



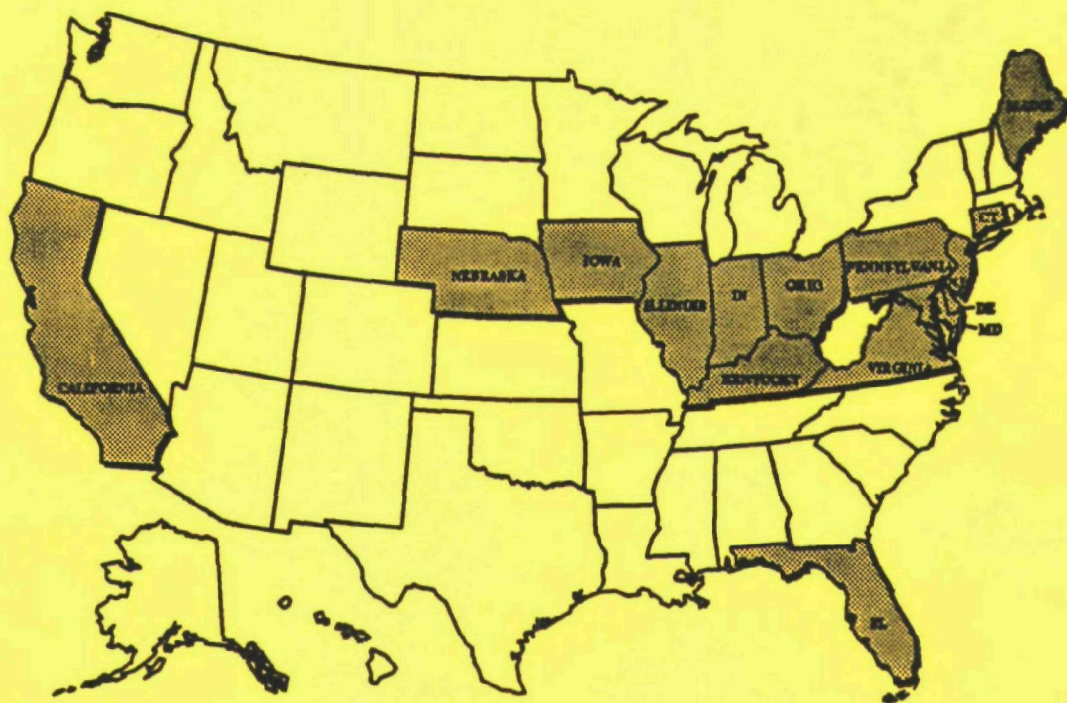
United States  
Environmental Protection  
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Office of  
Air and Radiation



Endorsed by the Executive Board  
Conference of Radiation Control Program Directors

# STRATEGY FOR FEDERAL/STATE COOPERATION ON RADON CERTIFICATION PROGRAM DEVELOPMENT



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**STRATEGY FOR FEDERAL/STATE COOPERATION ON RADON  
CERTIFICATION PROGRAM DEVELOPMENT**

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# **STATE RADON CERTIFICATION GUIDANCE**

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## **I. INTRODUCTION**

### **A. Background**

Radon is a colorless, odorless gas formed by the decay of radium and uranium. Based on current data, radon is the second leading cause of lung cancer in the United States. The Environmental Protection Agency (EPA) established the Radon Action Program (RAP) in 1985 to address this serious public health problem.

The RAP was designed to assess the magnitude of the radon problem, develop strategies for reducing indoor radon levels, build State and private sector radon assessment and reduction capabilities, and provide the public with information on the health risks of radon. In 1986, the Congress passed the Superfund Amendments and Reauthorization Act (SARA), provisions of which authorized the EPA to take the leading role in the national effort to reduce indoor radon levels. The Indoor Radon Abatement Act of 1988 (IRAA) authorized the EPA to assist State radon abatement programs.

The IRAA and subsequent appropriations legislation directed the EPA to develop voluntary proficiency programs to evaluate the effectiveness of radon devices, organizations, and operators. The EPA developed two major proficiency programs to implement this directive: the Radon Measurement Proficiency (RMP) Program and the Radon Contractor Proficiency (RCP) Program. These programs assist states and consumers in identifying capable radon service providers. The Agency also established four Regional Radon Training Centers (RRTCs). These Centers provide radon measurement and mitigation training for individuals and organizations seeking to enter the radon measurement and mitigation businesses. They also assist States by tailoring training programs to meet specific state needs.

States play a critical role in evaluating radon service providers and ensuring that consumers receive quality radon services. They provide consumers with information and advice on selecting radon service providers, and respond to consumer complaints about inadequate services or fraudulent business practices. Some States operate certification programs and others are considering developing such programs.

### **B. Purpose and Structure**

The purpose of the guidance is to assist States in developing radon certification programs. This document provides guidance to States on possible elements of State Radon Certification Programs. It builds upon existing EPA proficiency programs, encourages consistency and reciprocity among State certification programs, and provides a framework for strengthening the State/Federal system for ensuring that quality radon services are provided to the public. This document offers States a variety of certification program options, and provides specific recommendations on certification program

elements. In so doing, it recognizes a need for State flexibility in determining optimal radon consumer information and protection activities.

The guidance integrates current Federal and State radon quality assurance activities with options for future State program activities. It consists of the following sections:

- o **Federal and State Roles**

Explanation of the rationale underlying Federal and State roles in ensuring quality radon services.

- o **Federal Radon Quality Assurance Activities**

Description of Federal radon quality assurance activities and how they fulfill Federal roles.

- o **Options for State Radon Certification Programs**

Provides options for State radon certification program elements for measurement laboratories, measurement operators, and mitigation contractors.

- o **State Funding and Reciprocity**

Furnishes alternatives for funding of State programs and information on reciprocity arrangements among States.

- o **EPA Recommendations**

Offers recommendations on optimal State certification program elements.

## **II. FEDERAL AND STATE ROLES**

This section identifies Federal and State roles in radon quality assurance and explains the rationale underlying them. It does not suggest specific ways in which Federal and State governments should fulfill their roles – this decision is left to the governmental units involved. Furthermore, the identification of a Federal or State role does not necessarily suggest that it is appropriate to develop a program directed specifically toward fulfilling that role. Wherever possible, Federal and State governments should take advantage of market mechanisms, non-governmental talent, and private sector initiatives to assist them in ensuring quality radon services.

### **A. Factors for Determining Federal and State Roles**

This document determines Federal and State roles for radon quality assurance on the basis of three factors. These factors and the analyses conducted are designed to ensure development of a nationwide radon quality assurance system that informs and protects consumers in the most effective, efficient, consistent, and responsive way possible. The three factors are:

- o The type of radon services provided to the public (i.e. radon service sectors).
- o The type of radon quality assurance activity being conducted.
- o Basic principles for determining Federal and State roles.

These factors are described in detail below.

#### **1. Types of Radon Services Provided (Radon Service Sectors)**

Radon service providers vary considerably in the types of services they provide to consumers. Federal and State authorities may address these types of radon services differently to ensure quality service is provided. This document divides radon service providers into five categories, each of which provides services that affect the overall quality of radon service provided to the public. These provider categories, the types of services they provide, and how they impact the quality of services provided to consumers are described below:

##### **Measurement Device Manufacturers**

Manufacture measurement devices in the marketplace e.g. charcoal canisters, alpha-track devices, electret ion chambers, continuous radon monitors, and other devices. The effectiveness of measurement devices produced by manufacturers directly affects the accuracy of radon measurement results provided to consumers.

### **Commercial Calibration Facilities**

Calibrate measurement devices for other radon service providers. The quality of calibrations conducted for radon service providers affects the accuracy of radon measurement results provided to consumers.

### **Measurement Laboratories**

Offer radon measurement analysis and other services for devices requiring a laboratory (e.g. analyses of charcoal adsorption and alpha track devices). Radon measurement results provided to consumers are only as accurate as the analyses conducted by these laboratories.

### **Radon Measurement Operators**

Operators of on-site reading devices (e.g. continuous radon monitors), operators who place and retrieve measurement devices, or individuals who provide radon consultation services. Consumers make decisions on the need for mitigation based on the results and advice provided by radon measurement operators.

### **Mitigation contractors**

Providers of radon mitigation services. Consumers depend upon mitigation contractors to reduce elevated radon levels in their buildings.

## **2. Radon Service Evaluation Activities**

Federal and State governments (and potentially other organizations) undertake different types of activities to ensure that consumers receive quality radon services. They set standards or requirements for how radon services should be provided. They may also monitor and enforce compliance with standards and requirements. Specific definitions of these two types of activities are provided below:

### **Standards**

Activities that set up standards for radon service providers to follow and/or require or recommend radon service providers to carry out various operations, e.g. register or list with Federal or State authorities, participate in training etc.

### **Monitoring**

Activities that monitor and/or enforce compliance with standards or requirements.



