

# MEMORANDUM

April 8, 2021



U.S. DEPARTMENT  
OF HOUSING  
AND URBAN  
DEVELOPMENT

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Subject: Final Report – HUD Program Offices’ Policies and Approaches for Radon, 2020-OE-0003

Please see the attached final report on our evaluation of the radon policies for the Offices of Community Planning and Development (CPD), Multifamily Housing Programs (Multifamily), and Public and Indian Housing (PIH). It contains two findings and seven recommendations.

In response to our draft report, CPD agreed with recommendations 1, 2, 3 but raised some concerns about implementing recommendations 1 and 3. Multifamily did not indicate whether it agreed or disagreed with recommendation 4 and requested changes to the recommendation. PIH disagreed with recommendation 5 but did not indicate whether it agreed or disagreed with recommendation 6. Based on the information we received from CPD and the Office of Lead Hazard Control and Healthy Homes, recommendation 7 is now closed. Because recommendation 7 is now closed, no further action is required for this recommendation. Based on CPD’s, Multifamily’s, and PIH’s responses, we consider recommendations 1, 2, 3, 4, 5, and 6 “unresolved-open.” We will contact CPD, Multifamily, and PIH within 90 days to begin discussing their proposed management decisions.

I appreciate the assistance you, your staff, and staff throughout HUD provided during the evaluation. Please contact Director Paul Bergstrand at (202) 440-1275 if you have any questions.

Attachment

cc

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**U.S. Department of Housing and Urban Development**

**Office of Inspector General**  
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**HUD Program Offices' Policies and  
Approaches for Radon**

Program Evaluations Division



# Executive Summary

## HUD Program Offices' Policies and Approaches for Radon

Report Number: 2020-OE-0003

April 8, 2021

### Why We Did This Evaluation

We initiated this review to describe and compare radon policies at the Offices of Multifamily Housing Programs (Multifamily), Public and Indian Housing (PIH), and Community Planning and Development (CPD).

Radon is a naturally occurring, colorless, and odorless radioactive substance that enters the body through inhalation and settles in the lungs. Radon is the second leading cause of lung cancer in the United States after smoking. Testing is the only way to determine indoor radon levels.

Regulations state that all properties proposed for U.S. Department of Housing and Urban Development (HUD) program use must be free of hazardous materials, contamination, toxic chemicals and gasses, and radioactive substances, where a hazard could affect the health and safety of the occupants.

### Results of Evaluation

HUD does not have a departmentwide policy for dealing with radon contamination. Instead, HUD relies on each program office to develop radon policies that align with HUD's environmental regulations. The three program offices reviewed do not have consistent radon policies. Only Multifamily's radon policy includes radon testing and mitigation requirements. PIH's policy strongly encourages but does not require public housing agencies (PHA) to test for radon and to mitigate excessive radon levels, if possible. CPD does not have a radon policy. Instead, both PIH and CPD use the environmental review process to test for and mitigate excessive radon levels in their properties. Relying on the environmental review process to test for and mitigate excessive radon may result in radon testing that occurs too infrequently, if at all. Further, the flexibility PIH gives to PHAs in its radon policy does not align with statements in HUD's environmental regulations.

Absent a departmentwide radon policy, each program office has developed a radon policy or approach with varying degrees of testing and mitigation requirements. This approach does not align with HUD's environmental regulations or support industry standards which state that radon testing should occur every 2 years after a mitigation system is installed. Given that environmental reviews generally occur only for specific funding or approval actions and exposure to radon shows no immediate health effects or other warning signs, HUD cannot ensure that residents in HUD-assisted housing receive consistent and sufficient protection from the hazardous health effects of radon exposure.

During fieldwork, HUD could not confirm whether it has complied with certain requirements of the Stewart B. McKinney Homeless Amendments Act – namely, developing and recommending an effective policy on radon contamination to Congress, developing a memorandum with Environmental Protection Agency to address radon contamination, and submitting a radon report to Congress.

### Recommendations

We offer seven recommendations to help HUD better protect residents from hazardous health risks of indoor radon exposure. The statuses of recommendations 1, 2, 3, 4, 5, and 6 are all "unresolved-open." Recommendation 7 is closed.

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# Introduction

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## Objectives

Our objectives were to

- (1) Describe and compare the Offices of Multifamily Housing Programs' (Multifamily), Public and Indian Housing's (PIH), and Community Planning and Development's (CPD) radon policies and approaches to testing and mitigating residents' exposure to elevated levels of radon.
- (2) Determine whether the U.S. Department of Housing and Urban Development (HUD) has implemented certain radon-related requirements to assist the U.S. Environmental Protection Agency (EPA) in accordance with the Stewart B. McKinney Homeless Assistance Amendments Act (McKinney Amendments Act), also known as Public Law 100-628.

## Background

### **Radon Is a Radioactive Substance Known To Cause Lung Cancer**

Radon is a colorless, odorless, and inert radioactive substance found in soil, rocks, and groundwater. Radon becomes part of the air and can accumulate in buildings. Once inhaled, radon settles in the lungs, where it can emit radiation that can damage human DNA and cause lung cancer. Exposure to radon shows no immediate health effects or other warning signs. According to EPA, exposure to radon is the number one cause of lung cancer among nonsmokers. A 2016 EPA estimate, the most recent available, stated that approximately 21,100 people in the United States die of radon-induced lung cancer annually. Lung cancer is the only health effect definitively linked to radon exposure.<sup>1</sup>

### **EPA Recommends Testing and Mitigating Homes for Excessive Radon Levels**

According to EPA, testing is the only way to determine indoor radon levels. Proven, cost-effective techniques are available to control and manage elevated radon levels at home. EPA recommends testing every new home after occupancy, including those built with radon-resistant features.<sup>2</sup> Further, industry standards recommend radon testing every 2 years after a mitigation system is installed.<sup>3</sup>

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<sup>1</sup> Studies of radon-exposed underground miners have shown that the minimum latency period for lung cancer is 5 years and that radon exposure occurring 5 to 15 years before the development of lung cancer carried the greatest risk per unit exposure.

<sup>2</sup> Examples of radon-resistant building features include depressurization systems or mechanical barriers to create a barrier for entry.

<sup>3</sup> The American National Standard Institute-American Association of Radon Scientists and Technologists (ANSI-AARST) sets the radon standards of practice for the industry. ANSI-AARST's "Protocol for Conducting Radon and Radon Decay Product Measurements in Multifamily Buildings" (MAMF-2017) and "Protocols for Measuring Radon and Radon Decay Products in Homes" (MAH-2019) recommend radon testing every 2 years to verify that the mitigation systems remain effective. EPA has been actively participating in ANSI-AARST standards since 2012.

The national long-term goal of the United States with respect to radon in buildings is that the air within buildings should be as free of radon as the ambient air outside of buildings.<sup>4</sup> In 1986, EPA established that people should take action to reduce the amount of radon in a home when the level inside is at or above 4 picocuries per liter of air (pCi/L), also known as the “action level” for radon.<sup>5</sup> There is no known safe level of radon, and the EPA states that radon levels below 4 pCi/L can still pose health risks. The estimated average radon levels for homes tested is about 1.3 pCi/L. The average concentration of radon in outdoor air is 0.4 pCi/L – or one tenth of EPA’s action level.

### **Radon in HUD-Assisted Housing Draws Congressional and Media Attention**

The potential health risks posed to residents of HUD-assisted housing has drawn congressional interest based on investigative reports from the media on radon in assisted housing. On December 5, 2019, two Senators sent a letter to HUD’s Secretary, which expressed concerns that HUD does not require radon testing in federally subsidized housing units nationally, putting residents at risk of radon exposure. On February 13, 2020, 11 members of Congress sent a letter to HUD’s Secretary asking HUD to take action to ensure that 1.2 million families living in public housing units are protected against radon exposure.

An investigative report from one news media outlet<sup>6</sup> reported that public housing agencies (PHA) across the United States have not properly tested or mitigated units for radon and that more than 400,000 public housing residents live in areas at highest risk for indoor exposure to radon. The report stated that inconsistencies specific to radon exist in PHAs across the country, including planned actions for testing and mitigating radon and for informing residents about the health risks of radon. A second investigative news report<sup>7</sup> found that five public housing units in one PHA had radon levels twice EPA’s action level. The PHA identified, tested, and mitigated more than 50 percent of its housing units and was pursuing funding through public-private partnerships and grants to cover mitigation costs.

### **Multifamily, PIH, and CPD Operate Housing Assistance Programs To Provide Affordable Housing**

Multifamily, PIH, and CPD administer housing assistance programs to provide affordable housing to millions of families in need. For example, Multifamily’s Section 8 Project-Based Rental Assistance program provides housing assistance to more than 1.2 million low-income families. PIH provides housing assistance to approximately 1 million households living in public housing units, managed by approximately 2,890 PHAs. Lastly, CPD’s HOME Investment Partnerships Program provides the largest Federal block grants to eligible States and local governments for developing affordable housing through new construction, purchase, rehabilitation, and direct rental assistance to low-income people. Since 1992, the HOME

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<sup>4</sup> 15 U.S.C. (United States Code) 2661

<sup>5</sup> A picocurie is one-trillionth of a curie. The curie is a standard measure for the intensity of radioactivity contained in a sample of radioactive material.

<sup>6</sup> The Oregonian. Cancer Cloud: The government urges private homeowners to test for cancer-causing radon gas. For low-income tenants in public housing, the government ignores its own advice. Published November 22, 2019.

<sup>7</sup> CBS Denver. CBS4 Investigation Finds Dangerous Radon Levels in Public Housing. Published February 26, 2020.

Investment Partnerships Program has completed approximately 526,000 rental units and 254,000 property rehabilitations.

Part of HUD's mission is to provide quality, affordable homes for all. The housing HUD insures and funds must be decent, safe, sanitary, and in good repair. Ensuring that the residents are protected from unsafe levels of radon will further HUD's mission in this regard.

HUD reported that the average length of stay in assisted housing for a typical household is increasing. Specifically, for households ending participation in 2015, the average length of stay was 6 years and generally rising,<sup>8</sup> and this trend may increase residents' lifetime risk for developing radon-induced lung cancer if elevated radon levels are present in those households.<sup>9</sup> Appendix A describes the average length of stay for households in HUD-assisted housing by program and year of exit.

### **The Stewart B. McKinney Homeless Amendments Act Required HUD To Take Action on Radon**

In 1988, Congress passed the McKinney Amendments Act. Section 1091 of the Act required HUD to develop an effective departmental policy for dealing with radon contamination using EPA guidelines and standards; and, to assist EPA in reducing radon contamination. The McKinney Amendments Act required HUD to

- (1) Develop a departmental policy for dealing with radon contamination using EPA guidelines, information, and standards to ensure that housing<sup>10</sup> occupants are not exposed to hazardous levels of radon.<sup>11</sup> The departmental policy needed to specify programs for education, research, testing, and mitigation of radon hazards in housing.<sup>12</sup>
- (2) Assist EPA in reducing radon contamination. To help meet this requirement, HUD was directed to establish a memorandum of understanding (MOU) with EPA describing how it would assess the extent of radon contamination and develop measures to avoid and reduce the risk of contamination.<sup>13</sup>

The McKinney Amendments Act also required HUD to submit a report to Congress, which would describe HUD's recommended policy concerning radon contamination and the reasons for recommending the policy, within 1 year of the enactment date.<sup>14</sup> The law stated that HUD's report should include an estimate of the housing that is likely to have hazardous levels of radon.<sup>15</sup>

<sup>8</sup> Office of Policy Development and Research (PD&R), HUD. (2017, October) Length of Stay in Assisted Housing.

<sup>9</sup> Residents include program participants that may reside in HUD-owned and -assisted properties.

<sup>10</sup> The McKinney Amendments Act applied to multifamily housing owned by HUD, PIH-assisted housing and Section 8 housing receiving project-based assistance under the United States Housing Act of 1937, and housing assisted under Sections 221(d)(3) and 236 of the National Housing Act.

<sup>11</sup> Public Law 100-628, section 1091(a)(1)

<sup>12</sup> Public Law 100-628, section 1091(b)(2)

<sup>13</sup> Public Law 100-628, section 1091(c)

<sup>14</sup> Public Law 100-628, section 1091(b)(5)

<sup>15</sup> Public Law 100-628, section 1091(b)(5)

