of radon inside existing buildings by installing and operating a radon reduction system. An effective radon reduction system achieves two main goals: it reduces the concentration of radon gas in the home by venting it safely outside the structure and removes the radon gas from under the foundation before it can come into the home.

III HUD Department Radon Policy Notice (CPD-23-103)

HUD’s Notice, [CPD-23-103](#), Departmental Policy for Addressing Radon in the Environmental Review Process (the “Notice”) clarifies that radon must be considered in the contamination analysis for environmental reviews subject to 24 CFR Parts 50 or 58. While the Notice does not impose radon testing requirements, it provides guidance on recommended best practices for considering radon.

MaineHousing’s HUD funded Lead Paint Hazard Reduction Grant Program (the “Lead Program”) is subject to 24 CFR Part 58. HUD’s environmental regulations at 24 CFR 58.5(i)(2)(i) and (ii) state that,

[i]t is HUD’s policy that all properties that are being proposed for use in HUD programs be free of hazardous materials, contamination, toxic chemicals and gases, and radioactive substances, where a hazard could affect the health and safety of occupants or conflict with the intended utilization of the property.

The environmental review of multifamily housing..., must include the evaluation of ... other evidence of contamination on or near the site, to ensure that occupants of proposed sites are not adversely affected by any of the hazards listed in paragraph (i)(2)(i) of this section.

As radon is a radioactive substance, and the Lead Program is subject to 24 CFR Part 58, radon must be considered in the contamination analysis. Although Radon testing is not required under this Notice, testing is the only way to determine the radon level within a building.

IV MaineHousing Radon Testing Requirements

For all properties enrolled in MaineHousing's Lead Program MaineHousing has elected to utilize the following alternative strategy in its contamination analysis:

Scientific Data Review. Available science-based information will be used to determine whether the project site is located in an area that has average documented radon levels at or above 4 pCi/L. MaineHousing will rely on the Department of Health and Human Services, Centers for Disease Control and Prevention ("CDC") National Environmental Public Health Tracking, Radon Testing Map (<https://ephtracking.cdc.gov/DataExplorer/>). This map provides radon test data from national radon testing laboratories and states that can be viewed by state or county.

Using the CDC Radon Testing Map with the below inputs, MaineHousing observed the following:

Inputs:

- Radon Tests from Labs for the State of Maine
- 2008-2017
- Mean Pre-Mitigation Radon Level in Testing Buildings over a 10-year period

County	Radon Level
Androscoggin	4.8
Aroostook	6.4
Cumberland	7.8
Franklin	3.7
Hancock	5.8
Kennebec	4.6
Knox	3.5
Lincoln	5.0
Oxford	7.1
Penobscot	2.2
Piscataquis	5.8
Sagadahoc	3.6
Somerset	2.7
Waldo	3.7
Washington	6.2
York	7.4

The average of the above data set shows that a majority of the counties in Maine have radon present at a level at or above 4 pCi/L. Of the remaining counties a majority of them have radon present at a level above 3.5 pCi/L but below 4 pCi/L. As this data is based on an average and as a number of the counties in Maine span a large geographic area, MaineHousing has concluded that all projects, which are not exempt, must conduct radon mitigation.

Exemptions.

The following buildings are exempt from radon mitigation and do not require a contamination analysis:

- Buildings with no enclosed areas having ground contact.
 - Buildings containing crawlspaces, utility tunnels, or parking garages would **not** be exempt, however buildings built on piers would be exempt, provided that there is open air between the lowest floor of the building and the ground.
 - The Community Action Agency (“CAA”) must provide an explanation showing the building meets this requirement.
- Buildings that are not residential and will not be occupied for more than 4 hours per day.
- Buildings with existing radon mitigation systems that have been tested within two years of submitting the application for HUD assistance or have documented test results dated within two years of the date the environmental review is certified and have a documented plan that includes ongoing system maintenance and periodic testing to ensure the system continues to meet the current EPA recommended levels.
 - The CAA must provide test results documenting radon levels below 4 pCi/L within the relevant time period described above.
 - The CAA must also provide documentation showing the ongoing system maintenance plan which includes provisions for period testing.
- Buildings tested within five years of the submission of application for HUD assistance.
 - The CAA must provide test results documenting indoor radon levels below current EPA’s recommended action levels of 4.0 pCi/L.
 - For buildings with test data older than five years, the CAA must comply with the requirements established by MaineHousing in this *Section IV*.

Request for Exemption to Radon Mitigation. A property owner may submit a Request for Exemption to Radon Mitigation Form to the CAA asking in the alternative to have the project tested for radon. Exemptions will be reviewed by the CAA and MaineHousing and may be granted at MaineHousing’s discretion. It should be noted that if an Exemption is granted and the test results show radon levels at or above 4pCi/L, radon mitigation will be required and the Exemption will be void.

- For **Single-Family Buildings** (one to four dwelling units):
 - Property owners may request a Do-it-yourself (“DIY”) radon test.
 - A DIY radon test kit must be used for each dwelling unit
 - The CAAs will be responsible for acquiring the DIY radon test kits, conducting the testing and submitting the tests to the lab for testing, as necessary.
 - If the results show levels are below the allowable EPA radon level (currently 4pCi/L) the CAA will document the test results in the Environmental Review packet and provide the results to MaineHousing. No further action will be required.
 - If the results show levels are at or above the allowable EPA radon level (currently 4pCi/L), the CAA will provide MaineHousing with the results and radon mitigation will need to occur.
- For **Multi-Family Buildings** (five or more dwelling units):
 - Property owners may request a radon test.
 - DIY is **not** an acceptable method of radon testing for multi-family buildings. A radon test must be conducted in accordance with the American National Standards Institute/American Association of Radon Scientists and Technologists

(“ANSI/AARST”) and the state and/or local radon requirements by a licensed radon professional.

- The CAAs will be responsible for contacting a Maine Licensed Radon Professional for a quote (to include post mitigation testing).
 - If the results show levels are below the allowable EPA radon level (currently 4pCi/L) the CAA will document the test results in the Environmental Review packet and provide the results to MaineHousing. No further action will be required.
 - If the results show levels are at or above the allowable EPA radon level (currently 4pCi/L), the CAA will provide MaineHousing with the results and radon mitigation will need to occur prior to any lead remediation work beginning.

V Mitigation Requirements

All projects, that are not exempt, are required to conduct radon mitigation. For radon mitigation, HUD requires the Environmental Review Record include a Mitigation Plan.

The CAAs will complete the following steps:

- 1) Establish a Mitigation Plan, using the form provided by MaineHousing, that:
 - Identifies the radon level;
 - Considers the risk to occupants’ health;
 - Describes the radon reduction system that will be installed;
 - Establishes an ongoing maintenance plan to ensure the system is operating as intended;
 - Establishes a reasonable timeframe for implementation; and
 - Requires post-installation testing, to be conducted by a licensed radon professional, and includes a quote for the cost of testing.
- 2) Provide a copy of the written Mitigation Plan to MaineHousing for approval.
- 3) Carryout the Mitigation Plan with completion and obtain test results prior to the commencement of any lead abatement work.
- 4) Submit to MaineHousing a certificate of completion. A certificate of completion must be submitted and appended to the *Contamination, Toxic Chemicals and Gases, and Radioactive Substance Inspection Report* form once radon testing and/or mitigation are completed.
- 5) Provide the property owner with instructions regarding the ongoing maintenance plan for the radon system.
- 6) Advise the property owner that MaineHousing will monitor the radon system through the lead abatement property owner monitoring process.