### **3. Principles for Determining Federal/State Roles**

**This document uses four principles to determine appropriate roles for Federal or State governments in ensuring quality radon services. These principles recognize the need to maintain currently effective program activities. They also direct future activities toward ensuring that radon quality assurance activities use resources cost effectively, treat radon service providers consistently and responsively, and set standards and requirements that ensure quality delivery of different kinds of radon services.**

**All four principles apply to each of the five previously defined sectors of the radon industry. However, different principles apply, depending on whether the activity involves setting standards or monitoring and enforcing existing requirements. Descriptions and applications of the principles to standards and monitoring activities are presented below.**

#### **Preservation of Effective Programs**

**Current radon quality assurance programs provide valuable information and protection to consumers. This information and protection should not be eliminated as a result of this guidance. EPA recommendations on Federal and State roles seek to preserve effective Federal and State radon quality assurance programs. The principle of preserving effective programs applies to both standards and monitoring activities.**

**Effective radon quality assurance programs ensure provision of quality radon services without unnecessarily burdening radon service providers. This document does not attempt to determine the effectiveness of existing radon quality assurance programs – this task is left to the governmental units involved. Federal and State governments should evaluate the effectiveness of their programs on a continuing basis to assure provision of quality radon services and eliminate unnecessary burdens on radon service providers.**

#### **Ease and Cost of Implementation**

**This principle encourages efficient use of Federal and State resources for ensuring quality radon services. Quality assurance activities should be conducted at the level of government where they are easiest and least costly to implement. For example, economies of scale (efficiency resulting from the implementation of activities over a wide area) or extensive technical capability implies a Federal role in areas that are not variable from State to State or region to region. For example, tests that cover material or procedures that are applicable on a nationwide basis may be less expensive to develop at the national level, while monitoring and enforcement may be performed less expensively at the State level due to close proximity to particular service providers. This principle applies to both standards and monitoring activities.**

### Geographic Scope of the Radon Service Provider

**This principle is important for ensuring consistency and responsiveness in the treatment of radon service providers. A very wide scope of provider operation suggests a Federal role to ensure consistency and minimize burdens on service providers. A narrow scope of service provider operation suggests a strong State role. States can combine consistent treatment of local service providers with responsiveness to the concerns of both providers and local consumers. This principle applies to both standards and monitoring activities.**

### Geographic Variability of the Radon Service Provided

**This principle ensures that consumer information and protection activities are effective in assuring the quality provision of different kinds of radon services. Radon services that are similar nationwide suggest a strong Federal role, while variability in the nature of a particular type of service nationwide implies a stronger State role. This variability may apply to either a particular type of service or to the appropriate steps taken to provide that service. For example, radon mitigation services are provided nationwide, but appropriate mitigation techniques and procedures might vary geographically. Consequently, a Federal role in radon mitigation may be appropriate, along with a State role relating to the techniques and procedures that are specific to that State or region.**

**This principle is important for standards activities, since the effectiveness of particular standards depend on the nature of the service being provided. This principle is not as important for monitoring activities because the appropriate level of government to conduct monitoring and enforcement does not necessarily depend on the nature of the standard or the governmental unit that set it. For example, it is relatively easy for States to monitor and enforce similar standards and requirements; it is difficult for Federal authorities to monitor and enforce varying standards and requirements in fifty States.**

### **B. Analysis and Determination of Federal and State Roles**

**We can determine recommended roles for Federal and State governments by applying the principles outlined above to the five sectors of the radon service industry and different types of radon quality assurance activities. In some cases, all appropriate principles suggest a clear role for Federal or State governments. In other cases, the principles suggest a mix of Federal and State roles. The nature of this mixed role depends on the radon service sector, the type of radon quality assurance activity being conducted, and the principles involved.**

The following analysis applies the appropriate principles to each of the five categories of providers for both standards and monitoring activities. Table 2-1 applies the principles to standards activities directed toward the five radon service sectors. Table 2-2 applies appropriate principles to monitoring activities for the five radon service sectors.

**TABLE 2-1: STANDARDS ACTIVITIES**

<b>PRINCIPLE</b>	<b>Device Manufacturers</b>	<b>Calibration Facilities</b>	<b>Measurement Laboratories</b>	<b>Radon Measurement Operators</b>	<b>Mitigation Contractors</b>
<b>Preserving Effective Programs</b>	Federal	Federal	Federal/State	Federal/State	Federal/State
<b>Ease of Program Implementation</b>	Federal	Federal	Federal/State	Federal/State	Federal/State
<b>Geographic Scope of Provider</b>	Federal	Federal	Federal	State	State
<b>Similarity/ Variability of Service Provided</b>	Federal	Federal	Federal	Federal/State	Federal/State

**TABLE 2-2 MONITORING ACTIVITIES**

<b>PRINCIPLE</b>	<b>Device Manufacturers</b>	<b>Calibration Facilities</b>	<b>Measurement Laboratories</b>	<b>Radon Measurement Operators</b>	<b>Mitigation Contractors</b>
<b>Preserving Effective Programs</b>	Federal	Federal	Federal/State	State	State
<b>Ease of Program Implementation</b>	Federal/State	Federal/State	Federal/State	State	State
<b>Geographic Scope of Provider</b>	Federal	Federal	Federal/State	State	State
<b>Similarity/ Variability of Service Provided</b>	Federal/State	Federal/State	Federal/State	State	State

### **1. Device Manufacturers**

The principles suggest a dominant Federal role for standards for the manufacture of radon measurement devices. Manufacturers of radon measurement devices generally sell them nationwide and the devices operate similarly throughout the country. In addition, the EPA's RMP Program is the major existing program that currently sets standards for or monitors the effectiveness of radon measurement devices. If a program specifically directed toward device manufacturers were to be developed, it would require extensive technical capability and would benefit from economies of scale. To the extent that device manufacturers should be monitored to enforce national standards, these activities could be carried out at either the Federal or State level.

### **2. Calibration Facilities**

Applicable principles suggest a dominant Federal role for standards activities relating to radon calibration facilities. Commercial calibration facilities provide similar services on a nationwide basis. The EPA's Guidance on Quality Assurance will establish basic procedures for calibration. Inter-facility comparison programs for commercial calibration facilities, which assist in ensuring equivalent calibrations from different facilities, also require extensive technical capability and large capital investments to finance radon chamber facilities. Both Federal and State authorities may have a role in monitoring commercial calibration facilities for compliance with national standards.

### **3. Measurement Laboratories**

The principles suggest a mixed role for Federal and State governments in assuring quality radon measurement laboratory services. An analysis of these mixed roles for standards and monitoring activities is provided below.

#### **Standards and Requirements**

The geographic scope of the provider and geographic variability of the service provided principles suggest a clear role for Federal authorities in setting standards for radon measurement laboratories. Radon measurement laboratories generally provide similar services to customers all around the country. By contrast, the principles of preserving effective programs and ease of implementation suggest a mixed role. Both Federal and State governments currently set standards for radon measurement laboratories and both of them can set these standards with similar ease and efficiency. Future standard development for measurement laboratories should be focused at the Federal level. If a State has more stringent requirements than those of the Federal government or other States, laboratories may choose to operate in those States with less stringent requirements. Therefore, States should limit their standard setting for measurement laboratories to those areas where they feel it is absolutely necessary to ensure provision of quality measurement services in their State.

## **Monitoring and Enforcement**

The principle of geographic scope of provider suggests a clear role for Federal authorities. However, the principles relating to preservation of effective programs and ease of implementation suggest a mixed role.

Both Federal and State governments conduct activities to monitor radon measurement laboratories, and both of them can implement these monitoring activities relatively easily and cost effectively. They can both conduct blind tests of radon measurement laboratories and audits of their facilities. States may be able to conduct the audit function more easily and inexpensively because they are generally in reasonably close geographic proximity to the facilities in their State. The EPA and States need to work together closely to ensure maximum effectiveness of radon measurement laboratory monitoring activities. States engaging in monitoring measurement laboratories should work with their EPA Regional Office to coordinate their monitoring activities with Federal monitoring activities.

There is a strong role for Federal authorities in ensuring the quality of radon measurement laboratory services. However, States may want to supplement this role with their own standard setting and monitoring activities. Additional State standards could improve the quality of services provided, but at increased costs to radon measurement laboratories which would have to adhere to differing standards throughout the country. These increased costs may be passed on to consumers. Additional State monitoring and enforcement of Federal standards could improve the quality of services provided, but without substantial additional costs to competent measurement laboratories and consumers.

### **4. Radon Measurement Operators**

The principles suggest a mixed role in establishing standards for radon measurement operators and a dominant State role in monitoring and enforcing standards and requirements for these service providers. An analysis of these respective roles for standards and monitoring activities is provided below.

## **Standards and Requirements**

One principle applicable to standards activities suggests a dominant State role, while three such principles suggest a mixed role. Radon measurement operators generally operate on a State or regional level, thus suggesting a State role. However, the services provided are generally similar, except for slight variations in placement and use of devices due to geographic variability in environmental conditions and types of buildings. Furthermore, both Federal and State governments currently operate programs aimed at radon measurement operators, and these programs can be operated cost effectively at either the Federal or State level. Federal authorities may

be able to provide technical resources and capital investments necessary to develop exams and other standards. However, States may be able to provide additional standards that better address locally prevalent measurement conditions and practices.

**Monitoring and Enforcement**

The principles suggest a clear State role in monitoring radon measurement operators. Measurement operators generally conduct business on a State or regional level, and States currently operate the only monitoring programs for measurement operators. States can monitor measurement operators cost effectively as compared to the Federal government.

A Federal role is evident for activities relevant to radon measurement operators, but primarily in settings standards and/or requirements. Future Federal standards for measurement operators should focus on areas where services are similar and/or where significant technical capability or large capital investments are required. State authorities have a substantial role in supplementing Federal standards as necessary to address specific variations in service delivery which are prevalent in their State or region (e.g. peculiar environmental and geologic conditions and/or building stock). There is a dominant role for States in monitoring and enforcing compliance with standards and requirements for radon measurement operators. The Federal role in monitoring and enforcement should focus on responding to State complaints relating to EPA listed measurement operators.

## **5. Mitigation Contractors**

The principles suggest a mixed role in establishing standards for radon mitigators and a dominant State role in monitoring and enforcing standards and requirements for mitigation contractors. An analysis of respective roles for standards and monitoring activities is provided below.

### **Standards and Requirements**

One principle applicable to standards activities suggests a dominant State role, while three such principles suggest a mixed role. Radon mitigators generally operate on a State or regional level, thus suggesting a State role. The services provided are generally similar, except for variations in appropriate mitigation techniques which are based on differences in building stock, building codes, and/or geologic conditions. Both Federal and State governments currently operate programs aimed at radon mitigators. Federal authorities may be able to provide technical resources and capital investments necessary to develop exams and other standards. However, States may be able to provide additional standards that better address locally prevalent mitigation techniques and conditions.

## Monitoring and Enforcement

The principles suggest a clear State role in monitoring and enforcing radon mitigation standards. Radon mitigators generally conduct business on a State or regional level. States currently monitor radon mitigation standards and requirements, and they can do so effectively as compared to Federal monitoring of radon mitigation installations.