## EPA Created a Map of Radon Zones To Assist With Radon Detection and Resource Management

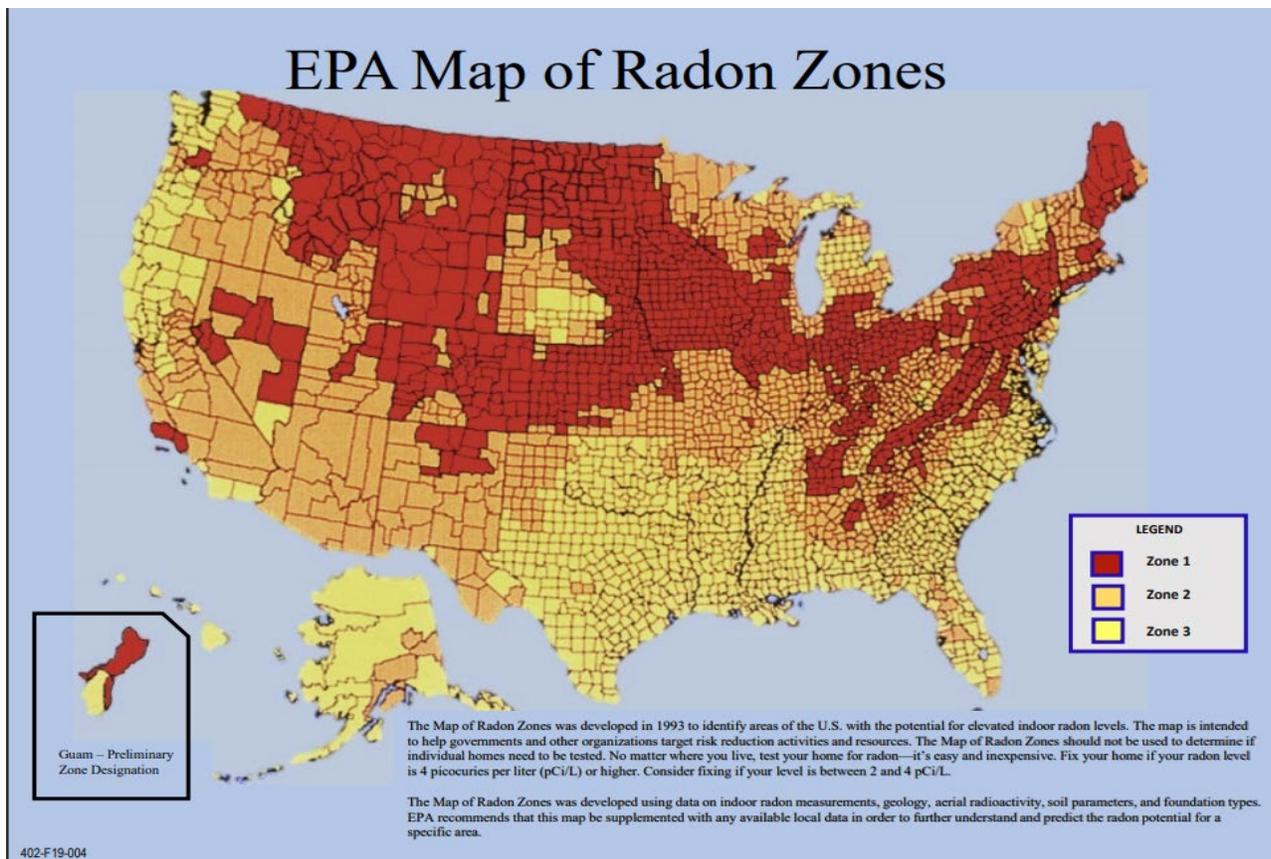
In 1993, EPA developed the Map of Radon Zones (EPA Map) to identify areas in the United States with the potential for elevated indoor radon levels. The EPA Map was designed to assist Federal, State, and local entities with targeting resources and implementing radon-resistant building codes. EPA has not updated the EPA Map since it was developed in 1993 and states that users should not rely on the EPA Map to determine whether they need to test individual homes. Instead, EPA recommends that users determine the radon risk for an area by supplementing the EPA Map with any available local data.

The EPA Map divides the United States into three zones of potential radon exposure:

- zone 1 (high risk) – counties with predicted average indoor radon screening levels greater than 4 pCi/L,
- zone 2 (medium risk) – counties with predicted average indoor radon screening levels from 2 to 4 pCi/L, and
- zone 3 (low risk) – counties with predicted average indoor radon screening levels less than 2 pCi/L.

The EPA Map is shown in figure 1 below.

Figure 1 – EPA Map



## Multifamily, PIH, and CPD Must Comply With HUD's Environmental Regulations

HUD's regulations require that all property proposed for use in its programs be free of radon where it could negatively affect residents' health and safety. These regulations are found in 24 CFR (Code of Federal Regulations) parts 50 and 58. Both regulations state that it is HUD policy that all properties proposed for use in HUD programs be free of hazardous materials, contamination, toxic chemicals and gasses, and **radioactive substances** where a hazard could affect the health and safety of occupants or conflict with HUD's intended use of the property.<sup>16</sup> As previously noted, radon is a radioactive substance known to cause lung cancer.

These regulations include requirements for environmental reviews that apply to HUD-assisted projects, such as those in Multifamily, PIH, and CPD.<sup>17</sup> HUD and responsible entities (RE) use the environmental review process to evaluate certain existing housing projects and their potential impact on the end users' health and the surrounding environment and to determine whether the housing projects meet Federal, State, and local environmental standards. An RE is the unit of general local government, county, or State where the project site is located and has land use and building permit jurisdiction for the project site. Regulations at 24 CFR part 50 apply when HUD is performing an environmental review, and 24 CFR part 58 applies when REs assume HUD's responsibility for performing an environmental review.

Regardless of whether HUD or the RE is responsible for performing a required environmental review, they both must ensure that all property proposed for use in HUD programs be free of radioactive substances where it could negatively affect the health and safety of occupants or conflict with HUD's intended use of the property.<sup>18</sup> REs must complete environmental reviews pursuant to regulations at 24 CFR part 58<sup>19</sup> before commitment or expenditure of grant or other funds on a proposed project. In HUD programs where property selection is made after funds are received, the entity receiving funds must agree to assist HUD in complying with environmental policy.<sup>20</sup>

Before completing an environmental review, REs should complete a site contamination assessment and document that the site is free of hazardous substances, including radon, and that the site is suitable for the planned use. The regulations at 24 CFR parts 50 and 58 require a review of the site's historic use for projects that involve multifamily housing or non-residential properties.<sup>21</sup> REs may conduct four levels of site contamination assessments: screening, phase I environmental site assessment (ESA), phase II ESA, and cleanup and other studies. CPD's Office of Environment and Energy (OEE) recommends that a site contamination assessment include, at a minimum, a review of EPA, State, and Tribal government records and a site visit. However, OEE does not require a phase I ESA and allows each HUD program office to establish its requirements for evaluating site contamination for its applicants and grantees.

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<sup>16</sup> 24 CFR 50.3(i)(1) and 58.5(i)(2)(i)

<sup>17</sup> According to CPD, most CPD-assisted housing does not receive an ongoing subsidy and is not subject to ongoing HUD regulatory requirements in most cases.

<sup>18</sup> 24 CFR 50.3(i)(1) and 58.5(i)(2)(i)

<sup>19</sup> There are five levels of environmental reviews, and the extent of the environmental review required depends on the nature of the activity or work proposed, and on the location of the project.

<sup>20</sup> 24 CFR 50.3(h)

<sup>21</sup> 24 CFR 50.3(i)(2) and 58.5(i)(2)(ii)

## HUD's Environmental Review Process May Require Radon Testing

An environmental review may require radon testing for certain project activities, including property rehabilitation or new construction. The extent of the environmental review required depends on the nature of the activity or work proposed and the location of the project. There are five levels of review:

- (1) Exempt: activities that do not disturb the physical environment and do not entail any physical changes to a property.<sup>22</sup>
- (2) Categorically excluded not subject to 24 CFR 50.4 and 58.5 (CENST): activities that do not alter any conditions.<sup>23</sup>
- (3) Categorically excluded subject to 24 CFR 50.4 and 58.5 (CEST): activities that may result in physical disturbances to the environment, including property rehabilitations.<sup>24</sup>
- (4) Environmental assessment: larger projects, including new construction or major renovations.<sup>25</sup>
- (5) Environmental impact statement: for major developments with potentially significant impacts to the human environment.<sup>26</sup>

Only certain levels of environmental review may require radon testing. For a CEST or above level of environmental review, HUD or the REs must review for contamination, including radon.<sup>27</sup> After completing an environmental review, the owner or developer may receive a recommendation to follow-up for radon testing and mitigation from HUD or the RE.

## The Office of Environment and Energy Is HUD's Principal Advisor on Environmental Issues

CPD's OEE advises on environmental compliance issues for all HUD programs and has overall departmental responsibility for policies and procedures that implement HUD's environmental regulations. OEE has regional environmental officers who are responsible for answering questions on environmental issues from program office staff, including questions about the environmental review process.

OEE is responsible for providing training to HUD program staff and grantees on environmental regulations. OEE offers annual 3-day training sessions to HUD program staff and REs, which explains environmental reviews and how to comply with relevant environmental laws and regulations. The training addresses different levels of site contamination assessments and some of the sources of contamination, including radon, water quality, and lead-based paint. The

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<sup>22</sup> 24 CFR 50.19 and 58.34

<sup>23</sup> 24 CFR 50.19 and 58.35

<sup>24</sup> 24 CFR 50.20 and 58.35

<sup>25</sup> 24 CFR 50.31 and 58.36

<sup>26</sup> 24 CFR 50.42 and 58.37

<sup>27</sup> HUD guidance indicates that radon is one of the contaminants which HUD or REs must review.

training is typically voluntary for all REs unless OEE determines that an RE requires remedial training based on its findings during an environmental monitoring visit.<sup>28</sup>

## **For Fiscal Year 2021, Congress Appropriated \$4 Million for Radon Testing in Public Housing**

For fiscal year 2021, Congress appropriated \$4 million to PIH to provide competitive funds for its Radon Testing and Mitigation Resident Safety Demonstration. The demonstration will be a pilot program that aims to determine the feasibility of radon testing and mitigation in public housing. At the completion of our fieldwork, HUD had not determined how to implement the demonstration. The Office of Lead Hazard Control and Healthy Homes (OLHCHH) will work with PIH to implement the demonstration. OLHCHH awards competitive grants for research on improving economic methods to identify and control lead-based paint in housing and other housing-related health and safety hazards. According to an OLHCHH official, OLHCHH promotes awareness of radon issues within HUD and encourages program offices to create radon requirements.

## **Scope and Methodology**

We completed this evaluation under the authority of the Inspector General Act of 1978 as amended and in accordance with the Quality Standards for Inspection and Evaluation issued by the Council of the Inspectors General on Integrity and Efficiency (January 2012).

### **Scope**

We performed fieldwork for this evaluation between March and September 2020. The scope of this evaluation is limited to policies and operations within three program offices – Multifamily, PIH, and CPD – as of July 2020. In addition, this evaluation focused on HUD’s compliance with the radon-related requirements outlined in the McKinney Amendments Act as of July 2020.

### **Methodology**

To address our first objective, we reviewed

- HUD’s environmental regulations and internal publications on its environmental review process.
- Program office policies and guidance, including
  - Multifamily Accelerated Processing Guide (MAP Guide);
  - PIH Notices H 2013-03, PIH 2013-06, and PIH 2016-22;
  - CPD Notices CPD-14-03, CPD-16-02 and CPD-16-12; and
  - Joint Notice H-2019-09 and PIH-2019-23.
- Training materials for REs.

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<sup>28</sup> OEE performs a risk analysis of REs using a quantifiable rating system to determine the level of risk a RE may pose to HUD. OEE ranks REs by risk from highest to lowest based on the risk analysis score and monitors the REs at the highest risk for environmental compliance.

- Publicly available information related to radon testing and mitigation.

To address our second objective, we reviewed the McKinney Amendments Act and U.S. Government Accountability Office (GAO) reports and testimony related to radon.

To address both objectives, we also conducted 10 interviews with program environmental clearance officers (PECO), senior environmental staff, and program officials considered subject matter experts who were best positioned to speak about Multifamily's, PIH's, and CPD's radon policies and approaches to testing for and mitigating radon.

We used this information to

- (1) describe and compare Multifamily's, PIH's, and CPD's radon policies and to determine the extent to which each policy meets 24 CFR 50.3(i)(1) and 58.5(i)(2)(i) and
- (2) determine whether HUD has implemented certain requirements of the McKinney Amendments Act.

We had no limitations associated with this evaluation.

## Findings

### HUD Does Not Have a Departmentwide Radon Policy or Uniform Approach To Test for and Mitigate Excessive Radon Levels, Which Poses Health Risks to Residents

HUD does not have a departmentwide radon policy that governs operations for all program offices. Instead, HUD relies on each program office to develop radon policies that align with 24 CFR parts 50 and 58. Among the three program offices reviewed, Multifamily has the most stringent radon policy and best aligns with statements in HUD’s environmental regulations. Only Multifamily’s radon policy includes radon testing and mitigation requirements. PIH’s policy strongly encourages but does not require PHAs to test for radon and to mitigate excessive radon levels, if possible. CPD does not have a radon policy. Instead of having a policy that requires radon testing, both PIH and CPD rely on the environmental review process, which may require radon testing and mitigation. Only certain environmental reviews require HUD or REs to test for contamination, including radon.<sup>29</sup> For PIH programs, environmental reviews generally occur every 5 years, but REs might not test for radon during these reviews.<sup>30</sup> For most HUD programs, environmental reviews occur only for specific funding or approval actions, such as acquisition, construction, or rehabilitation. HUD does not proactively track data on radon in HUD-assisted housing and has limited access to data on radon testing in its properties. Only Multifamily has access to internal data on radon testing in its properties. Figure 2 below compares the program offices’ policies.

Figure 2 – Comparison of radon policies

HUD program office	Does the program office have a radon policy?	Does the program office require radon testing and mitigation?	Has the program office updated its radon policy?	Does the program office have some access to data on radon testing in its properties?
Multifamily <sup>31</sup>	Yes	Yes	Yes	Yes
PIH	Yes	No	No	No
CPD	No	N/A	N/A	No

Relying on the environmental review process to test for and mitigate excessive radon may result in radon testing that occurs too infrequently. As discussed earlier, environmental reviews generally occur only for specific funding or approval actions, and exposure to radon shows no

<sup>29</sup> For a CEST or above level of environmental review, HUD or the REs review for contamination, including radon. Exempt and CENST levels of environmental review do not require radon testing.

<sup>30</sup> According to Notice PIH 2016-22, HUD considers an environmental review valid for 5 years unless the property’s project scope or environmental condition changes substantially.

<sup>31</sup> Multifamily programs reviewed include those subject to the MAP Guide. This guidance applies to Federal Housing Administration (FHA) mortgage insurance applications for the following programs: Section 220, Section 221(d)(4), Section 223(a)(7), Section 223(f), Section 231, and Section 241(a).

immediate health effects or other warning signs. Therefore, environmental reviews that test for radon may not occur frequently enough to identify households with elevated radon levels and mitigate radon-related health risks to those residents. Further, by relying on REs to decide whether to test for radon, some properties may not be tested for excessive radon levels at all.

Absent a departmental radon policy, each program office has developed a radon policy or approach with varying degrees of testing and mitigation requirements. This inconsistent approach does not align with statements in HUD's environmental regulations<sup>32</sup> or support industry standards which recommend that radon testing occur every 2 years after a mitigation system is installed. As a result of this inconsistent approach to testing and mitigation, HUD cannot ensure that residents receive consistent and sufficient protection from the hazardous health effects of radon exposure, as testing is the only way to determine indoor radon levels.

