



U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
WASHINGTON, DC 20410-8000

ASSISTANT SECRETARY FOR HOUSING-
FEDERAL HOUSING COMMISSIONER

Special Attention of:
All Multifamily Hub Directors
All Program Center Directors
All Project Managers
All Field Office Directors

Notice H 2013-03

Issued: January 31, 2013
Expires: This Notice remains in
effect until amended, superseded
or rescinded.

Cross Reference:

SUBJECT: HUD Office of Multifamily Development Radon Policy

I. PURPOSE

The purpose of this Housing Notice (HN) is to supplement the Environmental review requirements of Chapter 9 of the Multifamily Accelerated Processing (MAP) Guide by including a radon assessment.

II. LEGAL AUTHORITIES, ENVIRONMENTAL REQUIREMENTS AND BACKGROUNDS

All Federal agencies are required to comply with the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.) (NEPA), and the implementing procedures issued by the Council on Environmental Quality at 40 CFR Parts 1500-1508. HUD regulations implementing NEPA are contained in 24 CFR Part 50, "Protection and Enhancement of Environmental Quality." One of the tenets of HUD's Environmental policy is stated at 50.3(i)(1) which requires that property proposed for HUD programs be free of "radioactive substances" where it could affect "the health and safety of occupants."

Recently HUD's Office of Healthy Homes and Lead Hazard Control (OHHLHC) participated on a team of Federal Agency representatives that drafted a Federal Radon Action Plan (the Plan) (see: http://www.epa.gov/radon/action_plan.html). The effort was led by the US Environmental Protection Agency (EPA). The Plan was formally released to the public by EPA at the National Healthy Homes conference in June 2011. One of the primary goals of the Plan is the incorporation of radon testing and mitigation into HUD programs.

The Office of Multifamily Development reviewed industry practices, including Lending programs Fannie Mae and Freddie Mac, for the detection of radon identification and remediation. The resulting process presented in this document adapts industry best practices to Multifamily Housing Insurance Programs in such a manner as to improve the health and safety

for housing residents while not creating excessive demands on project development.

III. HOUSING AND RADON

Two common constituents of soil and rock are the unstable elements uranium and thorium which “decay” into other elements, which themselves decay further in a “decay chain.” One of the decay products is radon, a colorless, odorless gas. Under certain natural conditions, the radon gas can enter surficial soils and become part of the “soil gas” environment, which then can enter the outside air, including air inside of buildings. While the amount of uranium and thorium, as well as the ability to have the resulting radon become a soil gas, varies depending on geologic conditions, there is no part of the country that is immune from its presence. When soil gas that contains radon enters a building, its decay products are either directly inhaled, or attached to dust on walls, floors and the air, which then can be inhaled. These decay products then undergo further decay, resulting in subatomic radioactive alpha particles. This alpha particle radiation causes mutations in lung tissue which eventually could lead to lung cancer. The risk of contracting lung cancer from radon increases as the amount of radon enters a building and the consequent amount of radiation affecting the lungs increases. In fact, radon exposures are estimated to cause 21,000 lung cancer deaths each year in the United States¹.

EPA guidelines recommend mitigation for residences with radon concentrations at or above 4 picocuries per liter of air (pCi/L). The best way to mitigate radon is to prevent it from entering a building in the first place. Radon generally poses the greatest risk to occupants living at or below ground level. Occupants on the lower levels of these structures are at risk of excess exposure if levels are elevated and these structures are not appropriately mitigated, or if new construction in areas with high radon are not built using radon resistant construction methods.

The following requirements discuss the process for identification and mitigation of radon in new FHA Multifamily Insured mortgage applications.

IV. REQUIREMENTS

A. General

1. Radon Report.
 - a. The Radon Report shall be required for all proposed MAP or TAP (Traditional Application Processing) applications unless an exception listed in Section IV.A.3 applies.
 - b. The Radon Report shall be included in the pre-application, or application, as applicable, as an addendum to the Environmental Report required at Section 9.5 of the MAP Guide.
 - c. Contents. The Radon Report shall include the results of any testing performed, the details of any mitigation deemed necessary, and the timing of any such mitigation.

¹ EPA Assessment of Risks from Radon in Homes, June 2003, *available at* <http://www.epa.gov/radiation/docs/assessment/402-r-03-003.pdf>.

2. Radon Professional.

- a. All testing and mitigation must be performed under the supervision of a Radon Professional.
- b. Radon Certification/License of the Radon Professional is required as follows:
 - 1. Certification from either the National Environmental Health Association (NEHA) or National Radon Safety Board (NRSB), and Certification/License for those States that have such programs.

3. Exception to Radon Professional Report Requirement.

- a. A Radon Professional may conclude that testing/mitigation is not necessary based on a physical inspection of the Property, the characteristics of the buildings, and other valid justifications. Examples of a valid justification include having only a garage on the surface level that is open to the air and is fully ventilated, or a vapor sealed foundation that ensures no gases will enter interior spaces. Any such justifications as to why a Radon Report is not necessary must be provided in the Environmental Report required by Section 9.5 of the MAP Guide.
- b. For a Section 223(f) refinance transaction, the lender may determine that the activity or project is in the low risk Radon Zone 3 as shown on EPA Map of Radon Zones (available at: <http://www.epa.gov/radon/zonemap.html>). If so the lender must provide appropriate documentation in the Environmental Report that a Radon Report is not required. However, if it is suspected that pockets of Radon may exist in a Zone 3 area, the Radon Professional may require a Radon Report.
- c. Section 223(a)(7) applications are encouraged but not required to test for Radon.