There is a Federal role for activities relevant to radon mitigation contractors, but primarily in settings standards and requirements. Future Federal standards for radon mitigators should focus on areas where services are similar and where significant technical capability or large capital investments are required. State authorities have a substantial role in supplementing Federal standards as necessary to address specific variations in service delivery which are prevalent in their State or region (e.g. peculiar environmental and geologic conditions, building stock and building codes). There is a dominant role for States in monitoring and enforcing compliance with standards and requirements for radon mitigation contractors. Federal activities in this area should focus on responding to State complaints about EPA listed contractors.

Table 2-3 summarizes the results of the above analysis for each category of service provider and type of quality assurance activity. Designation of a role does not necessarily mean that specific Federal or State programs are needed to address the radon service sector in question. Market mechanisms, private sector initiatives, and/or other efforts may be appropriate to ensure quality radon services.

**Table 2-3: SUMMARY TABLE**

<b>Service Provider</b>	<b>Standards/ Requirements</b>	<b>Monitoring/ Enforcement</b>
<b>Device Manufacturers</b>	Federal	Federal/ State
<b>Calibration Facilities</b>	Federal	Federal/ State
<b>Measurement Laboratories</b>	Federal/ State	Federal/ State
<b>Radon Measurement Operators</b>	Federal/ State	State
<b>Mitigation Contractors</b>	Federal/ State	State

### **III. FEDERAL RADON QUALITY ASSURANCE ACTIVITIES**

The EPA currently operates three major programs which help to ensure the availability of quality radon services. They are as follows:

- o Radon Measurement Proficiency (RMP) Program
- o Radon Contractor Proficiency (RCP) Program
- o Regional Radon Training Centers (RRTCs).

This section summarizes these programs and describes how they fulfill the roles defined in the previous section. These programs provide a base that States can use in building their own radon measurement and mitigation certification programs. The descriptions included are accurate as of September 1991. However, program requirements and activities may change over time. Consequently, States should work with EPA Regional Offices to ensure that they plan their activities based on current information.

#### **A. Current EPA Programs**

##### **1. Radon Measurement Proficiency (RMP) Program**

The primary goal of the RMP Program is to provide consumers with a way of selecting radon measurement organizations that meet minimum indoor radon measurement proficiency requirements. The program assists States by (1) helping them disseminate information to the public on radon measurement service providers and (2) providing a criterion for making certification decisions. Organizations and individuals participate in the program on a voluntary basis, and may submit applications at any time. The EPA believes that most radon measurement organizations participate in the RMP. About 75 percent of RMP Program participants currently meet the requirements necessary to obtain EPA listed status.

Participants in the program are classified according to the type(s) of measurement services they provide. The RMP Program currently recognizes two general types of radon measurement services:

##### **Primary Radon Measurement Services**

A participant that analyzes or reads radon measurement devices is defined as a "primary" for that device. This category includes radon measurement laboratories and those radon measurement operators that provide reading or analysis services.



## **Secondary Radon Measurement Services**

A participant that offers a radon measurement service, but relies on another party for the analysis of the device used, is defined as a "secondary" service operator. This type of service may include consulting with the consumer, placing and retrieving measurement devices, and/or reporting measurement results. It does not include simple retail sale of measurement devices.

Both categories of participants are required to comply with all applicable program requirements. The requirements provide a minimum level of assurance that organizations and individuals passing the RMP Program will provide accurate radon and/or radon decay product measurements to consumers. Participants that violate program requirements are subject to delisting. States may bring evidence of significant non-compliance to the attention of EPA Regional authorities. The EPA is developing procedures for delisting firms that fail to meet program requirements. Some of the major requirements of the program are outlined below.

### **Quality Assurance Plan (QAP)**

All participants are required to develop, operate by, and maintain a QAP for each primary device or measurement method for which they are listed. QAPs developed by participants address chain of custody and calibration procedures, background radon checks, and spiked, blank, and replicate samples.

### **Radon Measurement Protocols**

All participants must follow applicable EPA Radon Measurement Method Protocols.

### **EPA Guidelines on Measurement Reporting**

All participants must report radon measurement results to the consumer in a consistent and timely manner.

### **Consumer Information**

All primary and secondary participants must provide printed mitigation information together with the measurement results they provide to the consumer.

### **Use of RMP Listed Services**

All secondary participants must use a listed primary participant for the analysis of the radon measurement device(s) they use.

### **Passing of a Radon Measurement Test**

All primary participants must pass a radon measurement test to obtain and maintain their listing. During a radon measurement test, participant measurement devices are exposed to known radon concentrations in EPA radon chamber facilities. Radon measurement tests are conducted at the time participants enter the program and periodically thereafter.

### **Advertising of RMP Listing**

Participants may only advertise their EPA listing using the phrase "Meets EPA Requirements."

The EPA notifies participants if they have met program requirements. These listed participants may use this notification to represent themselves to States and the public. The EPA also publishes Proficiency Reports on a periodic basis. These reports include current lists of successful RMP Program participants. States may verify a participant's current status by contacting the RMP Program Information Service (RIS) at (919) 541-7131.

## **2. Radon Contractor Proficiency (RCP) Program**

The EPA established the Radon Contractor Proficiency (RCP) Program to evaluate and provide information on capable radon reduction contractors. The program is directed toward individual radon mitigators who evaluate buildings with elevated radon levels, do radon diagnostics, and develop radon mitigation plans. These individuals hold the highest level of responsibility within their companies. The RCP Program includes several requirements that facilitate the proficiency of radon mitigation contractors.

### **Examination**

The National Radon Mitigation Proficiency Exam is the primary means by which the EPA measures radon mitigation proficiency. Mitigators who participate in the program must pass the examination to obtain an EPA listing. The EPA developed the examination in cooperation with state officials, expert radon mitigators, and a professional examination firm. The examination sets a national baseline measure of proficiency by evaluating contractors' knowledge of radon and radon reduction methods. The exam is comprised of 150 multiple-choice questions covering six major areas of mitigation practice. It is offered at many locations around the country. Mitigation contractors are also required to pass a re-examination every two years to maintain their RCP program listing. This re-examination includes new industry practices and technology, as well as a review of radon reduction fundamentals.

## **Training**

The EPA requires hands-on radon mitigation training for all RCP listed contractors. EPA-developed courses are offered at the Regional Radon Training Centers and similar courses are offered by State and private organizations. The EPA approves courses which provide this training. Participating radon mitigators must take their training from EPA-approved training providers. Courses generally cover health effects, building investigation, radon measurement and other diagnostic procedures, system design, installation techniques, and system evaluation.

## **Mitigation Guidelines and Protocols**

RCP listed contractors must adhere to current EPA Radon Mitigation Guidelines and Protocols in performing mitigation work.

## **Continuing Education**

The EPA recommends that RCP listed contractors undergo continuing education of not less than 8 hours a year in areas such as new mitigation technology, worker health and safety, and HVAC and radon mitigation. This training will assist RCP listed mitigators in preparing for their biennial reexamination.

The RCP Program Proficiency Report lists mitigators who have successfully completed RCP program requirements. The report is updated periodically to reflect additions and deletions from the program. Contractors may be delisted due to failure to meet RCP program requirements. States may bring evidence of non-compliance with program requirements to the attention of Regional authorities. The EPA is finalizing procedures for delisting RCP listed radon mitigation contractors.

### **3. Regional Radon Training Centers (RRTCs)**

The 1988 Indoor Radon Abatement Act (IRAA) gave the EPA the authority to establish Regional Radon Training Centers (RRTC). The purpose of these centers is to provide information and training on radon to Federal and State officials, radon service providers, school administrators, building and home inspectors, code officials, and others. Based on the results of competitive solicitations, the EPA awarded grants to four institutions to host an RRTC:

- o Western Regional Radon Training Center at Colorado State University.
- o Midwest University Radon Consortium (MURC -- Universities of Minnesota and Michigan and Kansas State University).
- o Eastern Regional Radon Training Center at Rutgers University.

- o Southern Regional Radon Training Center at Auburn University (also includes Texas A & M, and the University of Tulsa).

The RRTCs provide up-to-date training in radon mitigation, measurement, and radon resistant new construction. They may also provide specialized courses for real estate agents, State and local officials, health professionals, and other audiences. In addition, the RRTCs administer written examinations associated with the RCP Program. The Centers are available to provide specialized expertise in radon measurement and mitigation and work closely with State officials to meet State radon training needs. They are a valuable resource for States that are developing radon certification programs.

## **B. How the Federal Role is Fulfilled**

The previous subsection discussed the EPA's three major radon quality assurance programs. This subsection defines how these programs and other Federal activities fulfill the Federal roles defined in Section 2. The EPA evaluates and improves its radon quality assurance activities on an ongoing basis.

### **1. Device Manufacturers**

Federal authorities have published a set of environmental conditions that are typical of real world exposures. The EPA conducts measurement tests in the RMP Program under these conditions to help ensure that the devices can provide accurate results in "real-world" conditions.

### **2. Commercial Calibration Facilities**

The current RMP program requires calibration for primary laboratories and other primary operators. The RMP Program QA/QC Guidance will provide more specific information on calibration. The EPA allows for inter-comparison of commercial calibration facilities to the EPA laboratories. The EPA collects information on the quality of calibrations through the RMP Program.

### **3. Measurement Laboratories**

The RMP program requires measurement tests for measurement laboratories and other primary providers to determine their capability to make accurate radon measurements. In the monitoring and enforcement area, the RMP Program carries out blind tests and may conduct QA reviews to help assure compliance with RMP program requirements. Efforts are being made to coordinate more closely with States on these monitoring activities.

#### **4. Measurement Operators**

Operators of devices that have an analysis capability are evaluated through performance tests similar to those required of measurement laboratories. The RMP program requires all listed measurement operators to use EPA measurement protocols and standard operating procedures. Soon, measurement operators will also have to pass a written examination. There are no Federal monitoring and enforcement activities for this category of providers. Monitoring activities are limited to responding to complaints from States about listed measurement operators.

#### **5. Mitigation Contractors**

The RCP program requires that mitigation contractors pass a written examination to become RCP-listed and also requires participation in a hands-on training program. Contractors are also required to adhere to EPA standards in their mitigation work. Monitoring activities are currently limited to responding to complaints from States about RCP listed contractors.