### **Multifamily Has the Most Stringent Radon Policy and Also Uses the Environmental Review Process To Test for and Mitigate Excessive Radon Levels**

#### *Multifamily's Radon Policy Affirmatively Requires Radon Testing and Mitigation*

Multifamily's radon policy<sup>33</sup> establishes radon testing and mitigation requirements for Federal Housing Administration (FHA) multifamily mortgage insurance applications and properties converting assistance under HUD's Rental Assistance Demonstration Program (RAD)<sup>34</sup> unless an exception applies.<sup>35</sup> Notice H 2013-03 also specifies that the action level for radon is 4 pCi/L. In 2016, Multifamily incorporated Notice H 2013-03 into chapter 9 of the MAP Guide, which HUD staff and FHA mortgage insurance lenders must follow.<sup>36</sup>

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Among three program offices, only Multifamily's radon policy requires radon testing and mitigation.

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The MAP Guide requires applicants for FHA mortgage insurance programs and RAD to test at least 25 percent of randomly selected ground-level units in each building. If any of the sampled units has radon levels at or above 4 pCi/L, applicants have two options. The first option is to mitigate all ground-level units in all

buildings included in the project. The second option is to complete a full test assessment that

<sup>32</sup> Regulations at 24 CFR 50.3(i)(1) and 58.5(i)(2)(i) state it is HUD policy that all properties proposed for use in HUD programs be free of hazardous materials, contamination, toxic chemicals and gasses, and radioactive substances where a hazard could affect the health and safety of occupants or conflict with the intended use of the property.

<sup>33</sup> On January 31, 2013, Multifamily established its radon policy by issuing Notice H 2013-03.

<sup>34</sup> Multifamily administers RAD. RAD provides opportunities to facilitate the conversion of public housing properties and other HUD-assisted properties to long-term, project-based rental assistance properties.

<sup>35</sup> The MAP Guide does not require radon testing of Section 223(f) project applications for refinancing or purchase of existing apartments located in radon zone 3 (low risk) of the EPA Map.

<sup>36</sup> Multifamily originally published the MAP Guide in May 2000 to provide national standards for approved lenders to prepare, process, and submit loan applications for FHA multifamily mortgage insurance. Multifamily revised the MAP Guide in 2002, 2011, and 2016. Chapter 9 of the MAP Guide outlines the policies and procedures that HUD staff and the lenders for FHA mortgage insurance programs must follow to meet their environmental responsibilities. The MAP Guide applies to the FHA mortgage insurance applications for the following programs: Section 220, Section 221(d)(4), Section 223(a)(7), Section 223(f), Section 231, and Section 241(a).

includes all ground-level units plus 10 percent of the upper floor units and mitigate any units or rooms that test at or above 4 pCi/L following the appropriate standard.

In addition, the MAP Guide establishes deadlines for mitigation. For new construction and substantial rehabilitation, the properties must complete all radon mitigation before the final closing, including follow-up radon testing. If Section 223(f) or 223(a)(7) repairs include mitigation, the properties should complete mitigation within 12 months after closing.

The MAP Guide requires a radon report for all mortgage insurance applications unless an exception applies.<sup>37</sup> The radon report should include any testing results, details of any necessary mitigation, and mitigation timing.

#### *Radon Testing May Also Be Required for Multifamily Properties During Environmental Reviews*

Most environmental reviews for Multifamily properties are completed by its staff using 24 CFR part 50. When HUD-assisted activities at Multifamily properties require a CEST or above level of review, the environmental review may require radon testing. Multifamily activities that are considered at CEST or above level include new construction and substantial rehabilitation.

The MAP Guide requires lenders to submit a phase I ESA with the mortgage insurance application. PHAs and property owners applying for RAD conversion must submit a phase I ESA with applications if the conversion assistance involves substantial rehabilitation or new construction.<sup>38</sup> An environmental professional with credentials and expertise in the specific contamination area must perform the phase I ESA. A phase I ESA makes an initial determination on the presence of hazardous substances defined in the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). According to HUD environmental officials, a phase I ESA will not consider radon from naturally occurring sources as CERCLA excludes naturally occurring radon gas. More specifically, the environmental professionals performing phase I ESAs will not test for radon or any other contaminant.

#### *Multifamily Has Proposed Updates to Its Radon Policy*

Multifamily has proposed two updates to its radon policy, which would decrease the number of properties exempted from radon testing. At the conclusion of our fieldwork, Multifamily had proposed the removal of an exception in the MAP Guide that waived the testing requirement for properties in zone 3 of the EPA Map.<sup>39</sup> According to the EPA Map, the location of a home should not be used as a reason to forgo testing for radon. Once the MAP Guide removes the zone 3 exemption, a property's location would not exempt it from radon testing. Therefore, this update would result in more properties being subject to radon testing. Multifamily has also

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<sup>37</sup> Multifamily's MAP Guide does not require a radon report for (1) Section 223(f) properties located in the low-risk zone of the EPA Map; (2) mortgage insurance applications that are considered at a CENST level of environmental review; or (3) the property for which a radon professional exempted radon testing or mitigation based on a physical inspection of the property, the characteristics of the building, and other valid justifications.

<sup>38</sup> Joint Notice H-2019-09 and PIH-2019-23 (RAD Revision 4)

<sup>39</sup> Following the conclusion of our fieldwork, Multifamily released the revised MAP Guide on December 18, 2020. The revised version no longer allows the zone 3 exemption and requires 100 percent ground-floor testing instead of 25 percent sample testing.

proposed removing the 25 percent sampling rule for testing ground-level units for radon and would require radon testing in all ground-level units instead. This update will ensure that radon testing covers all ground-level units in close contact with the ground through which radon can enter a building.

### *Multifamily Is the Only HUD Program Office With Access to Internal Data on Completed Radon Testing*

Among the three program offices reviewed, Multifamily is the only program office with data on radon testing. The Office of Housing (Housing) PECO<sup>40</sup> told us that Housing programs that use HUD Environmental Review Online System (HEROS)<sup>41</sup> have data on radon testing collected on a Housing-specific HEROS page. A user can run a report in HEROS to determine which property has completed radon testing. However, retrieving information from HEROS beyond the completion of radon testing, such as the list of properties with elevated radon levels, is difficult.

### *RAD Revision 4 Requires Radon Testing for Certain RAD Conversions*

Multifamily and PIH issued Joint Notice H-2019-09 and PIH-2019-23, also known as RAD Revision 4, which include radon testing requirements for RAD conversions.<sup>42</sup> Under RAD Revision 4, Multifamily and PIH require radon testing for RAD conversions depending on the (1) type of RAD conversion, either PBRA or PBV, and (2) whether the conversion utilized FHA mortgage insurance. Figure 3 below outlines radon testing and mitigation requirements for the different types of RAD conversions.

**Figure 3 – Radon testing and mitigation requirements for RAD conversions**

RAD conversion type	Requirements
RAD conversions to PBRA or RAD conversions to PBV with FHA insurance	<ul style="list-style-type: none"> <li>• A radon report, or</li> <li>• An exemption statement from submitting a radon report according to the MAP Guide.</li> </ul>
RAD conversions to PBV without FHA insurance	<ul style="list-style-type: none"> <li>• A radon report,</li> <li>• A statement declaring that the RE considered radon according to State and local requirements, or</li> <li>• A statement that the property received an exemption according to the MAP Guide.</li> </ul>

RAD Revision 4 requires a radon report for all financing plans unless an exception applies. According to Multifamily, it strongly encourages but does not require RAD conversions to submit a radon report if they do not entail rehabilitation, construction, or demolition and are not in a high-risk radon zone.

<sup>40</sup> The Housing PECO serves all Housing programs, including Multifamily programs.

<sup>41</sup> In 2016, Multifamily began filing environmental assessments using HEROS instead of filing them using the paper form (HUD-4128). For Multifamily's RAD program, it has been mandatory to use HEROS to file environmental assessments for projects that convert to project-based rental assistance (PBRA) since 2016.

<sup>42</sup> Multifamily oversees PBRA, and PIH oversees project-based vouchers (PBV).

For all PBRA conversions, PHAs do not have to follow the radon testing requirements of Notice H 2013-03, which outlines Multifamily’s radon policy. However, HUD strongly recommends radon testing for all projects and strongly recommends mitigation of any structures with radon levels at or above 4 pCi/L.

### **PIH Encourages PHAs To Test for and Mitigate Excessive Radon Levels if Possible but, Otherwise, Relies on the Environmental Review Process**

#### *PIH Radon Policy Does Not Require PHAs To Test for and Mitigate Excessive Radon Levels*

PIH’s radon policy gives PHAs the flexibility to not test for radon or mitigate its presence. In Notice PIH 2013-06, PIH strongly encourages PHAs to “proactively plan and complete radon testing and follow-up with mitigation strategies if possible, especially when excessive radon levels are present.” Terms such as “encourage” and “if possible” may give PHAs the incorrect notion that unsafe levels of radon, a radioactive substance, are allowed to remain in its properties. Therefore, PIH’s radon policy does not align with HUD’s environmental regulations, which state that it is HUD policy that all properties proposed for use in HUD programs be free of radioactive substances where a hazard could affect the health and safety of occupants or conflict with the intended use of the property.<sup>43</sup>

PIH has not updated its radon policy established in Notice PIH 2013-06<sup>44</sup> since its issuance in 2013. A PIH environmental official told us that PIH strongly encourages but does not require radon testing and mitigation for two reasons:

- (1) PIH grantees operate differently from other HUD programs, and
- (2) HUD program offices determine practical guidance that fits their programs.

These arguments are flawed because (1) HUD’s environmental regulations are the basis for policy so that its program participants do not act differently, (2) industry standards for radon testing and mitigation do not vary based on the type of Federal funding, and (3) any practical guidance should not subject residents to radon above EPA’s action level.

Notice PIH 2013-06 includes a background section on radon, which explains that exposure to radon may lead to lung cancer. However, Notice PIH 2013-06 does not specify that radon is a radioactive substance or identify HUD’s responsibility to protect its residents from radon. In addition, Notice PIH 2013-06 does not outline when and how to test for radon, who should oversee radon testing and mitigation, or when to mitigate. For a CEST or above level of environmental review, HUD or the REs must review for site contamination, which would include radioactive substances such as radon.

<sup>43</sup> 24 CFR 50.3(i)(1) and 58.5(i)(2)(i)

<sup>44</sup> PIH and Multifamily issued Joint Notice H-2019-09 and PIH-2019-23 (HA) for RAD conversions on September 5, 2019. However, this notice did not supersede requirements already established in Notice PIH 2013-06.

Instead, PIH considers testing and mitigation to be a matter for each property owner's discretion. According to PIH officials, PHAs, as property owners, are ultimately responsible for radon testing and mitigation. They added that they believe PIH's radon policy aligns with HUD's environmental regulations concerning radioactive substances. Because PIH's policy allows elevated levels of radon to persist at the discretion of a PHA, we disagree that PIH's policy aligns with these regulations. We are concerned that not requiring PHAs to test for radon or to mitigate it may result in residents' exposure to dangerous levels of radon over time.

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PIH's radon policy does not align with statements in HUD's environmental regulations, which call for its properties be free of radioactive substances where it could affect the health and safety of occupants or conflict with the intended use of the property.

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*The Environmental Review Process Could Be the Only Instance in Which PHAs Consider Radon Testing, if at All*

Unless PHAs voluntarily test their properties for radon, the environmental review process could be the only instance in which PHAs consider radon testing, if at all. Given the latitude that Notice PIH 2013-06 provides for radon testing and mitigation, radon testing and mitigation are conducted mainly at the RE's discretion for environmental reviews at the CEST or above level. According to PIH, most environmental reviews for PIH properties are performed by REs under 24 CFR part 58. For a CEST or above level of review, REs would determine the property's radon zone using local maps of radon zones.<sup>45</sup> According to a PIH environmental official, if the property is not located in a high-risk zone, the REs would document that no further action is needed. In other words, REs could choose not to test PHAs with elevated radon levels if properties are not located in a high-risk zone and, in doing so, PHAs would miss opportunities to identify properties with elevated radon levels.

If REs find elevated radon levels in the property, a PIH environmental official told us that REs and PHAs will develop mitigation measures and plans and include them in the environmental review record. If a PHA cannot afford immediate radon mitigation, the PHA will create a long-term mitigation plan. As long as the PHA has an approved mitigation plan, REs can complete the environmental review. According to a PIH environmental official, PHAs are ultimately responsible for mitigating their properties for radon. The same official told us that REs may influence and encourage PHAs to perform radon mitigation but PHAs are the owners and operators for their properties that make final decisions. If the REs seek technical assistance from HUD related to radon, a PIH environmental official told us that PIH would refer them to 24 CFR part 58.

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<sup>45</sup> The following activities require a CEST or above level of environmental review: rehabilitation, new construction, major renovations, and Federal projects with potentially significant environmental impacts.

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HUD environmental reviews are valid for 5 years, and a new environmental review may be the only instance in which an RE considers testing a PHA for radon.

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This approach relies on voluntary radon testing and risks REs' testing PHAs for radon infrequently. In December 2016, PIH issued Notice PIH 2016-22, which provided PHAs with submission and processing requirements for environmental reviews using a 5-year submission period. According to Notice PIH 2016-22, HUD considers an environmental review for a specific project valid for up to 5 years unless the project scope<sup>46</sup>

or environmental conditions change. A PIH environmental official told us that environmental reviews for PHA projects are likely to be a CEST or above level of review, as PHAs tend to complete rehabilitation activities every 5 years.<sup>47</sup> As a result, REs may not consider radon testing in PHAs for at least 5 years unless substantial changes in the project scope or environmental conditions require a new environmental review during that time. For example, if a PHA participates in RAD, the PHA must complete a new environmental review and clearance unless the original environmental review included the PHA's RAD participation.

As PIH's radon policy only encourages radon testing and mitigation, a new environmental review may be the only instance in which an RE may consider testing a PHA for excessive radon levels. This approach may result in some PHAs being tested too infrequently or never being tested. Industry standards recommend that properties be tested for radon every 2 years after a mitigation system is installed.