4. Testing Protocols.

- a. Radon testing must follow the protocols set by the AARST MAMF-2010, Protocol for Conducting Radon and Radon Decay Product Measurements in Multifamily Buildings (AARST MAMF-2010), Section III (available at <http://www.astm.org/Standards/E2121.htm>).
 - 1. Exception: With reference to Section III.3.1 of AARST MAMF-2010, the minimum number of apartments to be tested shall be at least twenty-five percent of randomly selected ground level units.
- b. Threshold for unacceptability: 4.0 picocuries per liter (4.0pCi/L) based on initial and any confirmatory testing, if performed.

5. Resident Notification.

- a. Testing. Residents of all new applications for Multifamily MAP and TAP

programs shall be informed of forthcoming testing in the manner described in AARST MAMF-2010, Section II.B and Section III. 2.2.1.

- b. Mitigation. Residents shall be informed both prior to and after mitigation activities.
6. Mitigation Standards. The Radon Professional must assure that mitigation, when required, conforms to the following standards.
 - a. ASTM E 2121-11, Standard Practice for Installing Radon Mitigation Systems in Existing Low-Rise Residential Buildings (available at <http://www.astm.org/Standards/E2121.htm>).
 - b. ASTM E 1465-08a, Standard Practice for Radon Control Options for the Design and Construction of New Low-Rise Residential Buildings (available at <http://www.astm.org/Standards/E1465.htm>).
 7. The above ASTM mitigation standards will also apply to all high rise applications.
 8. Mitigation Timing. For new construction and substantial rehabilitation properties, all mitigation, including follow-up testing, must be completed prior to Final Endorsement. Radon mitigation included as part of Section 223(f) project repairs must be completed as quickly as practicable and in any event, no later than 12 months after Initial Endorsement.

B. Section 223(f) Refinancing.

1. All Section 223(f) refinancing projects located within high risk (Radon Zone 1) and medium risk (Radon Zone 2) zones must be tested for radon.
 - a. Testing must be performed no earlier than 1 year prior to application submission.
 - b. Exception: The applicant may elect to proceed directly to mitigation.
2. Mitigation.
 - a. Mitigation must follow ASTM E 2121-11.
 - b. If estimated costs exceed the allowable cost for the Section 223(f) program, the application cannot be approved but may be considered under the substantial rehabilitation program.

C. Substantial Rehabilitation and Conversions.

1. Testing prior to substantial rehabilitation or conversion.
 - a. Early testing not feasible. For some proposals, such as a conversion of an existing structure from non-residential to residential, the building envelope

may change to such an extent that early testing would not be appropriate and in some cases not possible. If this is the case, proceed directly to mitigation as discussed at IV.C.2.

- b. Early testing when feasible.
 - 1. Must be performed no earlier than 1 year prior to application submission.
 - 2. If test results are below the threshold, no mitigation is required.
 - 3. If test results are at or above the threshold, mitigation must be built into the project design per IV.C.2a.

2. Mitigation.

- a. If mitigation is built into project design, it must be conducted in accordance with ASTM E 2121-11.
- b. If mitigation is not built into project design, after construction is complete but prior to Final Endorsement, radon testing must be conducted. If testing results are above the threshold, retrofit pursuant to ASTM E 2121-11 is required.

D. New Construction.

- 1. Radon resistant construction is required for all radon zones.
- 2. Radon Zone 1
 - a. Construction Requirements: All new construction in Radon Zone 1 must meet all of the requirements of ASTM E 1465-08a for installation of passive systems.
 - b. Post construction testing is required. If testing results are above the threshold, conversion from a passive system to a fan-powered system pursuant to ASTM E 1465-08a is required.
 - c. Use detailed plans and specifications supplied by Lender's architectural analyst as required by MAP Guide, Section 5.5, as a basis for the cost estimate. Estimates must reflect the general level of construction costs in the locality where construction takes place. Costs must be projected to the estimated construction start date.
- 3. Radon Zones 2 and 3
 - a. Construction requirements.
 - 1. Gas permeable layer. The coarse aggregate permeable layer below the concrete slabs that would carry any radon away from the structure's interior must meet all of the requirements of ASTM E 1465-08a, Section 6.4.
 - 2. Ground cover. The concrete slabs and plastic membranes that seal the top of the gas permeable layer must meet all of the requirements

of ASTM E 1465-08a, Section 6.2.

3. Foundation walls. Foundation walls must meet all of the requirements of ASTM E 1465-08a, Section 6.3.
- b. Post construction testing is required.
1. Radon testing must be performed after construction is complete, but prior to Final Endorsement.
 2. If testing results are above the threshold, retrofit based on ASTM E 2121-11 is required, with installation of a passive system. If testing results remain above threshold, a fan-powered system pursuant to ASTM E 1465-08a is required.

This Housing Notice is effective for Firm Commitment or Pre-application packages submitted after 120 days from the date of Publication.

If there are any questions regarding this Housing Notice, please contact Thomas Goade at (202) 402-2727. Persons with hearing or speech impairments may access this number via TDD/TTY by calling 1-800-877-8339.

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