## **IV. STATE CERTIFICATION PROGRAM OPTIONS**

This section presents options for State radon quality assurance programs. These options describe possible ways States may fulfill their roles in ensuring quality services from measurement laboratories, measurement operators, and mitigation contractors. The options presented are not all inclusive. They are presented to provide State authorities with a structure to help them determine optimal program elements for their State. Wherever possible, States should take advantage of market mechanisms, non-governmental talent and private sector initiatives to assist them in ensuring quality radon services.

There is no universally preferable structure for State radon quality assurance programs. States have many options. Their choices regarding radon certification program elements may depend on the extent of their concern about the radon problem, their resources, and their activities to date. This guidance addresses three basic options available to State radon authorities that build upon EPA's existing programs. States may administer these potential programs themselves or they may work with private sector organization(s) to administer them. These programs suggest an increasingly more comprehensive approach to radon service quality assurance and control.

### **Consumer Information Option**

Improving the quality of radon service providers by offering advice and responding to citizens' complaints about radon service providers.

### **Mandatory Federal Programs Option**

Ensuring the quality of radon services by mandating adherence to Federal programs (RMP/RCP listing), providing consumer information, and responding to citizen complaints about radon service providers.

### **Mandatory Federal Programs -- Plus**

Ensuring the quality of radon services by providing consumer information, mandating adherence to Federal programs, and supplementing Federal programs with additional State activities.

The following subsection describes these options in greater detail.

#### **A. Consumer Information Option**

This option preserves the status quo for most States. States use EPA's RMP and RCP Programs to advise consumers on capable radon measurement laboratories, measurement

operators, and mitigation contractors. They also caution consumers about the unknown accuracy of non-proficient radon measurement devices and the unknown capabilities of non-proficient organizations. States use EPA public information brochures, mitigation standards, measurement protocols, and technical guidance to educate the public on how to obtain quality radon services.

States also play a critical role in addressing problems relating to the quality of radon services that have already been provided. They may use EPA documents to help consumers and service providers resolve questions and conflicts. States should also use their consumer protection authorities (Attorney General's office, consumer fraud statutes, etc.) to assist consumers in obtaining corrective action in cases where the services provided have not met applicable requirements.

States may also initiate delisting actions against EPA listed service providers that violate proficiency program requirements. States should contact their Regional EPA office if they feel EPA delisting actions may be warranted. States may also bring cases to the attention of the EPA that prompt changes in the RMP or RCP standards and requirements.

**Advantages:**

- o Educates radon service consumers.
- o Places a minimum burden on radon service providers.

**Disadvantages:**

- o Minimizes State control.
- o Provides least protection to consumers.

**B. Mandatory Federal Program Option**

This option includes the consumer information activities discussed above, but also mandates that all radon service providers in the State meet the standards and requirements of EPA's Proficiency Programs. States may mandate adherence to EPA Proficiency Program standards and requirements by legislative enactment or, in some cases, by use of existing statutory authorities.

**Advantages:**

- o Protects consumers by eliminating services of unproven providers.
- o Offers the least costly mandatory option.

- o Allows enforcement of program requirements.

**Disadvantages:**

- o Relies solely on consumer complaints to ensure adherence to standards and requirements. No monitoring activities.
- o Minimizes State control.

**C. Mandatory Federal Program -- Plus**

This option offers States a variety of different standards and monitoring activities that build upon the Mandatory Program option described above. The options provided may or may not be desirable for particular States. In implementing this option, State authorities may also conduct standards and monitoring activities in other areas of particular concern, such as mitigation activities affecting building codes particular to their jurisdictions.

**Advantages:**

- o Provides greatest assurance of quality radon services
- o Allows States to implement activities as needed.

**Disadvantages:**

- o Increases use of State resources.
- o Increases burdens on radon service providers.

The following discussion provides specific activities that States may want to apply to measurement laboratories, radon measurement operators, and mitigation contractors. The options provided are not all inclusive and may or may not be desirable for particular States.

**1. Measurement Laboratories**

**Standards Activities:**

**Registration/Listing**

State authorities can require that primary laboratories obtain State registration before commencing operation. Such registration allows States to be aware of service providers in their States.



## **Educational Requirements/Measurement Experience**

States may require that laboratory supervisors and/or personnel attain some minimum level of education (e.g. undergraduate degree) or serve an apprenticeship to gain measurement experience.

### **Monitoring Activities:**

#### **General Monitoring**

State authorities may review phone books and other radon service advertising to ensure that organizations and individuals providing services within their boundaries are RMP listed and meet any applicable State registration requirements. States may also check consumer complaints regarding service providers against current RMP and State registration lists. This will ensure swift response to citizens' complaints and expose non-certified operators.

#### **Blind Testing**

States may initiate and conduct their own blind tests of radon measurement laboratories. EPA laboratories may assist States by providing device exposures to the extent possible within the constraints of other workload demands. Laboratories which perform poorly on blind tests may be de-certified by the State or referred to the EPA for blind testing under the RMP Program.

#### **Records Reviews**

State authorities can require that measurement laboratories mail in calibration reports showing how their equipment has been calibrated. They can also request a copy of laboratories' QA/QC plans to ensure that such a plan exists and that it meets both EPA and any State requirements. State authorities may be able to review quality assurance plans on a more comprehensive basis than the EPA.

#### **On-Site Audits**

State authorities may perform announced and unannounced audits of measurement laboratories. States should provide State certified laboratories with information on laboratory audit procedures to make them aware of what to expect and to encourage compliance with applicable requirements. Audits may include review of QA/QC programs, calibration records, control charts, measurement result reports, laboratory staff, and other records.

## **2. Radon Measurement Operators**

### **Standards Activities:**

#### **Registration/Listing**

States can require that measurement operators obtain State registration before commencing operation. Such registration or listing allows States to be aware of service providers in their States.

#### **Examinations**

States can supplement the RMP examination for radon measurement operators with their own examination questions. Such questions may cover specialty topics that have particular application to the State. States may also wish to sponsor future measurement operator examination offerings in their State in cooperation with the EPA and the Regional Radon Training Centers.

#### **Educational Requirements/Measurement Experience**

States may require that measurement operators attain some minimum level of education (e.g. undergraduate degree) or serve an apprenticeship to gain measurement experience. States may also require operators to obtain training in radon measurement. This training might include instruction on operating specific radon measurement devices, environmental factors affecting device selection, and/or procedures specific to operation in their State or region. States may also want to evaluate and approve qualified training providers.

#### **Record Keeping and Information Submittal**

States may wish to institute specific record keeping requirements for measurement operators. These requirements might include records relating to calibration, quality assurance/quality control programs, measurements provided to consumers and zip code information relating to those measurements. States may use these records to monitor compliance with program requirements and to conduct analyses of trends in radon measurement work.

### **Monitoring Activities:**

#### **General Monitoring**

State authorities may review phone books and other radon service advertising to ensure that organizations and individuals providing services within their boundaries are RMP listed and meet any applicable State registration requirements. States may also

check consumer complaints regarding service providers against current RMP and State registration lists. This will ensure swift responses to citizens' complaints and expose non-certified operators.

### **Records Reviews**

State authorities may review calibration records, quality assurance/quality control plans, standard operating procedures, measurement report results, and other required records for compliance with State and EPA requirements. These reviews may be conducted during office audits. States may also request that measurement operators mail copies of these records for review on a periodic basis.

### **Blind Reviews**

States may evaluate the extent to which measurement operators place devices according to EPA protocols and/or operate their devices properly. They may conduct these reviews by posing as consumers who request the services of measurement operators at specific buildings. They could then evaluate the services they receive. States which conduct this activity need to develop and publicize criteria for successful services well in advance of conducting these evaluations. These criteria should be consistent with applicable EPA and State requirements.

## **3. Mitigation Contractors**

Standards Activities:

### **Registration/Listing**

States can require that mitigation contractors obtain State registration before commencing operation. Such registration allows States to be aware of mitigators in their States.

### **Examinations**

States can supplement the RCP examination with their own examination questions. Such questions may cover specialty topics that have particular application to their State. States may also wish to sponsor RCP examination offerings in their State in cooperation with the EPA and the Regional Radon Training Centers.

### **Educational Requirements/Mitigation Experience**

States may require that mitigation contractors attain some minimum level of education or experience (e.g. undergraduate degree or building experience) or serve an apprenticeship to gain mitigation experience. States may also require mitigators to

obtain specific training on the building stock and building codes in their States. States may also want to evaluate and approve qualified training providers.

### **Mitigation Protocols/Guidelines**

States may supplement RCP guidelines and protocols with more specific or stringent requirements that apply to their particular State.

### **QA Plan**

States may require that mitigation contractors prepare and submit a QA Plan prior to obtaining certification.

### **Building Codes**

State and/or local authorities can amend existing building codes to ensure that new construction practices deter the entry and concentration of radon gas. [Building codes can also be amended to incorporate mitigation standards for existing buildings.] These codes may be based on EPA standards or other State or local standards adapted to local construction practices and/or geologic circumstances.

### **Record Keeping and Information Submittal**

States may wish to institute specific record keeping requirements for mitigation contractors. These record keeping requirements might include records of before and after measurements, mitigation plans, diagnostic and mitigation techniques used, zip codes, and other information relevant to the installation.

### **Monitoring and Enforcement Programs**

#### **General Monitoring**

State authorities may review phone books and other radon service advertising to ensure that organizations and individuals providing mitigation services within their boundaries are RCP listed and meet any applicable State requirements. States may also check consumer complaints regarding service providers against current RCP and State registration lists. This will ensure swift responses to citizens' complaints and expose non-certified operators.

#### **Records Reviews**

State authorities may review records on mitigation contractors and installations, and other required records for compliance with State and EPA requirements. These

reviews may be conducted during office audits. They may also request that mitigation contractors mail copies of these records for review on a periodic basis.

### Installation Inspections

States may inspect mitigation installations to review mitigation practices and conformance to mitigation protocols, guidelines and standards, building codes, and other State requirements. In this way, they can expose poor mitigation practices, decertify the offending parties, and, if necessary, advise the EPA of potential delisting action.