### *PIH Does Not Track Radon Testing Results in Public Housing Units*

A PIH environmental official stated that PIH does not gather data on radon testing and mitigation in public housing and PHAs and REs may gather information on radon testing voluntarily. The PIH official told us that PIH is not responsible for collecting data on radon testing and mitigation in PHAs. According to that PIH official, HUD does not have a role, responsibility, or capacity to track radon data, and the Centers for Disease Control and Prevention (CDC) already tracks radon testing. CDC tracks radon testing data submitted by participating States and several national radon testing laboratories. Although CDC's website provides radon testing data at the State and county level for most of the United States,<sup>48</sup> it does not provide radon testing data specific to HUD-assisted housing.

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<sup>46</sup> The project scope includes a PHA's reasonably foreseeable maintenance, equipment purchase, modernization, and rehabilitation for each public housing site.

<sup>47</sup> REs may consider radon testing during a CEST level of environmental review.

<sup>48</sup> CDC's radon testing data provide the number of buildings tested, number and percentage of premitigation tests by radon level, number and percentage of postmitigation tests by radon level, median premitigation test levels of radon, and maximum premitigation levels of radon.

## CPD Does Not Have a Radon Policy and Relies on Environmental Reviews To Test for and Mitigate Excessive Radon Levels

### *CPD Does Not Have a Radon Policy*

CPD does not have a policy for radon testing and mitigation. Instead, it relies on the environmental review process to test for and mitigate elevated radon levels in projects to which it provides assistance. CPD's reliance on the environmental review process may not ensure that all CPD-assisted projects are free of radon where it could negatively affect residents' health and safety, and therefore does not align with statements in HUD's environmental regulations.<sup>49</sup> Most environmental reviews of CPD-assisted projects are performed by REs under 24 CFR part 58. For CPD-assisted projects, HUD or RE will perform an environmental review when specific funding or approval actions occur, such as acquisition, construction, or rehabilitation.

### *The Environmental Review Process Could Be the Only Instance in Which REs Consider Radon Testing, if at All*

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CPD does not have a radon policy and relies on environmental reviews to test for and mitigate radon.

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Given that CPD does not have a radon policy, a new environmental review could be the only instance in which an RE may consider testing a CPD-assisted project for excessive radon levels, if at all. According to a CPD environmental official, the environmental review process is subjective, as it relies on the discretion of the parties completing it. A CPD

environmental official told us that the contamination analysis during an environmental review should include an assessment for radon. However, environmental reviews do not specifically require REs to test the properties for radon, and local governments serving as REs do not have a standardized approach in performing contamination analyses. In the absence of a radon policy, whomever performs an environmental review ultimately decides whether to test for radon during a contamination analysis. For example, local governments often hire contractors to perform environmental reviews, and some contractors may overlook or decide not to review radon levels during contamination analyses.

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For PIH and CPD, the parties completing an environmental review ultimately decide whether to test for radon during a contamination analysis.

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Similar to PIH, this approach may result in some properties being tested too infrequently or never being tested. This approach does not align with statements in HUD's environmental regulations or meet industry standards which recommend that properties be tested for radon every 2 years after a mitigation system is installed.

<sup>49</sup> 24 CFR 50.3(i)(1) and 58.5(i)(2)(i)

### *CPD Does Not Have Data on CPD Housing With Elevated Radon Levels*

According to a CPD environmental official, CPD uses HEROS to file contamination analyses, but HEROS does not provide a report specific to radon. A CPD environmental official told us that CPD does not have data on CPD housing units with elevated radon levels.

### **HUD Could Not Confirm Whether It Has Met Certain Requirements of the McKinney Amendments Act**

In 1988, the McKinney Amendments Act required HUD to

- develop and recommend to Congress an effective policy for dealing with radon contamination that specifies programs for education, research, testing, and mitigation of radon hazards in housing covered by this section;<sup>50</sup>
- establish an MOU with EPA to address radon contamination within 6 months of the enactment date;<sup>51</sup> and
- submit a report to Congress, which would describe HUD’s recommended policy concerning radon contamination and the reasons for recommending the policy within 1 year of the enactment date.<sup>52</sup>

However, at the conclusion of our evaluation, HUD could not confirm whether it has met these requirements. If HUD does not comply with these requirements, it may have missed opportunities to protect residents against hazardous health effects of radon exposure.

### **HUD Could Not Confirm Whether It Has Developed and Recommended to Congress an Effective Policy for Dealing With Radon Contamination**

According to officials we interviewed, HUD does not have a radon policy that governs all HUD program offices. Rather, each program office is responsible for ensuring that its radon policy or approach aligns with 24 CFR parts 50 and 58. Although HUD does not have a radon policy, we found evidence that HUD may have recommended a radon policy about 30 years ago. GAO assessed HUD’s recommended radon policy and expressed concerns before the Subcommittee on Superfund, Ocean, and Water Protection, Committee on Environment and Public Works.<sup>53</sup> In 1991, before the Subcommittee, Richard L. Hembra, Director of Environmental Protection Issues, testified that

In our view, HUD’s recommended [radon] policy does not meet the basic requirements of the McKinney amendments that call for a HUD policy that includes testing and mitigation programs to protect the residents of HUD-assisted housing. Instead of the testing and mitigation programs specified in the amendments, HUD is recommending a

<sup>50</sup> Public Law 100-628, section 1091(b)(2)

<sup>51</sup> Public Law 100-628, section 1091(c)

<sup>52</sup> Public Law 100-628, section 1091(b)(5)

<sup>53</sup> GAO. 1991. Radon Testing in Federal Buildings Needs Improvement and HUD’s Radon Policy Needs Strengthening (GAO/T-RCED-91-48), before the Subcommittee of Superfund, Ocean, and Water Protection, testimony of Richard L. Hembra.

4-year research program as a prelude to determining an appropriate policy. We believe that HUD's policy falls short of recognizing that EPA has, in fact, already established testing and mitigation procedures that are being applied in a variety of circumstances by the public and [F]ederal government.

Absent a departmentwide policy, each program office may continue administering different radon policies and approaches, and HUD cannot ensure that residents receive consistent and sufficient protection from the health risks of radon.

### **HUD Could Not Provide an MOU With EPA Which Addresses Radon Contamination**

The officials we interviewed were unaware of an MOU with EPA to address radon contamination and could not confirm whether HUD has archived a hardcopy of one. HUD officials attempted to find the signed MOU with EPA in electronic databases but were unable to locate it. We also contacted EPA's Center for Radon and Air Toxics, which told us that it could not locate an electronic copy of the MOU. HUD and EPA staff indicated that they may have stored hardcopy records there and could not retrieve them for us due to mandated telework. HUD and EPA personnel were restricted from accessing their office space as a result of the coronavirus pandemic. Instead, HUD staff provided us with a 1994 Environmental Law Institute (ELI) report, which indicates that the MOU with EPA was signed in September 1992.<sup>54</sup>

While HUD could not provide the MOU with EPA that addresses radon contamination, HUD participated in the Federal Radon Action Plan (FRAP)<sup>55</sup> with EPA and seven other Federal agencies from 2010 until 2016. HUD has been participating in the National Radon Action Plan (NRAP)<sup>56</sup> since 2015, which continues to address the future impacts of FRAP commitments.<sup>57</sup>

### **HUD Could Not Confirm Whether It Has Submitted a Radon Report to Congress**

We found evidence that HUD may have drafted a radon report. A GAO report published in June 1990 states that HUD drafted the report and submitted it for departmental review.<sup>58</sup> According to the report, HUD informed GAO that it planned to submit the report to Congress by early summer 1990. However, the officials we interviewed could not confirm whether HUD submitted this report to Congress as required by the McKinney Amendments Act.

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<sup>54</sup> According to the 1994 [ELI report](#), this MOU was signed in September 1992 with the following document numbers: (HUD) DU100I920000053 (EPA) RW86935/44/01/0.

<sup>55</sup> FRAP was a collaborative effort of nine Federal agencies to establish policies to find, fix, and prevent high radon levels in government-influenced buildings.

<sup>56</sup> NRAP is a long-range strategy to eliminate avoidable radon-induced lung cancer in the United States by leveraging and accelerating the impact of FRAP through a coordinated national action by including private-sector and non-governmental organizations.

<sup>57</sup> The following 12 organizations participate in NRAP: HUD, EPA, American Lung Association, American Association of Radon Scientists and Technologists, American Society of Home Inspectors, Cancer Survivors Against Radon, Children's Environmental Health Network, Citizens for Radioactive Radon Reduction, Conference of Radiation Control Program Directors, Environmental Law Institute, National Center for Healthy Housing, and U.S. Department of Health and Human Services.

<sup>58</sup> GAO. 1990. McKinney Act Reports Could Improve Federal Assistance Efforts (GAO/RCED-90-121).

Separately, the Affordable Housing Research and Technology Division within HUD's Office of Policy Development and Research (PD&R) participated in a radon study about 22 years ago. However, HUD could not provide a copy of the radon study, as some of its records from the 1990s are physically stored at HUD headquarters.<sup>59</sup> HUD personnel generally had difficulty accessing hardcopy records that may exist onsite at HUD offices due to the coronavirus pandemic.

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<sup>59</sup> Due to the coronavirus pandemic, access to HUD headquarters is restricted.

## Recommendations

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Given the absence of a departmentwide radon policy and HUD's inconsistent approach to testing and mitigating excessive radon levels, we are concerned that HUD has missed opportunities to protect residents from the hazardous health effects of excessive radon exposure. According to the EPA, extended radon exposure can result in lung cancer and accounts for approximately 21,100 deaths each year. Although lung damage may not begin to appear until after 5 years of exposure, the average length of stay for a typical family leaving assisted housing is increasing, and in 2015, the average stay was 6 years. On average, this phenomenon increases residents' risk for developing radon-induced lung cancer if elevated radon levels are present in those households.

Due to the danger that prolonged radon exposure can pose to residents, it is critical for HUD to act. HUD should develop a departmentwide policy that notes that radon is a radioactive substance and outlines requirements for testing and mitigation. HUD's program offices should also update their internal policies and guidance to ensure compliance with the departmentwide policy. The updated internal policies and guidance should ensure that HUD programs test for and mitigate radon consistently to keep properties free of radon where it could negatively affect the health and safety of residents or conflict with the intended use of the property, aligning with HUD's environmental regulations.<sup>60</sup> In addition, HUD should develop and provide training on radon testing and demonstrate compliance with other McKinney Amendments Act requirements.

### **We recommend that the Director of OEE**

#### **1. Develop and issue a departmentwide policy that notes that radon is a radioactive substance and outlines HUD's requirements to test for and mitigate excessive radon levels in accordance with 24 CFR 50.3(i)(1) and 58.5(i)(2)(i).**

The Director of OEE should coordinate with HUD's program offices to develop and issue a departmentwide policy that notes that radon is a radioactive substance. The policy should be designed to ensure that radon testing and mitigation are consistent and sufficient for all HUD programs, and align with HUD's environmental regulations.<sup>61</sup> The policy should also specify what data related to testing and mitigation that HUD should retain in HEROS.

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<sup>60</sup> Regulations at 24 CFR 50.3(i)(1) and 58.5(i)(2)(i) state that it is HUD policy that all properties 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 use of the property.

<sup>61</sup> 24 CFR 50.3(i)(1) and 58.5(i)(2)(i)

## **2. Develop and provide training for applicable program staff, grantees, and PHAs on radon testing and mitigation requirements.**

To ensure that HUD program office staff, grantees, and PHAs test for and mitigate radon consistently, OEE should develop and provide a training program on radon testing and mitigation requirements for Multifamily, PIH, and CPD staff involved in the environmental review process. The training should outline HUD's regulatory and policy requirements for radon testing and mitigation.

## **3. Develop and implement an effective radon policy to ensure that CPD program activities comply with the departmentwide policy on radon testing and mitigation requirements.**

Once OEE develops a departmental radon policy, CPD should develop and implement a radon policy that complies with the departmental policy. CPD's radon policy should ensure that CPD program participants perform radon testing and mitigation consistently to keep CPD-assisted projects free of radon where it could negatively affect the health and safety of occupants or conflict with the intended use of the property, aligning with HUD's environmental regulations.<sup>62</sup>

**We recommend that the Director of Multifamily's Program Administration Office**

## **4. Update the current Multifamily radon policy to ensure that program activities comply with the departmentwide policy on radon testing and mitigation requirements.**

Once OEE develops a departmental radon policy, Multifamily should update its radon policy to comply with the departmental policy. The updated policy should ensure that Multifamily programs test for and mitigate radon consistently to keep Multifamily properties free of radon where it could negatively affect the health and safety of occupants or conflict with the intended use of the property, aligning with HUD's environmental regulations.

**We recommend that PIH's Director of Policy, Programs, and Legislative Initiatives**

## **5. Revise the current PIH radon policy to align with 24 CFR 50.3(i)(1) and 58.5(i)(2)(i).**

PIH should immediately revise its radon policy (Notice PIH 2013-06) to align with 24 CFR 50.3(i)(1) and 58.5(i)(2)(i), which state that all property proposed for use in HUD programs be free of radioactive substances where it could negatively affect the health and safety of occupants or conflict with the intended use of the property. Specifically, the revised policy should describe the environmental review levels where radon must be considered as a potential site contaminant.<sup>63</sup>

<sup>62</sup> 24 CFR 50.3(i)(1) and 58.5(i)(2)(i)

<sup>63</sup> PIH and Multifamily issued Joint Notice H-2019-09 and PIH-2019-23 (HA) for RAD conversions on September 5, 2019, but this notice did not supersede requirements found at Notice PIH 2013-06.

**6. Update the PIH radon policy to ensure that program activities comply with the departmentwide policy on radon testing and mitigation requirements.**

Once OEE develops a departmental radon policy, PIH should update its radon policy to comply with the departmental policy. The updated policy should ensure that PIH program participants test for and mitigate radon consistently to keep PIH properties free of radon where it could negatively affect the health and safety of occupants or conflict with the intended use of the property, aligning with HUD's environmental regulations.<sup>64</sup>

**We recommend that the Director of the Office of Lead Hazard Control and Healthy Homes**

**7. Provide the MOU with EPA designed to address radon contamination.**

To demonstrate compliance with the McKinney Amendments Act, OLHCHH should provide the MOU with EPA describing how it would assess the extent of radon contamination and develop measures to avoid and reduce radon contamination.