### **D. Summary of State Options**

These three optional program packages offer States a variety of possible State certification program elements. Combined, they provide a flexible approach to managing State radon quality assurance responsibilities and ensuring that there is a suitable program for each State. The ultimate choice of option(s) obviously rests with the individual State authorities. Tables 4-1 and 4-2 summarize activities that States could undertake for measurement laboratories, measurement operators, and mitigation contractors. As shown, not all activities apply to all categories of service providers, and activities may vary as applied to different provider groups.

**Table 4-1: STATE STANDARDS ACTIVITIES**

<b>Program Element</b>	<b>Measurement Laboratories</b>	<b>Radon Measurement Operators</b>	<b>Mitigation Contractors</b>
<b>Registration/ Listing</b>	X	X	X
<b>Educational/ Experience Requirements</b>	X	X	X
<b>Record Keeping</b>		X	X
<b>Examination</b>		X	X
<b>Protocols/ Guidelines</b>		X	X
<b>Building Codes</b>			X

**Table 4-2: STATE MONITORING ACTIVITIES**

<b>Program Element</b>	<b>Measurement Laboratories</b>	<b>Radon Measurement Operators</b>	<b>Mitigation Contractors</b>
<b>General Monitoring</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>Record Keeping Reviews</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>On-Site Audits</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>Blind Evaluation(s)</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>Mitigation Installation Inspections</b>			<b>X</b>

## **V. STATE FUNDING OPTIONS AND RECIPROCITY**

**This section overviews options for funding State radon certification programs, and discusses reciprocity among State certification programs.**

### **A. Funding Options**

**There are three major options for funding State radon certification programs: (1) State appropriations; (2) fees; (3) EPA State Indoor Radon Grants (SIRG). Each of these options is briefly discussed below.**

#### **1. State Appropriations**

**States authorities can work with their State Legislatures to appropriate funds for radon certification programs. State Legislatures may be more responsive to requests for such appropriations if they are provided with evidence of radon quality assurance problems, data on the extent of the State's radon problem, and information on other funding sources such as fees and EPA SIRG Grants. State Legislators may also be interested in radon certification program funding levels in comparable States. State authorities can maximize the effectiveness of their efforts by presenting their recommendations to State Legislators clearly and concisely.**

#### **2. Fees**

**States may also fund their radon certification programs through fees levied on radon service providers. States may levy fees on applications submitted by service providers, or for achievement of licensing or certification status. In the latter case, the fees would be levied against service providers that have met certification requirements.**

**In addition there are other options that States have proposed for generating revenues for their programs. Among these are:**

- o A special home improvement contractors' fund, which is financed by the registration of home improvement contractors. It could be used for program administration and covering consumer costs in cases of bad mitigation (was proposed in the State of Connecticut).**
- o A surcharge on every new square foot of construction, irrespective of whether it has radon resistant features, which may be used for program administration or as a trust fund for correcting improperly installed radon mitigation systems (was proposed in the State of Rhode Island).**

### **3. EPA State Indoor Radon Grants (SIRG)**

Section 306 of the Indoor Radon Abatement Act (IRAA) authorizes the EPA to provide States with grant funds to assist them in developing and implementing programs for the "assessment and mitigation of radon." Most States currently receive SIRG funding. This program is now in its third year of operation. Detailed information on the SIRG Program can be found in EPA's Third Year Guidance for the State Indoor Radon Grants Program, EPA Office of Radiation Programs, October 1991, and is available through EPA's Regional Offices.

#### **B. Reciprocity Among States**

Reciprocity agreements among States are desirable in cases where radon organizations and/or individuals provide identical or very similar services in different States. States may enter into different kinds of reciprocal arrangements with one another. The agreements can recognize and accept other States' complete certification programs, or they can accept only particular features of another State's program (training, passage of an exam, etc.).

Reciprocity arrangements minimize economic burdens on radon service providers who have to comply with differing State certification requirements and fees. They may also reduce the costs of radon services because service providers pass the costs of complying with State requirements on to their customers. Reciprocity arrangements may also reduce the operating costs of State certification programs by minimizing the number of organizations and individuals who have to be processed and tracked through the programs' different steps and requirements.

There are currently no specific reciprocity agreements among States in existence. State requirements vary among the States that have some form of certification, licensing, or registration program. While these differences in program requirements may be appropriate, they present obstacles to development of reciprocity agreements among States.

There are steps States can take to overcome these obstacles to reciprocity. These steps are easier to implement for States whose programs are still developing, but they can be implemented in States whose programs are in place. They are summarized below.

##### **o Legislative Authority**

Reciprocity can only be achieved if States have the legislative authority to do so. Many States are currently unable to consider reciprocal agreements with other



States due to the lack of authority. Legislative authority for reciprocity agreements may be a useful addition to certification statutes.

o Minimum Requirements

States that adopt uniform minimum requirements for radon service providers make reciprocal arrangements easier to implement. In these cases, out-of-State radon service providers can be granted complete or partial certification status based on meeting or surpassing minimum standards. States can require RMP and/or RCP listing for service providers. This requirement provides a minimum standard which can serve as a basis for reciprocity agreements.

o Flexibility

The more flexible the features of a radon certification program, the more likely the program will be suitable for reciprocal arrangements with other States. For example, if only one option for educational background is stipulated by a program, it becomes less likely that providers certified in other States will be able to meet the requirement. However, if a number of options for educational background are stipulated, then there is a better chance that providers certified in other States may meet the requirement. Of course, flexibility should not be built into program requirements in a way that compromises the assurance of quality services provided to consumers.

States entering into reciprocity agreements may adopt equivalent certification requirements (perhaps based on the RMP and RCP Programs), and make office audits, laboratory inspections, and/or records reviews the responsibility of the "primary" State in which the service provider has its office. Loss of certification in the "primary" State would result in such loss in the reciprocal State. States that have entered into reciprocity agreements have the option of charging higher fees in the "primary" State to account for the increased costs associated with that service provider's certification.

This type of approach will minimize costs and may allow States to reduce any fees charged to outside firms. Of course, it still may be desirable for States to inspect mitigation installations and/or radon measurement services that are provided within their State by outside service providers. This type of service could still require the imposition of fees.

## **VI. RECOMMENDATIONS**

**Four recommendations can be made based on the goal of ensuring that consumers receive quality radon services. These recommendations also recognize State sovereignty in implementing radon certification programs and industry concerns about conflicting State program requirements.**

- o States should mandate the RMP/RCP programs: By mandating the Federal RMP/RCP programs, States ensure that their consumers receive service only from EPA-listed operators and thus provide a minimum level of quality assurance within their States. State required RMP/RCP listing also provides a base of common requirements which can be used in developing State reciprocity agreements.**
- o States should supplement these mandatory programs with active monitoring and enforcement programs. Monitoring and enforcement programs ensure that Federal and State standards actually lead to the delivery of quality radon services.**
- o States should supplement the mandatory RMP and RCP programs with any additional standards and requirements that are necessary to ensure quality radon services in their particular State.**
- o States should establish reciprocal agreements among themselves, using the RCP and RMP programs as a base. These agreements should minimize burdens of conflicting requirements on radon service providers to the extent possible without reducing the level of assurance consumers can have in State certified radon firms and operators.**

## **APPENDIX A**

### **SUMMARY OF STATE PROGRAMS**

The following information relates to State programs and regulations that were in place as of October, 1991. Twelve States have some form of regulations relating to radon measurement and mitigation service operators, either fully promulgated or in the draft or interim stage. Two States, Maryland and Virginia, require that organizations only meet Federal proficiency requirements. Kentucky has a voluntary registration program dependent upon Federal proficiency requirements. There is a notation for States where the regulations are not final.

#### **CALIFORNIA**

##### **Certification, Registration or Licensing**

Radon laboratory measurement/consultant and mitigation contractors are required to be certified by the State. Certifications are renewable biennially.

##### **Federal and/or State Measurement Proficiency Requirement**

Certification is dependent upon RMP-listed status.

##### **Federal and/or State Mitigation Proficiency Requirement**

Certification is dependent upon RCP-listed status.

##### **QA Plan**

QA plans in accordance with the RMP Program are required.

##### **Education and/or Experience**

Measurement/consultant classification: individuals are required to have a college degree with a major in physical, biological or engineering science.

##### **Training and/or Examination Requirement**

Measurement/consultant classification: individuals are required to have 16 hours of classroom training.

##### **Audits (Office and/or Site)**

None are required.

##### **User Fees**

Fees are \$300 for laboratories, \$200 for mitigators, and \$100 for measurement/consultant.

## **CONNECTICUT**

### **Certification, Registration or Licensing**

Measurement laboratories, diagnostic specialists, and mitigation contractors are required to be registered with the State.

### **Federal and/or State Measurement Proficiency Requirement**

Registration is dependent upon RMP-listed status.

### **Federal and/or State Mitigation Proficiency Requirement**

Registration is dependent upon RCP-listed status.

### **QA Plan**

The regulations refer to the RCP guidelines for quality assurance of mitigation contractors.

### **Education and/or Experience**

There are no requirements except for the training qualifications outlined below.

### **Training and/or Examination Requirement**

Diagnostic specialists must complete an RMP related training program and mitigation contractors must have a minimum of a 2-3 day approved training program.

### **Audits (Office and/or Site)**

The Department of Consumer Protection can investigate measurement operators. The Department of Health Services investigates mitigation contractors.

### **User Fees**

There are no fees for the registration program. However, mitigation contractors are charged by another State agency for doing business in the State.

## **DELAWARE**

### **Certification, Registration or Licensing**

Radon measurement and mitigation firms are required to register with the State. Registration must be renewed on an annual basis.

### **Federal and/or State Measurement Proficiency Requirement**

Registration is dependent upon RMP-listed status and/or source of testing devices.

### **Federal and/or State Mitigation Proficiency Requirement**

Registration is dependent upon RCP-listed status.

### **QA Plan**

There are QA guidelines for radon measurement and mitigation firms.

### **Education and/or Experience**

Prerequisites are dependent upon sampling procedures and QA plan.

### **Training and/or Examination Requirement**

Training prerequisites are dependent upon sampling procedures and QA plan.

### **Audits (Office and/or Site)**

The State performs site audits on mitigation companies. The State reserves the right to perform office and/or site audits on all measurement and mitigation companies operating within the State of Delaware.

### **User Fees**

At present there are no user fees.

## **FLORIDA**

### **Certification, Registration or Licensing**

The State requires the separate certification of businesses and individuals involved in radon measurement and mitigation services.

### **Federal and/or State Measurement Proficiency Requirement**

The State requires RMP-listing and the use of RMP-listed devices.

### **Federal and/or State Mitigation Proficiency Requirement**

Participation in the RCP program is currently voluntary.

## **FLORIDA (Cont.)**

### **QA Plan**

The State requires submission of a QA plan, which is approved on an individual basis. The State will accept the RMP QA plan. For passive devices, the State requires QA blanks and duplicates. Monitoring and enforcement programs include State review of QA plans and annual on-site QA audits. On-site inspections apply only to firms located within the State.

### **Education and/or Experience**

Measurement specialists require 4 years of radiological experience of which 3 years may be substituted by relevant college education. Measurement technicians require no previous experience or education. Mitigation specialists require 4 years experience in the construction industry of which 3 years may be substituted by relevant college education. A State contractor's license also meets this requirement. Mitigation technicians require 2 years of construction experience.

### **Training and/or Examination Requirement**

Florida has training requirements which exceed those of the RMP/RCP programs. Training is provided by approved RMP/RCP vendors. The State administers its certification training examination a minimum of 3 times per year to qualified applicants.

### **Audits (Office and/or Site)**

Measurement and mitigation businesses are inspected annually for proper maintenance of required records and adherence to measurement and mitigation rules and guidelines.

### **User Fees**

A \$200 certification fee for both businesses and individuals covers application, examination and a one-year certification.

## **ILLINOIS**

### **Certification, Registration or Licensing**

Registration is required only for radon measurement deployment consultants. Measurement laboratories are exempt from registration, unless they also deploy devices directly into homes.

### **Federal and/or State Measurement Proficiency Requirement**

None

## **ILLINOIS (Cont.)**

### **Federal and/or State Mitigation Proficiency Requirement**

None

### **QA Plan**

There are no requirements.

### **Education and/or Experience**

Deployment consultants must have either a bachelor's degree in science or an associates degree with 2 years related experience, or 4 years related experience. An approved radon measurement course can also be accepted as a qualification. RCP is an accepted form of education/experience. RMP is an accepted form of education/experience only for secondary organizations.

### **Training and/or Examination Requirement**

There is a minimum training requirement, which is met if an individual is RMP listed. There is no examination requirement.

### **Audits (Office and/or Site)**

The State has the authority to perform audits.

### **User Fees**

\$100 per individual and \$125 for firms.

## **INDIANA (Final rule expected March 1992)**

### **Certification, Registration or Licensing**

Certification is required for primary and secondary testers, measurement laboratories, and mitigation contractors.

### **Federal and/or State Measurement Proficiency Requirement**

Certification is dependent on RMP listing or equivalent proficiency program and submission of a sworn affidavit that the individual has read and agrees to the EPA's "Indoor Radon and Radon Decay Product Measurement Protocols".

### **Federal and/or State Mitigation Proficiency Requirement**

Certification is dependent on RCP listing or equivalent proficiency program.

### **QA Plan**

There is no State requirement for a QA Plan.

## **INDIANA (Cont.)**

### **Education and/or Experience**

There is no level of formal education that secondary testers, primary testers, or mitigators must achieve. However, at least one individual employed by a radon laboratory must have either a Bachelor's degree from an accredited university or college in the physical sciences or engineering or in a related field approved by the commissioner, or a minimum of two years full-time experience, or equivalent, as determined by the commissioner, in radiation measurement.

Continuing education involves all categories of certification and must be from a course approved by the commissioner and must be at least six contact hours. Written confirmation of attendance, signed by the course instructor, or its designee, must be submitted at the time of application for recertification. However, full-time employment by the certified individual for the prior two years may substitute for the continuing education requirement provided written confirmation of full-time employment, signed by the business owner or chief executive officer of the business which employed the certified individual, has been submitted along with the application for recertification.

### **Training and/or Examination Requirement**

There are no State-administered examinations or State-administered training programs.

### **Audits (Office and/or Site)**

The commissioner, his or her agents, and his or her employees have the right to enter at all reasonable times in or upon any public or private property upon presentation of appropriate credentials, to inspect any equipment or records pertaining to radon-222 testing, mitigation or analysis, to conduct radon-222 testing, to inspect radon-222 testing laboratories, or to inspect radon-222 mitigation facilities or equipment that has been, or is to be, installed.

### **User Fees**

Fees are levied for two years at the following rates: secondary tester \$150, primary tester \$300, radon laboratory \$300, and mitigators \$250.

## **IOWA**

### **Certification, Registration or Licensing**

Iowa has an extensive certification program for both measurement laboratories and measurement specialists. It also has an extensive accreditation program for mitigation contractors.



## **IOWA (Cont.)**

### **Federal and/or State Measurement Proficiency Requirement**

Measurement laboratories must be RMP listed.

### **Federal and/or State Mitigation Proficiency Requirement**

Mitigation contractors must be RCP listed.

### **QA Plan**

Iowa requires QA plans for all radon service operators, which are based on the EPA guidance.

### **Education and/or Experience**

Measurement and Mitigation specialists are required to be at least 18 years old and have three years of relevant experience; college courses in areas such as energy, natural sciences or engineering (can be substituted for experience in both certifications). However, one year of relevant practical experience is required to be certified as a mitigation specialist.

### **Training and/or Examination Requirement**

Measurement specialists must successfully complete a state approved training course and examination or be certified by another state with the same requirements. Mitigation specialists must pass the RCP examination.

### **Audits (Office and/or Site)**

Iowa performs on-site audits on measurement laboratories, measurement operators, and mitigation contractors. Although there is no regulated frequency of audits, the goal is to audit once a year.

### **User Fees**

Iowa imposes fees for both certification applicants and for annual State accreditation. Application fees for both measurement and mitigation service operators are \$25.00 for residents and \$100.00 for non-residents. Annual certification fees are \$250 for measurement specialists, and \$500 for measurement laboratories. Mitigation contractors must pay an initial annual fee of \$150 and \$40 per installation, for installations over \$200 in value, thereafter.

## **KENTUCKY**

### **Certification, Registration or Licensing**

The State manages a voluntary registration program for measurement and mitigation companies. Amendments to the State radiation control act to institute a mandatory certification program for laboratories, testers, and mitigators have been submitted to the Kentucky legislature for consideration in the 1992 session

### **Federal and/or State Measurement Proficiency Requirement**

Registration is dependent upon RMP-listed status.

### **Federal and/or State Mitigation Proficiency Requirement**

Registration is dependent upon RCP-listed status.

## **MAINE (Final rule expected mid-1992)**

### **Certification, Registration or Licensing**

The State requires registration of all testing, measurement and mitigation companies doing business in the State, including those based outside the State.

### **Federal and/or State Measurement Proficiency Requirement**

Registration is dependent upon RMP-listed status.

### **Federal and/or State Mitigation Proficiency Requirement**

Registration is dependent upon RCP-listed status.

### **QA Plan**

There will be a requirement for a QA plan. This is currently in draft stage.

### **Education and/or Experience**

Although there are no educational prerequisites besides those necessary for the RMP/RCP listing, there is a requirement for continuing education.

### **Training and/or Examination Requirement**

The State requires RMP/RCP training or the equivalent for initial registration, as well as continuing education.

### **Audits (Office and/or Site)**

The State has the right to perform audits.

### **User Fees**

The registration fee has not yet been determined.

## **MARYLAND**

### **Federal and/or State Measurement Proficiency Requirement**

All operators performing radon measurement testing must be RMP-listed.

**NEBRASKA** (Additional rules instituting licensing are being formulated)

### **Certification, Registration or Licensing**

The State manages a registration program for measurement and mitigation companies.

### **Federal and/or State Measurement Proficiency Requirement**

Registration is dependent upon RMP listing.

### **Federal and/or State Mitigation Proficiency Requirement**

None

### **QA Plan**

There is no QA requirement.

### **Education and/or Experience**

Registered measurement and mitigation companies must have on staff an individual with a minimum of: a Bachelor's degree in nuclear science, health physics, environmental health, physical sciences, biological sciences, or a related discipline; one year's experience in radiation related matters and radioactivity measurement; and completed training in an agency approved course on radon/radon decay product measurements and/or radon remedial services. Technicians placing radon measurement devices must have as a minimum course work in physics, mathematics, chemistry, health physics equivalent to a 40 hour basic radiological health training program and have completed training in an agency approved course.

### **Training and/or Examination Requirement**

At least a one-week course in radon measurement and/or mitigation is required. The RRTC course is approved.

### **Audits (Office and/or Site)**

None

### **User Fees**

There are no fees currently, although some may be instituted in 1992.

## **NEW JERSEY**

### **Certification, Registration or Licensing**

State certification is required for all radon measurement and mitigation businesses and their employees involved in testing and/or mitigation activities, and radon laboratories.

### **Federal and/or State Measurement Proficiency Requirement**

Radon measurement businesses and laboratories must provide proof of successful completion of the EPA RMP or an authorized State RMPP.

### **Federal and/or State Mitigation Proficiency Requirement**

New Jersey regulations established two classifications of mitigation personnel: a radon mitigation specialist and radon mitigation technician. Both must pass New Jersey radon certification examinations. The EPA RCP program is not required and does not substitute for the New Jersey examination.

### **QA Plan**

QA plans are required for all radon service operators in accordance with EPA and State guidelines.

### **Education and/or Experience**

**Radon Measurement Specialist:** A Bachelor's degree in a natural science, one year radiation work experience, 6 months radon measurement experience. A certified Health Physicist meets the degree and radiation work experience requirement.