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<sup>64</sup> 24 CFR 50.3(i)(1) and 58.5(i)(2)(i)

# Agency Comments and OIG Response

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## Summary of Agency Comments and OIG Responses

We requested that CPD, Multifamily, PIH, and OLHCHH provide formal comments in response to our draft report that indicated agreement or disagreement with our recommendations. CPD, Multifamily, PIH, and OLHCHH provided formal comments. OEE submitted formal comments on behalf of CPD and indicated that OEE agreed with recommendations 1, 2, and 3 but raised some concerns about implementing recommendations 1 and 3. Multifamily did not indicate whether it agreed or disagreed with recommendation 4. PIH disagreed with recommendation 5 but did not indicate whether it agreed or disagreed with recommendation 6. As a result of the responses provided, we consider recommendations 1, 2, 3, 4, 5, and 6 “unresolved-open.” Based on the information we received from OEE and OLHCHH, recommendation 7 is closed. Because recommendation 7 is now closed, no further action is required for this recommendation.

In addition to a request for formal agency comments, we asked program offices to identify, under separate cover, any areas they felt were inaccurate. We call these technical comments to contrast them from the formal comments that are a response to our recommendations. In response to each program office’s technical comments, we made several changes to the final report. We offered to answer any program office questions about our dispositions of their technical comments on a case by case basis. Despite this opportunity, each of the four program offices restated select technical comments in their formal comments instead. As a result, most of the technical comments that the program offices restated in their formal comments are no longer applicable to this report as we had already made corresponding edits before receiving the formal comments.

### Summary of CPD Comments and OIG Responses

OEE submitted formal comments on behalf of CPD. In general, OEE agreed with our recommendations and said that a departmentwide radon policy accompanied by revised program policies will better protect residents from the unsafe levels of indoor radon exposure. OEE also agreed that, in the absence of CPD or departmentwide radon policy, there is no standardized approach for REs to include radon in the contamination analysis.

In its response, OEE agreed with recommendations 1, 2, and 3, but raised some concerns about implementing recommendations 1 and 3. For recommendation 1, OEE agreed with the recommendation and said that OEE will work with OLHCHH to draft a broad departmentwide policy that is applicable across different HUD programs. However, OEE stated that a departmentwide policy alone cannot adequately address each program office’s distinct needs. OEE said that a departmentwide radon policy must be supported by office-specific and program-specific policies as needed.

OEE stated that our draft report did not acknowledge (1) the complexity of different CPD housing assistance and housing types and (2) that most CPD-assisted projects will undergo the environmental review process only once. We acknowledge OEE’s concern that a

departmentwide radon policy may not be sufficient for all HUD programs that have distinct characteristics. However, once OEE develops the departmentwide policy, this should establish a baseline for the program offices to later build upon by updating or developing supplemental policies that account for the unique characteristics of their specific programs. We offer additional recommendations to the other program offices for this purpose.

We acknowledge OEE's concern that PIH is the only program office that conducts environmental reviews every 5 years and most CPD-assisted housing will undergo the environmental review process only once. We agreed with OEE's comment and revised the report to acknowledge that environmental reviews of CPD-assisted projects generally occur only for specific funding or approval actions.

Recommendations 1 and 3 will remain "unresolved-open." We will work with OEE to better understand its proposed corrective actions and to determine whether they meet the intent of the recommendations. We will also ask for target dates for completing corrective actions. After completing the corrective actions, OEE should provide us evidence of this completion, and we will consider whether the recommendations should be closed.

Recommendation 2 will remain "unresolved-open." For recommendation 2, OEE agreed with the recommendation and stated that OEE will facilitate training on HUD's radon testing and mitigation policy as OEE develops the departmentwide radon policy. We will work with OEE to better understand its proposed corrective actions and to determine whether they meet the intent of the recommendation. We will also ask for its target date for completing corrective actions. After completing the corrective actions, OEE should provide us evidence of this completion, and we will consider whether the recommendation should be closed.

### **Summary of Multifamily Comments and OIG Responses**

Multifamily submitted formal comments to our draft report and stated that it shared our concerns on radon. In its response, Multifamily did not indicate agreement or disagreement with recommendation 4. For recommendation 4, Multifamily requested that we reword the recommendation to read "[u]pdate, as needed, the current Multifamily radon policy to ensure that program activities comply with the departmentwide policy on radon testing and mitigation requirements." We did not reword the recommendation because including the phrase "as needed" would give Multifamily the flexibility to decide that no updates to its current policy were needed. At a minimum, Multifamily's revised policy should refer to the departmentwide policy that OEE creates in response to recommendation 1 and acknowledge that its policy builds upon those departmentwide requirements. Thereafter, Multifamily has the flexibility to consider what program-specific revisions are needed.

Recommendation 4 will remain "unresolved-open." We will work with Multifamily to better understand its proposed corrective actions and to determine whether they meet the intent of the recommendation. We will also ask for an indication of agreement with the recommendation and a target date for completing corrective actions. After completing corrective actions, Multifamily should provide us evidence of this completion, and we will consider whether the recommendation should be closed.

In its response, Multifamily also restated four of its technical comments previously submitted on December 20, 2020. First, Multifamily stated that our draft report inaccurately described radon policies for RAD and did not correctly place this program within Multifamily. We verified and accepted most of Multifamily's technical comments on the description of RAD. We also incorporated the discussion of RAD where we discuss Multifamily's radon policy.

Second, Multifamily stated that our draft report incorrectly described the current radon testing requirements and exemptions in the MAP Guide given the updates established in the Multifamily memorandum, "Current Radon Standards for Testing and New Construction" issued in November 2018. We verified and accepted most of Multifamily's suggested edits concerning the testing requirements and exemptions. Multifamily also noted that the updated MAP Guide published on December 18, 2020, removed the zone 3 exemption for Section 223(f) project and requires 100 percent ground floor testing instead of 25 percent sample testing. Although Multifamily released the revised MAP Guide after our fieldwork, we added a footnote explaining that the revised MAP Guide no longer allows the zone 3 exemption and requires 100 percent ground floor testing instead of 25 percent sample testing.

Third, Multifamily stated that our draft report incorrectly stated, "[a] phase I ESA makes an initial determination on the presence of hazardous substances, including radon." Multifamily further stated the phase I ESA report will not consider radon from naturally occurring sources unless this is requested as a "non-scope" item. We edited the report to note that "[a]ccording to HUD environmental officials, a phase I ESA will not consider radon from naturally occurring sources as CERCLA excludes naturally occurring radon gas."

Lastly, Multifamily stated that our draft evaluation incorrectly stated that EPA recommends radon testing every 2 years. Multifamily stated that the recommendation applies to single family homeowners that have installed a mitigation system and recommended removing these statements from our final report. Based on industry standards set by ANSI-AARST, we updated the statements to acknowledge that the 2-year testing recommendation applies after a mitigation system is installed.<sup>65</sup>

## Summary of PIH Comments and OIG Responses

We disagree with PIH's statement that it prepared formal comments without receiving our response on its technical comments. As discussed earlier, we informed the program offices that we were willing to discuss our disposition of technical comments on a comment-by-comment basis, upon request. PIH submitted questions concerning our recommendations, and we responded to PIH's questions. PIH also stated that it had to prepare the formal comments within a time-frame shorter than it had requested. We issued our draft report to HUD on November 25, 2020, and asked each program office to submit formal comments by December 30, 2020. After we briefed HUD officials on our findings and recommendations, PIH requested that we extend the deadline for formal comments to January 29, 2021. Given that multiple HUD program

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<sup>65</sup> ANSI-AARST's "Protocol for Conducting Radon and Radon Decay Product Measurements in Multifamily Buildings" (MAMF-2017) and "Protocols for Measuring Radon and Radon Decay Products in Homes" (MAH-2019) recommend radon testing every 2 years to verify that the mitigation systems remain effective. EPA has been actively participating in ANSI-AARST standards since 2012.

offices requested an extension, we extended the deadline for all formal comments to January 27, 2021, just 2 days short of PIH's requested deadline. In total, PIH had 39 business days to prepare its formal comments. Given this context, we disagree that PIH had insufficient time to prepare its formal comments.

Based on PIH's response, recommendations 5 and 6 will remain "unresolved-open." In its response, PIH disagreed with recommendation 5 and stated that the current notice (PIH 2013-06) exists "in addition to and in compliance with the cited environmental regulations." However, PIH's current radon policy (PIH 2013-06) does not meet HUD's environmental regulations as the policy states that PHAs are "strongly encouraged" to complete radon testing and follow-up with mitigation strategies "if possible." At a minimum, PIH should revise its radon policy to align with 24 CFR 50.3(i)(1) and 58.5(i)(2)(i) and describe the environmental review levels at which radon must be considered as a potential site contaminant.

PIH did not indicate agreement or disagreement with recommendation 6. Instead, PIH stated that it would continue working with internal and external HUD partners to refine and update radon policies as appropriate. PIH stated that Multifamily and PIH issued a Joint Notice H-2019-09 and PIH-2019-23, which includes updated radon testing requirements for RAD conversions. We are encouraged by the updates that Multifamily and PIH made to RAD Revision 4. However, the radon testing and mitigation requirements of RAD Revision 4 are only applicable to RAD conversions to PBV and PBRA. Once OEE develops a departmentwide radon policy, PIH should update its radon policy (PIH 2013-06) to comply with the departmentwide policy. At a minimum, PIH's revised policy should refer to the departmentwide policy that OEE creates in response to recommendation 1 and acknowledge that its policy builds upon those departmentwide requirements. Thereafter, PIH has the flexibility to consider what program-specific revisions are needed.

Recommendations 5 and 6 will remain "unresolved-open." We will work with PIH to better understand its proposed corrective actions and to determine whether they meet the intent of the recommendations. We will continue working with PIH on these recommendations in hopes of obtaining its agreement with them and its target dates for completing corrective actions. After completing the corrective actions, PIH should provide us evidence of this completion, and we will consider whether the recommendations should be closed.

In its response, PIH also provided two overall comments on our draft report. First, PIH commented on our first finding that HUD does not have a departmentwide radon policy or uniform approach to test for and mitigate excessive radon levels. PIH stated that our finding conveys that "a uniform approach is the optimal approach." PIH stated that HUD is a department with diverse programs and portfolios, and policies should account for locations, grantee engagement, funding mechanisms, and building types. PIH also stated that one-size-fits-all policies are challenging when there are varying levels of Federal funding to support the program's requirements. We acknowledge that a departmentwide radon policy may not be sufficient for all HUD programs that have distinct characteristics. For this reason, we made recommendations to each program office to update its policy after OEE develops the departmentwide policy. The departmentwide policy should establish a baseline for the program offices to later build upon by updating or developing their supplemental policies, which account

for the unique characteristics of their specific programs.

Next, PIH commented on our second finding that HUD could not confirm whether it has met certain requirements of the McKinney Amendments Act. PIH stated that we based our finding too heavily on discovering documents required by the McKinney Amendments Act from more than 30 years ago. Given the health hazards posed by exposure to excessive radon levels and the fact that the law remains in effect, we believe that confirming whether HUD has fulfilled certain requirements of the McKinney Amendments Act remains relevant. Recommendations 1 and 7 are based on meeting McKinney Amendments Act requirements—namely, developing and recommending to Congress an effective policy for dealing with radon contamination and establishing an MOU with EPA.

In addition, PIH is not responsible for implementing recommendations 1 and 7. We direct recommendations 1 and 7 to OEE and OLHCHH, respectively. OEE agreed with recommendation 1 and said that a departmentwide radon policy accompanied by revised program policies will better protect residents from the unsafe levels of indoor radon exposure. However, we acknowledge that it may be challenging to find the MOU required by the McKinney Amendments Act and are closing the recommendation based on other supporting evidence that OEE and OLHCHH provided, which demonstrated that the MOU was written.

### Summary of OLHCHH Comments and OIG Responses

We are closing recommendation 7 based on the information we received from OEE and OLHCHH. In its response, OLHCHH stated that it searched its electronic files and coordinated with other HUD program offices and EPA's Indoor Environments Division to verify that HUD had worked with the EPA to fulfill the requirements of the McKinney Amendments Act. In addition, OEE's supporting documents to its technical comments provided sufficient evidence that HUD had established the MOU with EPA to coordinate a pilot program for testing and mitigating radon in HUD-owned and subsidized properties. Because recommendation 7 is now closed, no further action is required for this recommendation.

In its response, OLHCHH restated six of its technical comments previously submitted on December 23, 2020. First, OLHCHH suggested revising the wording of recommendation 1. Recommendation 1 originally stated that the director of OEE should develop and issue a departmentwide policy “**that establishes** [emphasis added] radon as a radioactive substance” and outlines HUD's requirements to test for and mitigate excessive radon levels in accordance with 24 CFR 50.3(i)(1) and 58.5(i)(2)(i). OLHCHH suggested that we revise the recommendation to read that the director of OEE should develop and issue a policy “**that notes** [emphasis added] that radon is a radioactive substance” because scientists have already established radon as radioactive. We agreed with OLHCHH's suggestion and revised the wording of recommendation 1 accordingly.

Second, OLHCHH said that the evaluation report incorrectly states that EPA recommends radon testing every 2 years. As stated earlier, we updated statements throughout our report to acknowledge that the 2-year testing recommendation applies after a mitigation system is installed.

Third, OLHCHH said that describing radon as an “extremely toxic” material is inappropriate because radon is harmful through localized effect (DNA damage) from radiation. Although radon is the number one cause of lung cancer among nonsmokers, we edited the sentence to mirror EPA’s current definition of radon.

Fourth, OLHCHH said that our draft report incorrectly stated that the average concentration of radon in outdoor air is 4 pCi/L. The draft report correctly stated that the average concentration of radon in outdoor air is .4 pCi/L. However, we revised .4 pCi/L to 0.4 pCi/L to improve readability and prevent any further confusion.