**Radon Measurement Technician:** 6 months radon measurement work experience.

**Radon Mitigation Specialist:** Any combination of 5 years of college education (curriculum in architecture, engineering, or HVAC studies) or work experience (the design, construction, and renovation of buildings, and associated HVAC systems, or design and installation of radon mitigation systems).

**Radon Mitigation Technician:** Two years experience in the building or construction trades, including the HVAC trade.

### **Training and/or Examination Requirement**

**Radon Measurement Specialist:** Complete a Department-approved course consisting of at least 24 hours.

**Radon Measurement Technician:** Complete a Department-approved course consisting of at least 16 hours.

**Radon Mitigation Specialist:** Complete a Department-approved course consisting of at least 24 hours.

## **NEW JERSEY (Cont.)**

### **Training and/or Examination Requirement (Cont.)**

**Radon Mitigation Technician:** Complete a Department-approved course consisting of at least 16 hours.

### **Audits (Office and/or Site)**

On-site audits are to be performed on a rotating basis every one to two years at the radon measurement or mitigation location. In addition, there is inspection of radon mitigation systems. On-site audits of radon laboratories are required for laboratory certification.

### **User Fees**

Besides application, examination, and annual certification fees, New Jersey has a unique system of fees based on a sliding scale for the number of measurement devices placed or the number of mitigations performed over a six-month period. The following Tables A, B, and C provide details of these fees.

**NEW JERSEY CERTIFICATION FEE SCHEDULE A**

	<b>Initial Course Fee</b>	<b>Continuing Education Course Fee</b>	<b>Examination Fee</b>	<b>Certification Application Fee</b>	<b>Annual Re-Certification Fee</b>	<b>Facility Inspection Fee (ea. insp.)</b>
<b>Radon Measurement Business</b>	N/A	N/A	N/A	400	200	400
<b>Radon Measurement Specialist</b>	200	135	200	150	75	N/A
<b>Radon Measurement Technician</b>	150	50	150	75	50	N/A
<b>Radon Mitigation Business</b>	N/A	N/A	N/A	400	200	400
<b>Radon Mitigation Specialist</b>	200	135	200	150	75	N/A
<b>Radon Mitigation Technician</b>	150	50	150	75	50	N/A

\* Fees are in dollars and non-refundable.

**NEW JERSEY FEE SCHEDULE B**  
**\*\*Program Administration Fees - Radon Measurement Business**

<b>Number of Measurement Devices Employed Each Semi-Annual Period*</b>	<b>Program Fee (\$)</b>		<b>Activity Fee (\$)</b>		<b>Total (\$)</b>	
- 0 -	[447]	318	0		[447]	318
1-49	[447]	318	[49]	37	[496]	355
50-99	[447]	318	[145]	110	[592]	428
100-199	[447]	318	[290]	219	[737]	573
200-299	[447]	318	[484]	365	[931]	683
300-499	[447]	318	[775]	584	[1,222]	902
500-999	[447]	318	[1,454]	1,095	[1,901]	1,413
1000-1999	[447]	318	[2,909]	2,190	[3,356]	2,508
2000-5000	[447]	318	[6,790]	5,110	[7,237]	5,428
Greater than 5000	[447]	318	[9,700]	7,300	[10,147]	7,618

- \* First Calendar Period: July 1 - December 31  
 Second Calendar Period: January 1 - June 30

\*\* The figures will be adjusted up or down annually by the previous 12 month inflation factor. The inflation factor is based upon the United States Department of Labor, Bureau of Labor Statistics data published in the monthly CPI Detailed Report. The data will be taken from the most recent report available on July 1 each year and the actual percentage used will be the past year percent change for the U.S. city average, all items, all urban consumers.

[] Amounts found in proposed regulations.

**NEW JERSEY FEE SCHEDULE C**

**\*\*Program Administration Fees - Radon Mitigation Business**

<b>Number of Buildings Mitigated Each Semi-Annual Period*</b>	<b>Program Fee (\$)</b>		<b>Activity Fee (\$)</b>		<b>Total (\$)</b>	
- 0 -	[746]	496	0		[746]	496
1-10	[746]	496	[144]	77	[890]	573
11-24	[746]	496	[459]	276	[1,205]	772
25-49	[746]	496	[971]	568	[1,717]	1,064
50-74	[716]	496	[1,627]	951	[2,373]	1,447
75-99	[746]	496	[2,283]	1,335	[3,029]	1,831
100-124	[746]	496	[2,939]	1,716	[3,685]	2,214
125-149	[746]	496	[3,595]	2,102	[4,341]	2,598
150-174	[746]	496	[4,251]	2,485	[4,997]	2,981
175-200	[746]	496	[4,920]	2,869	[5,666]	3,365
Greater than 200	[746]	496	[5,248]	3,068	[5,994]	3,564

\* First Calendar Period: July 1 - December 31  
Second Calendar Period: January 1 - June 30

\*\* The figures will be adjusted up or down annually by the previous 12 month inflation factor. The inflation factor is based upon the United States Department of Labor, Bureau of Labor Statistics data published in the monthly CPI Detailed Report. The data will be taken from the most recent report available on July 1 each year and the actual percentage used will be the past year percent change for the U.S. city average, all items, all urban consumers.

[] Amounts found in proposed regulations.



## **OHIO (Licensing Program to be enacted January 1992)**

### **Certification, Registration or Licensing**

The State requires licenses for all radon testers, radon mitigation contractors, and radon mitigation specialists. The State has the ability to approve laboratories and training. Licenses are for two-year periods.

### **Federal and/or State Measurement Proficiency Requirement**

The licensing program requires RMP-listing.

### **Federal and/or State Mitigation Proficiency Requirement**

The licensing program requires RCP-listing.

### **QA Plan**

A QA plan must be submitted with the provider's application for licensing or certification.

### **Education and/or Experience**

The State has a continuing education requirement.

### **Training and/or Examination Requirement**

Testers, mitigation contractors, and mitigation specialists must complete an approved training course and pass examination.

### **Audits (Office and/or Site)**

The State may examine the records of measurement and mitigation operators to determine compliance with State requirements.

### **User Fees**

Fees are \$800 for mitigation contractors and \$600 for mitigation specialists.

## **PENNSYLVANIA**

### **Certification, Registration or Licensing**

A full certification program is in effect for all radon measurement and mitigation operators and firms. All radon measurement firms, laboratories, and radon mitigation firms must have at least one certified individual to obtain certification.

### **Federal and/or State Measurement Proficiency Requirement**

Measurement laboratories and measurement operators must be RMP-listed.

### **Federal and/or State Mitigation Proficiency Requirement**

There is a State measurement proficiency requirement.

## **PENNSYLVANIA (Cont.)**

### **QA Plan**

Measurement operators and laboratories are required to have a QA program. Measurement and mitigation personnel are also required to follow EPA protocols and guidelines in carrying out their respective activities.

### **Education and/or Experience**

In addition to training and examination (see below), one year of professional experience in their respective areas is required of all operators. For radon mitigators this experience can be substituted for three years of experience in related professions, such as architecture, engineering or plumbing. Laboratory staff can substitute this experience with a Health Physics certification, but must also have a degree (or experience equivalent to a degree) in physical science or engineering.

### **Training and/or Examination Requirement**

Measurement laboratory staff, measurement operators and mitigation contractors are required to take a State-approved course in order to become certified. Measurement operators and mitigation contractors must also pass a State-approved examination. State approval is given to the RCP examination, and the examinations set by the States of Florida and New Jersey.

### **Audits (Office and/or Site)**

The State may audit all certified individuals and firms to enforce compliance with State requirements.

### **User Fees**

All applicants whether measurement operators, laboratories, or mitigators must pay an application fee for certification. This is set at \$200 for individual testers and mitigators, \$250 for laboratory staff, and \$500 for all firms.

## **VIRGINIA**

### **Federal and/or State Measurement Proficiency Requirement**

All firms must be RMP-listed.

### **Federal and/or State Mitigation Proficiency Requirement**

All firms must be RCP-listed.

**APPENDIX B  
LIST OF STATE CONTACTS**

**ALABAMA**

Division of Radiation Control  
State Department of Public Health  
434 Monroe Street, Room 510  
Montgomery, AL 36130-1701  
(205) 242-5315

**ALASKA**

State Department of Health and Social Services  
Division of Public Health  
P.O. Box H  
Juneau, AK 99811-0610  
(907) 465-3019

**ARIZONA**

State Radiation Regulatory Agency  
4814 South 40th Street  
Phoenix, AZ 85040  
(602) 255-4845

**ARKANSAS**

Div. of Radiation Control & Emergency Mgmt.  
State Department of Health  
4815 West Markham Street  
Little Rock, AR 72205-3867  
(501) 661-2301

**CALIFORNIA**

State Department of Health Services  
714 P Street, Room 600  
Sacramento, CA 95814  
(916) 322-2040

**COLORADO**

Radiation Control Division  
State Department of Health  
4210 East 11th Avenue  
Denver, CO 80220  
(303) 331-8481

**CONNECTICUT**

Radon Program  
Connecticut Department of Health Services  
Hartford CT 06106-4474  
(203) 566-3122

**DELAWARE**

Office of Radiation Control  
Division of Public Health  
Delaware Bureau of Environmental Health  
P.O. Box 637  
Dover, DE 19901  
(302) 739-3787

**DISTRICT OF COLUMBIA**

D.C. Dept. of Consumer & Regulatory Affairs  
614 H Street, N.W., Room 1014  
Washington, D.C. 20001  
(202) 727-7221

**FLORIDA**

Office of Radiation Control  
Department of Health & Rehabilitative Services  
1317 Winewood Boulevard  
Tallahassee, FL 32499-0700  
(904) 488-1525

**GEORGIA**

State Department of Human Resources  
878 Peachtree Street, Room 100  
Atlanta, GA 30309  
(404) 894-6644

**GUAM**

Guam Environmental Protection Agency  
IT&E Harmon Plaza, D-107  
130 Rojas Street  
Harmon, Guam 96911

**HAWAII**

Radiation Branch  
State Department of Health  
591 Ala Moana Boulevard  
Honolulu, HI 96813-2498  
(808) 548-4383