Fifth, OLHCHH said that the draft report is misleading because it states that the average stay in assisted housing was 6 years, which places residents within the range of developing radon-induced lung cancer. OLHCHH said a person is unlikely to develop lung cancer within 6 years after radon exposure, and the 5- to 25-year latency period for radon-induced lung cancer was developed from studies on uranium miners. OLHCHH suggested that we revise the report to indicate that the increasing average stay in assisted housing would increase a person’s lifetime risk of developing lung cancer. We agreed with OLHCHH’s suggestion and made appropriate changes throughout the report. However, we still emphasize that, regardless of the radon’s latency period, part of HUD’s mission is to provide quality, affordable homes for all. The housing HUD insures and funds must be decent, safe, sanitary, and in good repair. Ensuring that the residents are protected from unsafe levels of radon will further HUD’s mission in this regard.

Lastly, OLHCHH said that the draft report incorrectly stated that environmental reviews are performed at 5-year intervals. We agreed with OLHCHH’s comment and made applicable revisions throughout the report.

## CPD Comments to the Draft Report



OFFICE OF COMMUNITY PLANNING  
AND DEVELOPMENT

U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT  
WASHINGTON, DC 20410-7000

MEMORANDUM FOR: Brian T. Pattison, Assistant Inspector General for Evaluation

FROM: Kevin Bush, Deputy Assistant Secretary for Grant Programs  
**Kevin Bush**

SUBJECT: HUD Comments for OIG Draft Evaluation Report – HUD Program Offices’ Policies and Approaches for Radon

Digitally signed by Kevin Bush  
DN: cn = Kevin Bush email = kevin.bush@hud.gov c = US  
Date: 2021.01.26 21:05:54 -0500

The Office of Environment and Energy (OEE) within the Office of Community Planning and Development (CPD) has reviewed the draft evaluation report – HUD Program Offices’ Policies and Approaches for Radon. OEE offers the following comments on the evaluation for consideration.

The HUD Office of Inspector General (OIG) conducted the evaluation to describe and compare the Office of Multifamily Housing Programs’ (Multifamily), Public and Indian Housing’s (PIH) and CPD’s radon policies and approaches to testing and mitigating residents’ exposure to elevated levels of radon. The OIG draft report found that absent a departmentwide radon policy, each program office has developed a radon policy or approach with varying degrees of testing and mitigation requirements. OIG indicated that as a result, “HUD cannot ensure that residents in HUD-assisted housing receive consistent and sufficient protection from the hazardous health effects of radon exposure.”

Generally, OEE agrees with the OIG that a departmentwide radon policy accompanied by revised program radon policies will help HUD better protect residents from the hazardous health risks of elevated levels of indoor radon exposure. The Department’s contamination policy at 24 CFR 58.5(i)(2) and 50.3(i)(1) requires properties to be free of hazardous materials, contamination, toxic chemicals and gasses, and radioactive substances where it could negatively affect the health and safety of occupants. Because radon is a radioactive substance that can be hazardous to residents at elevated levels, OEE recognizes that radon exposure should be covered in the environmental review analysis to comply with HUD’s contamination regulations. However, OEE acknowledges OIG’s concern that absent a CPD or departmentwide radon policy that explicitly requires radon testing as part of the contamination analysis, there is no standardized approach for Responsible Entities (REs) to include radon as part of the contamination analysis.

OEE has one underlying concern about the accuracy of the evaluation. OIG indicates throughout the report that environmental reviews are performed at regular, five-year intervals for all HUD-assisted properties. While PIH does conduct recurring environmental reviews covering five years for certain projects that receive continuing HUD funding, other HUD programs do not use this approach. The environmental review is tied to the funding or approval action. CPD-assisted housing projects, for instance, do not typically receive any ongoing subsidy that would trigger a subsequent environmental review beyond the initial funding action. Consequently, projects assisted

[www.hud.gov](http://www.hud.gov)

[espanol.hud.gov](http://espanol.hud.gov)

only through CPD programs will generally trigger only one opportunity to complete radon testing as part of the environmental review process.

OEE agrees with the draft report recommendations but has some concerns about the implementation. The discussion below includes OEE's and CPD's comments on the specific OIG Recommendations:

**OIG Recommendation #1:** Develop and issue a departmentwide policy that establishes radon as a radioactive substance and outlines HUD's requirements to test for and mitigate excessive radon levels in accordance with 24 CFR 50.3(i)(1) and 58.5(i)(2)(i).

**HUD Comment:** OEE agrees with the OIG that a departmentwide radon policy is needed; however, this policy is implementable only if it is accompanied by supporting office-specific, and, as needed, program-specific policies. A single departmental policy could not adequately address the distinct needs of each program office, and such packaging would not be operationally beneficial. HUD programs in CPD, PIH, and Multifamily vary greatly in the types of assistance and the method of program implementation. For instance, while PIH and Multifamily provide ongoing support and oversight of "HUD-assisted" housing, most CPD-assisted housing does not receive ongoing subsidy and, in most cases, is not subject to ongoing HUD regulatory requirements. Any departmentwide policy would have to be flexible enough to support specific program level requirements.

In addition, any radon policy established would necessarily need to consider financial implications and recognize that required testing and/or mitigation could cost anywhere between \$500 and \$5,000 per housing unit, depending on specific conditions. Such requirements would increase assistance required per unit and reduce the number of units that could be assisted under any HUD program.

OEE plans to draft a departmentwide radon policy in collaboration with the Office of Lead Hazard Control and Healthy Homes, with input from the other program offices. This policy will be very broad to ensure applicability across HUD programs. OEE and Healthy Homes will assist the program offices in their drafting of program-specific policies that indicate how they will meet or exceed any baseline policy that is developed. There is precedent for this process with [Notice SD-2017-01](#), which outlined HUD's policies for assistance in Formerly Used Defense Sites. PIH and the Office of Native American Programs (ONAP) published supplemental notices implementing additional restrictions beyond the baseline requirements ([PIH-2017-25](#) and [PIH-2018-08](#)).

**OIG Recommendation #2:** Develop and provide training for applicable program staff, grantees, and PHAs on radon testing and mitigation requirements.

**HUD Comment:** OEE agrees with OIG that training on any new departmentwide policy for radon is necessary, and this Office intends to facilitate training on HUD's radon testing and mitigation policy as it is developed. OEE anticipates requiring additional technical assistance funding to implement trainings across HUD programs for both internal and external audiences.

**OIG Recommendation #3:** Develop and implement an effective CPD radon policy<sup>1</sup> to ensure that program activities comply with the departmentwide policy on radon testing and mitigation requirements.

HUD Comment: OEE agrees with the recommendation that a CPD radon policy is needed, but is concerned that the report does not acknowledge the complexity created by the broad range of forms of housing assistance and housing types assisted with CPD funds (e.g., rehabilitation for existing homeowners, rehab or construction of housing for homebuyers, rehab of non-residential buildings, direct financial assistance to homebuyers, tenant-based rental assistance, sponsor-based rental assistance, temporary shelters, transitional housing, operating assistance, etc.). Accordingly, any program policy established would have to be flexible enough to cover the broad spectrum of location(s), funding mechanisms, and building types covered by CPD programs. Program level policies would also need to consider compliance and monitoring for any requirements passed on to grantees.

The evaluation report also does not recognize that most CPD assisted housing will undergo the environmental review process only once. Consequently, a CPD radon policy would have to reflect this complexity and the resulting limitations of any policy. Reliance on the environmental review process could be problematic long-term because most CPD-assisted housing projects do not receive ongoing subsidy that would trigger radon testing over time, and because most CPD-assisted housing is not subject to HUD-required ongoing inspections. Any policy established may need to consider the EPA recommendation for periodic testing of properties that have been mitigated for elevated radon levels in order to protect human health, particularly in the context of single-family owner-occupied housing that may only benefit from HUD assistance on a one-time basis.

Radon exposures over time could be addressed by requiring use of radon-resistant construction techniques at new construction, rehabilitation, or acquisition, as well as explicitly requiring mitigation of elevated radon levels. However, this construction requirement may require proposed and final rulemaking. Such requirements would increase assistance required per unit and reduce the number of units that could be assisted.

Following the development of a departmentwide radon testing and mitigation policy, OEE will prepare an accompanying policy for CPD programs. OEE will work closely with CPD program staff to identify testing and mitigation procedures or standards that address the specific needs of these programs.

If you have any questions regarding this response, please contact Liz Zepeda, Acting Director, Office of Environment and Energy, at (202) 402-3988.

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<sup>1</sup> OEE recommends revising the recommendation's wording to distinguish the radon policy intended to be covered by the recommendation from the "departmentwide policy" with which the CPD radon policy should comply.

## Multifamily Comments to the Draft Report



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

OFFICE OF HOUSING

MEMORANDUM FOR: Brian Pattison, Assistant Inspector General for Evaluation, Office of Inspector General

FROM: **JEFFREY LITTLE**  
Jeffrey Little, Acting Deputy Assistant Secretary for Multifamily Housing Programs

SUBJECT: HUD Comments for OIG Draft Evaluation Report – HUD Program Offices’ Policies and Approaches for Radon 2020-OE-0003

Digitally signed by JEFFREY LITTLE  
Date: 2021.01.22 13:23:22 -05'00'

The Office of Multifamily Housing (Multifamily) has reviewed the draft evaluation report – HUD Program Offices’ Policies and Approaches for Radon. Multifamily offers the following comments on the evaluation for consideration.

The HUD Office of Inspector General (OIG) conducted the evaluation to describe and compare the Office of Multifamily Housing Programs’ (Multifamily), Public and Indian Housing’s (PIH) and Community Planning and Development’s (CPD) radon policies and approaches to testing and mitigating residents’ exposure to elevated levels of radon. The OIG draft report found that absent a departmentwide radon policy, each program office has developed a radon policy or approach with varying degrees of testing and mitigation requirements. OIG indicated that as a result, “HUD cannot ensure that residents in HUD-assisted housing receive consistent and sufficient protection from the hazardous health effects of radon exposure.”

Multifamily shares the OIG’s concerns about radon and appreciates the opportunity to describe its radon policies. Multifamily submitted extensive technical comments on December 18<sup>th</sup>, 2020 but is unsure whether the OIG has incorporated these comments into its document. We are therefore highlighting the same issues in this formal response so they will be part of the public record.

**Comment 1: RAD Program.** The OIG’s draft evaluation report did not correctly describe the radon policies for the RAD program and did not place this program within Multifamily. We recommend incorporating discussion of the RAD program into the discussion of the Multifamily radon policies and offer a summary below of the correct RAD radon policy.

Multifamily and PIH issued Joint Notice H-2019-09 and PIH-2019-23, also known as RAD Revision 4, which include radon testing requirements for RAD conversions. Under RAD Revision 4, Multifamily and PIH require radon testing for all conversions, unless an exception applies. RAD conversions that do not entail any rehabilitation above Limited Maintenance (Notice CPD-16-02), construction, or demolition and not in a high-risk radon zone are not required to

provide a radon report but are strongly encouraged to. Reporting requirements depend on (1) type of RAD conversion, either PBRA or PBV, and (2) whether the conversion utilizes FHA mortgage insurance. The table below outlines radon testing and mitigation requirements for the different types of RAD conversions. More details found in our technical submission and in the document “Environmental Review Requirements for RAD Transactions.” <https://files.hudexchange.info/resources/documents/Environmental-Review-Requirements-for-RAD-Transactions.pdf>

Radon testing and mitigation requirements for RAD conversions

Conversion Type	Scope of Work	Requirements
Part 58 PBV	Rehab and/or Demo	(a) A statement declaring that the RE considered radon according to local or state requirements; or (b) RE had not considered radon as part of its review, either a Radon Report consistent with the requirements of the Section 9.5.C of the MAP Guide (or successor provision) for HUD to review or a statement that the property is exempt from submission of a Radon Report per the MAP Guide.
Part 58 PBV	None or not above Limited Maintenance	Project is encouraged, but not required to submit a Radon Report.
Part 50 Non-FHA	Rehab and/or Demo	Chapter 9.5C of the MAP Guide (or successor provision) for HUD to review or a statement that the property is exempt from submission of a Radon Report per the MAP Guide.
Part 50 Non-FHA	None or not above Limited Maintenance that have a low radon risk	Project is encouraged, but not required, to submit a Radon Report.
Part 50 FHA	223(f) or 221(d)(4)	Chapter 9.5C of the MAP Guide (or successor provision) for HUD to review or a statement that the property is exempt from submission of a Radon Report per the MAP Guide.

**Comment 2: Multifamily MAP Guide Radon Policy.** The OIG’s draft evaluation did not correctly describe the testing requirements or the exemptions in the 2016 MAP Guide as updated by the November 2018 Multifamily memo titled “Current Radon Standards for Testing and New Construction.” We recommend incorporating the suggested edits from our technical comment submission.

We would also like to note that the 2020 MAP Guide (published December 18, 2020) removes the exemption for 223(f)s in EPA Radon Zone 3 and requires 100% ground floor testing instead of a 25% sample.

**Comment 3: Radon and Phase I reports.** The OIG’s draft evaluation incorrectly states, “A phase I ESA makes an initial determination on the presence of hazardous substances, including radon.” In fact, the Phase I ESA report will not consider radon from naturally occurring sources unless this is requested as a ‘non-scope’ item. A Phase I user could ask to include radon as a ‘non scope’ item, but this would be done by a separate professional from the ASTM preparer (unless the preparer is also certified as a radon professional.) There are different professional

qualifications and certifications for ASTM Phase I environmental professionals and for radon professionals. We recommend removing discussion of Phase I ESAs from this report.

**Comment 4: EPA and Radon Testing.** The OIG’s draft evaluation incorrectly states several times that EPA recommends radon testing every two years. HUD has confirmed with EPA that the recommendation in “The Consumer’s Guide to Radon Reduction: How to Fix Your Home” and “A Citizen’s Guide to Radon” applies to single family homeowners that have installed a mitigation system. EPA has not made a general recommendation about testing frequency. We therefore recommend removing these statements from the OIG report.

The discussion below includes Multifamily’s comments on the specific OIG Recommendations:

**OIG Recommendation #4:** Update the current Multifamily radon policy to ensure that program activities comply with the departmentwide policy on radon testing and mitigation requirements.

**HUD Comment:** Housing recommends editing this recommendation to read “Update, as needed, the current Multifamily radon policy to ensure that program activities comply with the departmentwide policy on radon testing and mitigation requirements.”

Housing is leading the industry on radon policy. HUD’s Office of Multifamily Housing received the American Association of Radon Scientists and Technologists (AARST) Policy Leadership Award for “Leadership in Establishing and Implementing Effective Radon Risk Reduction Policies that Save Lives” in September 2019. Multifamily continuously refines radon policy in the MAP guide and the RAD program in coordination with HUD’s Office of Healthy Homes, EPA and with the ANSI-AARST radon standards.

Housing’s FHA programs are different from other HUD programs in that they involve real-estate transactions with lenders that are positioned and required to hire environmental review professionals. In RAD, the program also involves real estate transactions (frequently combined with FHA) and because it is a demonstration program the Department can establish alternative requirements that PHAs and owners must satisfy as a condition of participation. HUD’s ability to impose these radon requirements is not the same in other programs.

Multifamily will work with HUD’s Office of Environment and Energy and Office of Healthy Homes on developing a baseline approach and does not anticipate needing to update its specific policies as a result.

Should you have any questions regarding these draft audit report comments, please do not hesitate to contact me or Sara Jensen, Housing Program Environmental Clearance Officer, at [sara.jensen@hud.gov](mailto:sara.jensen@hud.gov) or 206-220-5226.

## PIH Comments to the Draft Report



U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT  
WASHINGTON, DC 20410-5000

OFFICE OF PUBLIC AND INDIAN HOUSING

DATE: January 27, 2021

MEMORANDUM FOR: Brian Pattison, Assistant Inspector General for Evaluation, Office of Inspector General

FROM: Robert Mulderig, Deputy Assistant Secretary for Office of Public Housing Investments, Office of Public and Indian Housing, *R. S. Mulderig*

SUBJECT: HUD Comments for OIG Draft Evaluation Report 2020-OE-0003—HUD Program Offices' Policies and Approaches for Radon

The Department of Housing and Urban Development's (HUD) Office of Public and Indian Housing (PIH) has reviewed HUD's Office of the Inspector General's (OIG) draft evaluation report—*HUD Program Offices' Policies and Approaches for Radon*—which OIG provided to PIH on November 25, 2020. Since PIH's Program Environmental Clearance Officers for public housing are based within the Office of Public Housing Investments, I am providing these consolidated comments on behalf of the multiple public housing-related offices of PIH.

The OIG Office of Evaluation conducted the evaluation to describe and compare the Office of Multifamily Housing Programs' (Multifamily), Community Planning and Development's (CPD), and PIH's policies, approaches to testing, and mitigation strategies with regards to radon. Secondly, the evaluation was to determine whether HUD has met certain radon policy and coordination requirements of the 1988 Stewart B. McKinney Homeless Assistance Amendments Act (McKinney Act).

On January 11, 2021, PIH submitted to the OIG extensive technical comments. PIH prepared these additional comments without response from the OIG on our initial comments, and in a time frame shorter than requested to consider competing priorities with COVID-19 emergency response and the administration transition.

PIH takes the issue of exposure to elevated levels of radon seriously and appreciates OIG's focus on this issue for evaluation. For fiscal year 2021, PIH requested and was funded for a \$4 million demonstration radon testing and mitigation grant program. PIH looks forward to working with the Office of Lead Hazard Control and Healthy Homes to design a successful demonstration program for public housing. From this work, PIH expects to enhance radon guidance for PHAs. Radon testing and mitigation will also be included in a future competitive capital fund program to address housing-related hazards.

For your consideration, PIH offers the following comments:



U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT  
WASHINGTON, DC 20410-5000

OFFICE OF PUBLIC AND INDIAN HOUSING

**Comment 1: Departmentwide uniform approach.** The first finding in the evaluation asserts that “*HUD Does Not Have a Departmentwide Radon Policy or Uniform Approach to Test for and Mitigate Excessive Radon Levels, Which Poses Health Risks to Residents.*” PIH believes this language conveys to the reader that a *uniform* approach is the *optimal* approach. HUD is a department with diverse programs and portfolios and policies should account for locations, grantee engagement, funding mechanisms, and building types. One-size-fits-all policies are challenging when there are varying levels of federal funding to support the program’s requirements.

**Comment 2: McKinney Act requirements.** The second finding states “*HUD Could Not Confirm Whether It Has Met Certain Requirements of the McKinney Amendments Act.*” PIH is concerned that OIG is basing this finding too heavily on the discovery of specific documents from over 30 years ago requested in the McKinney Act section. The coordination that the amendment section encourages with the Environmental Protection Agency (EPA) has only expanded since that time, and now includes HUD and eight other participating agencies in the Federal Radon Action Plan (FRAP). In 2015, eight nongovernmental organizations (NGOs) from industry and the not-for-profit sector joined the federal agencies in the National Radon Action Plan (NRAP), which has built upon the FRAP efforts.

The following includes PIH’s comments on the specific OIG Recommendations:

**OIG Recommendation #1:** Develop and issue a Departmentwide policy that establishes radon as a radioactive substance and outlines HUD’s requirements to test for and mitigate excessive radon levels in accordance with 24 CFR 50.3(i)(1) and 58.5(i)(2)(i).

**PIH Comment:** PIH believes that any such policy must necessarily take into account the specific programs and portfolios administered in the Department and include understanding of locations, grantee engagement, funding mechanisms, and building types.

**OIG Recommendation #2:** Develop and provide training for applicable program staff, grantees, and PHAs on radon testing and mitigation requirements.

**PIH Comment:** PIH agrees with this recommendation. Guidance on radon awareness, testing and mitigation has focused on a single-family homeowner audience. PIH agrees that guidance that is aimed at a multifamily rental property manager audience will benefit HUD grantees including PHAs.

**OIG Recommendation #3:** Develop and implement an effective radon policy to ensure that program activities comply with the Departmentwide policy on radon testing and mitigation requirements.



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WASHINGTON, DC 20410-5000

OFFICE OF PUBLIC AND INDIAN HOUSING

**PIH Comment:** PIH is concerned that environmental review analysis is not the correct placement for a Departmentwide radon policy to apply consistently across the different HUD-assisted portfolios.

**OIG Recommendation #5:** That PIH's Office of Policy, Programs, and Legislative Initiatives revise the current PIH radon policy to comply with 24 CFR 50.3(i)(1) and 58.5(i)(2)(i).

**PIH Comment:** PIH disagrees with this recommendation. The current notice is in addition to and in compliance with the cited environmental regulations.

**OIG Recommendation #6:** That PIH's Office of Policy, Programs, and Legislative Initiatives update the PIH radon policy to ensure that program activities comply with the Departmentwide policy on radon testing and mitigation requirements.

**PIH Comment:** PIH will continue to work in coordination with partners in the Department and outside partner agencies to refine and update radon policies as appropriate. PIH and Multifamily issued a joint Notice H-2019-09 and PIH-2019-23, also known as Rental Assistance Demonstration (RAD) Revision 4, which includes updated radon testing requirements for RAD conversions. This updated notice was developed in coordination with Multifamily, HUD's Office of Healthy Homes, EPA and with the ANSI-AARST radon standards.

**OIG Recommendation #7:** Provide the MOU with EPA designed to address radon contamination.

**PIH Comment:** As mentioned above, PIH is concerned that OIG's findings and this recommendation place undue importance on the discovery of physical documents from decades ago. As the draft report states, this evaluation was launched and concluded during an acute public health crisis and pandemic that has restricted ability to locate these physical documents from over 30 years ago. Even if access to resources such as the HUD library or National Archives resumes, the constructive benefit of locating this memorandum of understanding (MOU) is unclear. There are current and ongoing partnerships with EPA and eight other Federal partners that have advanced well beyond this decades-old MOU.

Should you have any questions regarding these draft audit report comments, please do not hesitate to contact Justin Gray of my office. Thank you for the opportunity to provide these comments on behalf of PIH.

## OLHCHH Comments to the Draft Report



OFFICE OF LEAD HAZARD CONTROL  
AND HEALTHY HOMES

U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT  
WASHINGTON, DC 20410-3000

January 27, 2021

MEMORANDUM FOR: Brian T. Pattison, Assistant Inspector General for Evaluation

FROM: *MF* for Michelle Miller, Acting Director  
Office of Lead Hazard Control and Healthy Homes

SUBJECT: HUD OLHCHH Comments for OIG Draft Evaluation Report –  
HUD Program Offices’ Policies and Approaches for Radon, 2020-  
OE-0003

The Office of Lead Hazard Control and Healthy Homes (OLHCHH) has reviewed the Office of Inspector General’s Office (OIG) November 25, 2020 draft evaluation report titled “HUD Program Offices’ Policies and Approaches for Radon.” OLHCHH offers the following comments on the draft report for consideration.

The OIG evaluated existing radon policies for the Offices of Multifamily Housing Programs (Multifamily), Public and Indian Housing (PIH), and Community Planning and Development (CPD) radon policies and approaches to testing and mitigating residents’ exposure to elevated levels of radon. The OIG’s assessment was that the Department lacks a consistent approach to testing and mitigating radon exposure, thus, “cannot ensure that residents in HUD-assisted housing receive consistent and sufficient protection from the hazardous health effects of radon exposure.”

OLHCHH appreciates this opportunity to summarize and submit the more significant programmatic comments to the OIG’s draft report. Additional comments can be found in our technical comments table, submitted on December 23, 2020. We maintain that making the suggested corrections is important for conveying accurate facts in the final published report, a public record. The corrections will also support the OLHCHH’s ongoing collaboration with the program offices, particularly as it relates to developing a Departmental radon policy as well as program-specific radon policies. OLHCHH offers the following:

1. The OLHCHH will work with OEE and the program offices to develop the Departmental radon policy, Office-specific radon policies, and, when applicable, program-specific radon policies. Related to this, OLHCHH requests that OIG correct the Table of Contents, Recommendation 1, and related wording. The recommendation that OEE “establish[] radon as a radioactive substance” or “formally define” it as such is incorrect. Radon was established as being a radioactive element over a century ago by scientists. Please revise the recommendation to state: “...policy that notes that radon is a radioactive substance...” and the accompanying text to: “a departmentwide policy that notes that radon is a radioactive substance.”

[www.hud.gov](http://www.hud.gov)

[espanol.hud.gov](http://espanol.hud.gov)

2. The draft report, in the Executive Summary and on pages 3, 12, 16, and 17, states that EPA recommends that radon testing occur every 2 years. This is incorrect. The OLVHCHH verified with EPA that the [Citizen's Guide to Radon](#), on page 10, correctly reflects EPA guidance in recommending retesting at 2-year intervals after installation of a mitigation system. We request the published report be corrected by deleting reference to an EPA recommendation to radon testing every 2 years that does not exist.
3. The draft report, on page 3, incorrectly states that radon is defined as an "extremely toxic" material. The term "extremely toxic," as used to describe radon, is inappropriate for a substance that is harmful through localized effect (DNA damage) from radiation. OLVHCHH staff inquired with EPA radon program colleagues on this use of the terminology and learned that it was used in a web-posted frequently asked question (FAQ) in response to the question: "[What is Radon?](#)" (a source published in 1988 was cited to support the definition). CDC confirmed that they did not use the term "toxic" to describe radon in any of their health-related literature. Based on these inquiries, the EPA has removed this definition from their "What is Radon?" FAQ. Please revise the first paragraph in the Background section of the draft report to read as follows:

EPA describes radon as a radioactive gas that forms naturally with uranium, thorium, or radium, which are radioactive metals that break down in rocks, soil and groundwater. Radon can be emitted into the air and can accumulate in buildings. Once inhaled, radon can settle in the lungs, where it will emit radiation. According to EPA, exposure to radon is the number one cause of lung cancer among nonsmokers. A 2003 EPA estimate, the most recent available, stated that approximately 21,000 people in the United States die from radon-induced lung cancer annually. Lung cancer is the only health effect definitively linked to radon exposure.

4. The draft report, on page 4, incorrectly states that the average concentration of radon in outdoor air is 4 pCi/L. The EPA's "Citizen's Guide to Radon" indicates that the average concentration of radon in outdoor air is about 0.4 pCi/L, which is about one tenth of EPA's action level. Please correct the sentence's "4 pCi/L" to "0.4 pCi/L".
5. The draft report, on page 5, states that the average stay in assisted housing was 6 years, and asserts that this places residents within the range of developing radon-induced lung cancer. The phrasing is questionable regarding duration of exposure to elevated levels. The risk of lung cancer from radon is based on the cumulative exposure over time. The sentence is misleading because it is very unlikely that a person would develop lung cancer within a 6-year period from exposure to radon in their home. Rather, it would increase a person's lifetime risk of developing lung cancer. The 5-25 year latency period for radon-induced lung cancer was developed from studies on uranium miners who were exposed to much higher radon levels than those found in housing and whose exposures could be documented through employment records (see page 4 of the American Lung Association guidance, [Reducing the Risks From Radon: Information and Interventions – A Guide for Health Care Providers](#)). When EPA estimates risk from radon exposures at or above their action level, they base it on a lifetime exposure of about 75 years (see the footnote for the risk tables on

page 12 of EPA's "[A Citizen's Guide to Radon](#)"). Please revise the text by stating: "...the average stay was 6 years, slightly increasing the lifetime risk of radon-induced cancer if radon is present at levels above the EPA's action level of 4 pCi/L."