**IDAHO**

State Department of Health and Welfare  
Bureau of Preventive Medicine  
450 West State Street  
Boise, ID 83720  
(208) 334-6584

**ILLINOIS**

Illinois Department of Nuclear Safety  
1301 Knotts Street  
Springfield, IL 62703  
(217) 786-7126

**INDIANA**

Radiological Health Section  
Indiana State Board of Health  
1330 W. Michigan Street, P.O. Box 1964  
Indianapolis, IN 46206  
(317) 633-8563

**IOWA**

Bureau of Radiological Health  
Iowa Department of Public Health  
Lucas State Office Building  
Des Moines, IA 50319-0075  
(515) 281-7781

**KANSAS**

Radiation Control Program  
Environmental Health Services  
State Department of Health and Environment  
109 SW 9th Street, 6th Fl, Mills Bldg  
Topeka, KS 66612  
(913) 296-1560

**KENTUCKY**

Radiation Control Branch  
Division of Community Safety  
Department of Health Services  
Cabinet for Human Resources  
275 East Main Street  
Frankfort, KY 40621-0001  
(502) 564-3700

**LOUISIANA**

Radiation Protection Division  
State Department of Environmental Quality  
P.O. Box 14690  
Baton Rouge, LA 70898-4690  
(504) 925-4518

**MAINE**

Indoor Air Program  
Division of Health Engineering  
Department of Health Services  
State House, Station 10  
Augusta, ME 04333  
(207) 289-5692

**MARYLAND**

Radiological Health Program  
Maryland Department of the Environment  
2500 Broening Highway  
Baltimore, MD 21224  
(301) 631-3300

**MASSACHUSETTS**

State Department of Public Health  
Western MA Health Office  
23 Service Center  
Northampton, MA 01060  
(413) 586-7525

**MICHIGAN**

Division of Radiological Health  
Bur. of Environmental & Occupational Health  
State Department of Public Health  
3423 N. Logan Street/Martin L. King, Jr. Blvd.  
P.O. Box 30195  
Lansing, MI 48909  
(517) 335-8190

**MINNESOTA**

State Indoor Air Quality Unit  
925 Delaware Street, SE  
P.O. Box 59040  
Minneapolis, MN 55459-0040  
(612) 627-5012

**MISSISSIPPI**

Division of Radiological Health  
State Department of Health  
3150 Lawson Street  
P.O. Box 1700  
Jackson, MS 39215-1700  
(601) 354-6657

**MISSOURI**

Bureau of Radiological Health  
State Department of Health  
1730 East Elm, P.O. Box 570  
Jefferson City, MO 65102  
(314) 751-6083

**MONTANA**

Occupational Health Bureau  
State Dept. of Health & Environmental Sciences  
Cogswell Building A113  
Helena, MT 59620  
(406) 444-3671

**NEBRASKA**

Division of Radiological Health  
State Department of Health  
301 Centennial Mall, South  
P.O. Box 95007  
Lincoln, NE 68509  
(402) 471-2168

**NEVADA**

Radiological Health Section  
State Health Division  
505 East King Street, Room 203  
Carson City, NV 89710  
(702) 687-5394

**NEW HAMPSHIRE**

Bureau of Radiological Health  
State Division of Public Health Services  
Health & Welfare Bldg, Six Hazen Drive  
Concord, NH 03301  
(603) 271-4674

**NEW JERSEY**

Radiation Protection Programs  
Division of Environmental Quality  
Department of Environmental Protection  
CN 415, 729 Alexander Road  
Trenton, NJ 08625-0145  
(609) 987-6389

**NEW MEXICO**

Radiation Licensing and Registration Section  
State Environmental Improvement Division  
1190 St. Francis Drive  
Santa Fe, NM 87503  
(505) 827-2948

**NEW YORK**

Bureau of Environmental Radiation Protection  
State Health Department  
Two University Place  
Albany, NY 12203  
(518) 458-6461

**NORTH CAROLINA**

Division of Radiation Protection  
State Department of Environment, Health, and  
Natural Resources  
P.O. Box 27687  
Raleigh, NC 27611-7687  
(919) 571-4141

**NORTH DAKOTA**

Division of Environmental Engineering  
State Department of Health  
1200 Missouri Avenue, Room 304  
P.O. Box 5520  
Bismarck, ND 58502-5520  
(701) 221-5188

**OHIO**

Radiological Health Program  
Department of Health  
246 North High Street, P.O. Box 118  
Columbus, OH 43266-0118  
(614) 644-2727

**OKLAHOMA**

Radon Protection Division  
State Department of Health  
P.O. Box 53551  
Oklahoma City, OK 73152  
(405) 271-5221

**OREGON**

Department of Human Resources  
State Health Division  
1400 SW 5th Avenue  
Portland, OR 97201  
(503) 229-5797

**PENNSYLVANIA**

Pennsylvania Dept. of Environmental Resources  
Bureau of Radiation Protection  
P.O. Box 2063  
Harrisburg, PA 17120  
(717) 787-2480

**PUERTO RICO**

Radiological Health Division  
G.P.O. Call Box 70184  
Rio Piedras, Puerto Rico 00936  
(809) 767-3563

**RHODE ISLAND**

Div. of Occupational and Radiological Health  
State Department of Health  
206 Cannon Building, 3 Capitol Hill  
Providence, RI 02908  
(401) 277-2438

**SOUTH CAROLINA**

Bureau of Radiological Health.  
State Dept. of Health & Environmental Control  
2600 Bull Street  
Columbia, SC 29201  
(803) 734-4700

**SOUTH DAKOTA**

State Department of Water and Natural  
Resources  
523 E. Capitol  
Pierre, SD 57501  
(605) 773-3351

**TENNESSEE**

State Department of Health and Environment  
Division of Air Pollution Control  
701 Broadway, 4th Floor  
Nashville, TN 37247-3101  
(615) 741-3651

**TEXAS**

Radiological Assessment Program  
Bureau of Radiation Control  
State Department of Health  
1100 West 49th Street  
Austin, TX 78756  
(512) 835-7000

**UTAH**

Bureau of Radiation Control  
State Department of Health  
P.O. Box 16690, 288 North, 1460 West  
Salt Lake City, UT 84116-0690  
(801) 538-6734

**VERMONT**

Occupational & Radiological Health Operations  
Division of Occupational & Radiological Health  
State Department of Health  
10 Baldwin Street, Administrative Bldg.  
Montpelier, VT 05602  
(802) 828-2886

**VIRGINIA**

Bureau of Radiological Health  
Department of Health  
109 Governor Street, Room 916  
Richmond, VA 23219  
(804) 786-5932

**VIRGIN ISLANDS**

Contact the U.S. EPA, Region 2 in New York  
Mail Code 2AWM-RAD  
26 Federal Plaza  
New York, NY 10278  
(212) 264-4418

**WASHINGTON**

Division of Radiation Protection  
State Department of Health  
Airdustrial Building 5, LE-13  
Olympia, WA 98504  
(206) 753-4518

**WEST VIRGINIA**

Office of Environmental Health Services  
Industrial Hygiene Division  
State Bureau of Public Health  
151 11th Avenue  
South Charleston, WV 25303  
(304) 348-3526

**WISCONSIN**

Radon Program, Radiation Protection Section  
Division of Health  
State Department of Health and Social Services  
P.O. Box 309  
Madison, WI 53701-0309  
(608) 267-4795

**WYOMING**

Environmental Health Programs  
State Department of Health  
Hathway Building, 4th Floor (Room 482)  
Cheyenne, WY 82002-0710  
(307) 777-6015

## **List of Four Radon Regional Training Centers**

### **Southern Regional Radon Training Center**

Auburn University (lead center),  
University of Louisville, University of Tulsa, and Texas A&M  
238 Harbert Engineering Center  
Auburn University, AL 36849  
(205) 844-4370

### **Midwest Universities Radon Consortium**

University of Minnesota (lead center),  
University of Michigan, and Kansas State University  
1985 Buford Avenue (240)  
St. Paul, MN 55108-1101  
(612) 624-5343

### **Eastern Regional Radon Training Center**

Rutgers University  
Radiation Science  
Kilmer Campus, Bldg. 4087  
New Brunswick, NJ 08903  
(908) 932-2582

### **Western Regional Radon Training Center**

Colorado State University  
Department of Industrial Sciences  
Fort Collins, CO 80523  
(303) 491-7742

## **REGIONAL OFFICES**

### **Region 1**

**Radiation Program Manager, Region 1  
U.S. Environmental Protection Agency  
John F. Kennedy Federal Building  
Room 2311  
Boston, MA 02203  
(617) 565-4502**

### **Region 5**

**Radiation Program Manager, Region 5  
(5AR26)  
U.S. Environmental Protection Agency  
230 S. Dearborn Street  
Chicago, IL 60604  
(312) 353-2206**

### **Region 2**

**Radiation Program Manager, Region 2  
U.S. Environmental Protection Agency  
Room 1137-L  
26 Federal Plaza  
New York, NY 10278  
(212) 264-4110**

### **Region 6**

**Radiation Program Manager, Region 6  
U.S. Environmental Protection Agency  
Chief, Technical Section (6T-ET)  
Air, Pesticides and Toxics Division  
1445 Ross Avenue  
Dallas, TX 75202-2733  
(214) 655-7223**

### **Region 3**

**Radiation Program Manager, Region 3  
Special Program Section (2AM12)  
U.S. Environmental Protection Agency  
841 Chestnut Street  
Philadelphia, PA 19107  
(215) 597-8326**

### **Region 7**

**Radiation Program Manager, Region 7  
U.S. Environmental Protection Agency  
726 Minnesota Avenue  
Kansas City, KS 66101  
(913) 551-7020**

### **Region 4**

**Radiation Program Manager, Region 4  
U.S. Environmental Protection Agency  
345 Courtland Street, N.E.  
Atlanta, GA 30365  
(404) 347-1729**

### **Region 8**

**Radiation Program Manager, Region 8  
(8HWM-RP)  
U.S. Environmental Protection Agency  
Suite 500  
999 18th Street  
Denver, CO 80202-2405  
(303) 293-1713**