6. The draft report, on page 7 second paragraph, misleadingly indicates that environmental reviews are performed at regular (5-year) intervals. HUD's environmental regulations at 24 CFR Parts 50 or 58 are triggered when there is a proposed project (HUD funding to assist/pay for a program-eligible activity or project) that is not exempt under 24 CFR §§ 50.4 or 58.34, as applicable, and not categorically excluded not subject to the related laws and authorities (CENST) under 24 CFR §§ 50.19(b) or 58.35(b). The word "all" should be replaced in the first sentence with "certain", and "periodically" should be deleted.
7. The OIG's draft report recommends, on page 23, that the OLHCHH provide the radon memorandum of understanding (MOU) with EPA. This statement is misdirected. The OLHCHH, under its initial antecedent name, the Office of Lead Based Paint and Poisoning Prevention, did not exist when the requirement was established by the McKinney Amendments Act ([Pub. L. 100-628, § 1091\(b\)\(5\), 102 Stat. 3283 at 3284, 15 U.S.C. 2661 Note](#)), enacted on November 7, 1988. The OLBAPP was not authorized until three years later, on October 28, 1991 ([Pub. L. 102-139, 105 Stat. 736 at 753](#)), and began its business, dealing with lead paint safety issues, in early 1992. Thus, the Office had no involvement with the MOU, any resulting IAA, nor the resulting report.

OLHCHH did, however, conduct a thorough search of its electronic files, and inquired with other HUD program offices and with EPA's Indoor Environments Division, in an effort to verify that HUD did in fact collaborate with EPA on the McKinney Act Amendments. Although there is electronic evidence of the HUD-EPA MOU, a search for a paper copy of the document cannot be conducted due to the inability to access archived files as a result of COVID-19 safety precautions; also, given the passage of over 2½ decades, the document may well no longer be on file electronically or on paper. Nevertheless, we believe the interagency collaborative groundwork was laid in the 1990s for what we have today, namely, the results of the [Federal Radon Action Plan](#) (2010-2016), and now the ongoing work under the [National Radon Action Plan](#) (starting in 2015). HUD, through OLHCHH, has been a member of these action plan groups since their foundation, as has EPA.

At this point, establishing a HUD-EPA radon MOU on how HUD will assist EPA "to assess the extent of radon contamination in the United States and assist in the development of measures to avoid and reduce radon contamination," as per the McKinney Act Amendments, would simply result in a document that reiterates the agencies' roles going forward in implementing those activities under the National Radon Action Plan.

Given this brief history of events, OLHCHH believes it significantly more useful programmatically for the recommendation to be revised to the following:

**7. Document HUD's collaboration with EPA to address radon contamination.** HUD, through OEE, with OLHCHH's, PD&R's, and program offices' support, will document and summarize its available records of radon collaboration with EPA in

support of HUD's assisting EPA in assessing radon contamination in the United States and developing measures to avoid and reduce radon contamination.

As the Department's housing-related health authority, OLHCHH is prepared for, and looks forward to, continued collaborative working relationships with OEE and the program offices to develop relevant and appropriate radon testing and mitigation policies to protect the residents HUD serves.

Should you have questions regarding our comments, please contact Karen Griego, OLHCHH Program Environmental Control Officer, or Dr. Warren Friedman, Senior Advisor, of my staff.

## Appendixes

### Appendix A – Average Length of Stay of Households in Assisted Housing by Program and by Year of Exit

In 2017, the PD&R released a study, Length of Stay in Assisted Housing, which examined the length of time that households participate in HUD-assisted housing programs. PD&R used administrative data from 1995 through 2015 for its study. It found that the typical household in assisted housing stays for about 6 years and that the average length of stay in assisted housing is generally increasing. Figure 4 below summarizes PD&R's findings by program and by year of exit.

**Figure 4 – Average household length of stay in assisted housing (in years) by program and year of exit**

Year of exit	Housing Choice Voucher Program <sup>66</sup>	Public housing <sup>67</sup>	Moving to Work <sup>68</sup>	Section 8 project-based <sup>69</sup>	Section 202-8	Section 202-811-162 PRAC <sup>70</sup>	All programs
1995	0.9	4.6	-	-	-	-	3.5
1996	1.3	4.8	-	-	-	-	3.5
1997	1.6	4.6	-	-	-	-	3.4
1998	1.7	4.2	-	5.3	6.2	2.0	4.5
1999	2.6	3.9	-	5.0	6.2	2.2	3.8
2000	3.6	4.3	-	5.0	6.2	2.5	4.4
2001	3.8	5.0	-	4.5	6.0	2.6	4.4
2002	3.6	5.3	-	4.5	6.1	2.8	4.4
2003	3.6	5.1	-	4.5	6.0	2.4	4.4
2004	4.0	5.7	-	4.7	6.1	2.5	4.8
2005	4.5	6.0	-	4.7	6.2	2.6	5.0
2006	4.9	6.8	5.0	4.7	6.2	2.8	5.5
2007	4.9	6.1	5.5	4.7	6.2	2.9	5.3
2008	5.1	5.6	6.2	4.8	6.2	2.9	5.2
2009	5.4	5.5	5.5	4.9	6.3	3.1	5.3
2010	5.8	5.9	6.6	5.0	6.4	3.3	5.6
2011	5.8	5.5	6.2	5.0	6.4	3.4	5.5
2012	5.7	5.4	6.1	5.0	6.5	3.5	5.4
2013	6.0	5.5	5.4	5.1	6.5	3.8	5.6
2014	6.5	5.8	6.2	5.1	6.7	4.1	5.9
2015	6.6	5.9	5.7	5.3	6.7	4.3	6.0

<sup>66</sup> Housing Choice Voucher Program includes Section 8 tenant-based certificates.

<sup>67</sup> Public housing includes only units administered by non-Moving to Work public housing agencies.

<sup>68</sup> Moving to Work units include both project-based and tenant-based units.

<sup>69</sup> Section 8 project-based units do not include Section 202-8 units.

<sup>70</sup> PRAC stands for the Project Rental Assistance Contract program.

## Appendix B – Criteria

### Stewart B. McKinney Homeless Assistance Amendments Act of 1988, Also Known as Public Law 100-628

Section 1091 of the McKinney Amendments Act required HUD to develop an effective departmental policy for dealing with radon contamination and to assist the EPA in reducing radon contamination. More specifically, the McKinney Amendments Act required HUD to:

- Develop and recommend to Congress a policy for dealing with radon contamination.
- Submit a report to Congress describing the recommended policy for dealing with radon contamination within 1 year after the enactment. The report should describe HUD’s reasons for recommending the policy and an estimate of the housing that is likely to have hazardous levels of radon.
- Establish an MOU with EPA describing HUD’s plan to assist EPA in assessing the radon contamination in the United States and developing measures to avoid and reduce radon contamination.

### 24 CFR Parts 50 and 58

Regulations at 24 CFR (Code of Federal Regulations) parts 50 and 58 are HUD’s environmental regulations, which include requirements for environmental reviews that apply to HUD-assisted projects. Regulations at 24 CFR part 58 apply when REs assume HUD’s responsibility for performing an environmental review. Regulations at 24 CFR part 58 apply to the following HUD programs.

#### I. Housing:

- Housing Risk Share (542(c))

#### II. PIH:

- Section 8 Moderate Rehabilitation for Single Room Occupancy
- Public Housing Capital Fund
- Public Housing Operating Fund
- Choice Neighborhoods
- Public Housing Energy Performance Contracts
- HOPE VI
- RAD conversions to PBV
- Demolition-/disposition
- Home ownership
- Mixed-finance public housing
- Moderate Rehabilitation
- PBV

### III. Office of Native American Programs:

- Indian Housing Block Grant Program
- Title VI Loan Guarantee Program
- Native Hawaiian Housing Block Grant Program
- Indian Community Development Block Program
- Section 184 Indian Home Loan Guarantee Program
- Section 184A Native Hawaiian Home Loan Guarantee Program

### IV. CPD:

- Community Development Block Grant (CDBG) Program
- CDBG Disaster Recovery
- Continuum of Care Program
- Emergency Shelter Grants-Emergency Solutions Grant Programs
- Housing Opportunities for Persons With AIDS
- HOME Investment Partnerships Program
- Neighborhood Stabilization Program-1
- Neighborhood Stabilization Program-2
- Neighborhood Stabilization Program-3
- Section 108 Loan Guarantees
- Self-help Homeownership Opportunity Program (SHOP)
- Economic Development Initiative Grants
- Brownfield Economic Development Initiative Grants

### V. OLHCHH:

- Lead-Based Paint Hazard Control Grant Program
- Lead Hazard Reduction Demonstration Grant Program
- Healthy Homes Production Grant Program
- Lead Technical Studies Grant Program
- Healthy Homes Technical Studies Grant Program

Projects and activities are normally subject to the regulatory requirements of 24 CFR part 58, unless one of the following circumstances occurs:

- When the recipient of HUD assistance claims the lack of legal capacity to assume HUD's environmental review responsibilities and HUD approves the claim.
- When HUD decides to conduct an environmental review instead of an RE.

Under these circumstances, the project and activities are subject to the regulatory requirements of 24 CFR part 50 when HUD performs the environmental review.

## **HUD Notices**

### *Notice H 2013-03 Issued by the Office of Multifamily Housing Programs*

On January 31, 2013, the Multifamily established its radon policy by issuing Notice H 2013-03. Notice H 2013-03 describes requirements and exceptions for radon testing and mitigation. Notice H 2013-03 also specifies that the action level for radon is 4 pCi/L. In 2016, Multifamily incorporated Notice H 2013-03 into chapter 9 of the MAP Guide, which HUD staff and FHA mortgage insurance lenders must follow.

### *PIH Notices*

#### 1. Notice PIH 2013-06

On February 4, 2013, PIH issued Notice PIH 2013-06, which applies to PHAs that administer the public housing programs and Housing Choice Voucher Program. In Notice PIH 2013-06, PIH strongly encourages PHAs to “proactively plan and complete radon testing and follow-up with mitigation strategies if possible, especially when excessive radon levels are present.”

#### 2. Notice PIH 2016-22

On December 5, 2016, PIH issued Notice PIH 2016-22 to provide information and guidance regarding PHAs’ compliance with the National Environmental Policy Act of 1969 and other related laws and regulations. More specifically, Notice PIH 2016-22 provides PHAs with submission and processing requirements for environmental reviews using a 5-year submission period. According to Notice PIH 2016-22, HUD considers an environmental review for a specific project valid for up to 5 years unless the project scope or environmental conditions change.

### *CPD Notices*

#### 1. Notice CPD-14-03

On March 1, 2014, CPD issued Notice CPD-14-03 to provide a methodology for risk analysis of REs used to establish priorities for monitoring REs. Notice CPD-14-03 provides regional and field environmental officers with procedures for ranking REs by risk to prioritize the REs at the highest risk for environmental compliance for monitoring within the available resources.

#### 2. Notice CPD-16-02

On February 8, 2016, CPD issued Notice CPD-16-02 to provide guidance on categorizing an activity as maintenance for purposes of compliance with HUD’s environmental regulations, 24 CFR parts 50 and 58. In Notice CPD-16-02, CPD states that “in general, maintenance activities slow or halt deterioration of a building and do not materially add to its value or adapt it to new uses.”

### 3. Notice CPD-16-12

On August 8, 2016, CPD issued Notice CPD-16-12 to provide CPD staff, SHOP grantees, SHOP affiliates, and REs with guidance on environmental review procedures for SHOP.

#### *Joint Notice H-2019-09 and PIH-2019-23 Issued by Multifamily and PIH*

On September 5, 2019, Multifamily and PIH issued Joint Notice H-2019-09 and PIH-2019-23 to provide program instructions for RAD, including eligibility and selection criteria. Joint Notice H-2019-09 and PIH-2019-23 also include radon testing and mitigation requirements for RAD conversions.

### **HUD Guide and Handbook**

#### *MAP Guide*

Multifamily originally published the MAP guide in May 2000 to provide national standards for approved lenders to prepare, process, and submit loan applications for FHA multifamily mortgage insurance. Multifamily revised the MAP Guide in 2002, 2011, and 2016. Chapter 9 of the MAP Guide outlines the policies and procedures that HUD staff and the lenders for FHA mortgage insurance programs must follow to meet their environmental responsibilities. The MAP Guide applies to the FHA mortgage insurance applications for the following programs: Section 220, Section 221(d)(4), Section 223(a)(7), Section 231, and Section 241(a).

## Appendix C – Acknowledgements

This report was prepared under the direction of Brian T. Pattison, Assistant Inspector General for Evaluation; Paul H. Bergstrand, Director of the Program Evaluations Division; and Lindsay Clarke Brubaker, Supervisory Evaluator. The Office of Evaluation staff members who contributed are recognized below.

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## Appendix D – Acronyms

ACRONYM	DEFINITION
<b>ANSI-AARST</b>	American National Standards Institute-American Association of Radon Scientists and Technologists
<b>CENST</b>	categorically excluded not subject to
<b>CERCLA</b>	Comprehensive Environmental Response, Compensation, and Liability Act
<b>CEST</b>	categorically excluded subject to
<b>CDBG</b>	Community Development Block Grant
<b>CDC</b>	Centers for Disease Control and Prevention
<b>CFR</b>	Code of Federal Regulations
<b>CPD</b>	Office of Community Planning and Development
<b>EPA</b>	U.S. Environmental Protection Agency
<b>ESA</b>	environmental site assessment
<b>FHA</b>	Federal Housing Administration
<b>FRAP</b>	Federal Radon Action Plan
<b>GAO</b>	U.S. Government Accountability Office
<b>HEROS</b>	HUD Environmental Review Online System
<b>HUD</b>	U.S. Department of Housing and Urban Development
<b>MAP Guide</b>	Multifamily Accelerated Processing Guide
<b>MOU</b>	memorandum of understanding
<b>Multifamily</b>	Office of Multifamily Housing Programs
<b>NRAP</b>	National Radon Action Plan
<b>OEE</b>	Office of Environment and Energy
<b>OIG</b>	Office of Inspector General
<b>OLHCHH</b>	Office of Lead Hazard Control and Healthy Homes
<b>PBRA</b>	project-based rental assistance
<b>PBV</b>	project-based voucher
<b>pCi/L</b>	picocuries per liter of air
<b>PD&amp;R</b>	Office of Policy Development and Research
<b>PECO</b>	program environmental clearance officer
<b>PHA</b>	public housing agency
<b>PIH</b>	Office of Public and Indian Housing
<b>RAD</b>	Rental Assistance Demonstration Program
<b>RE</b>	responsible entity
<b>SHOP</b>	Self-help Homeownership Opportunity Program



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**Program Evaluations Division**