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Criteria for Certification of Radon Service Providers, the Accreditation of Radon Chambers and Laboratories, and the Approval of Measurement Devices

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Developed by the CRCPD
Suggested Regulations Working Group
(Part R – Radon)(SR-11)

February 2002

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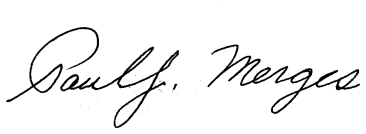
FOREWORD

The Conference of Radiation Control Program Directors, Inc. (CRCPD) is an organization made up of the radiation control programs in each of the 50 states (except Wyoming, which has no radiation control program), the District of Columbia, and Puerto Rico, and of individuals, regardless of employer affiliation, with an interest in radiation protection. The primary purpose and goal of CRCPD is to assist its members in their efforts to protect the public, radiation worker, and patient from unnecessary radiation exposure. CRCPD also provides a forum for centralized communication on radiation protection matters between the states and the federal government, and between the individual states.

One method of providing assistance to the states, as well as to other interested parties, is through technical and administrative publications. Most technical publications of CRCPD are written by various committees, task forces or special working groups. Most administrative publications are written by staff of the Office of Executive Director (OED).

CRCPD's mission is "to promote consistency in addressing and resolving radiation protection issues, to encourage high standards of quality in radiation protection programs, and to provide leadership in radiation safety and education."



Paul Merges, Ph.D.
Chairperson, Conference of Radiation
Control Program Directors, Inc.

PREFACE

The purpose of this document is to identify the components of a privatized radon quality assurance or proficiency program to be administered by a private board. The recommendations presented here cover the certification, device approval, and accreditation services provided by the board, and the structure and purposes of the board. These recommendations include many components of the current United States Environmental Protection Agency's National Radon Proficiency Program that can be administered by a private sector board. In addition, modifications and new features are included that were proposed by stakeholders.

ACKNOWLEDGMENTS

The Conference of Radiation Control Program Directors, (CRCPD) and the Suggested Regulations (Part R – Radon)(SR-11) committee members would like to thank all of the stakeholders who provided many valuable comments and insights into the radon program either at the stakeholder meetings or by mail and facsimile. This document was prepared by SR-11 committee members Karen Tuccillo, Chairperson, and Walter Klein, with assistance from William Bell and Linda Martin.

Walter G. Klein, Chairperson
Suggested Regulations—Part R -Radon

ABSTRACT

CRCPD Suggested Regulations (Part R -Radon)(SR-11) Working Group, *Criteria for Certification of Radon Service Providers, the Accreditation of Radon Chambers and Laboratories, and the Approval of Measurement Devices.* CRCPD Publication E-02-2 (February 2002)(26pp).

This document identifies the components of a privatized radon certification or proficiency program to be administered by a private board. The recommendations cover the certification, device approval, and accreditation services that can be provided by a private board, and the structure and purposes of the board.

CRITERIA ADDENDUM

In light of USEPA's 1999 adoption of a comprehensive Quality Management Program as its own quality system, and that a comprehensive Quality Management Program is required for USEPA contractors and organizations receiving assistance (such as State Indoor Radon Grants), the quality requirements in this document are, with this Addendum, brought into alignment with the current USEPA quality standard.

The USEPA's quality program guidance is QA/R5, which is USEPA's adaptation of *ANSI/ ASQ's E-4 - 1994 Specification and Guidelines for Quality Systems for Environmental Data Collection and Environmental Technology Programs.* The certification body, radon measurement and mitigation practitioners, laboratories, and chambers are expected to commit to and implement quality programs that are consistent with these above mentioned documents, or their equivalents in nationally recognized quality standards, as applicable to their specific practices.

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SECTION 1
INTRODUCTION

1.1 PURPOSE

The purpose of this document is to identify the components of a privatized radon quality assurance or proficiency program to be administered by a private board. The recommendations presented here cover the certification, device approval, and accreditation services provided by the board, and the structure and purposes of the board. These recommendations include many components of the current United States Environmental Protection Agency's (EPA) National Radon Proficiency Program that can be administered by a private sector board. In addition, modifications and new features are included that were proposed by stakeholders.

1.2 BACKGROUND

The EPA began operating its voluntary Radon Measurement Proficiency Program (RMP) in 1986 and began its Radon Contractor Proficiency Program (RCP) in 1989. Through these quality assurance programs the EPA evaluates the proficiency of radon measurement and mitigation service providers utilizing performance testing, written examinations, and training. The EPA regularly publishes lists of proficient service providers and provides the lists to state radon offices, national organizations, and consumers. The radon proficiency programs provide assistance to states in support of their radon industry certification programs and offer consumers quality assurance for radon measurement and mitigation service providers.

In 1994, the EPA began working to consolidate the RMP and RCP into one streamlined program to better meet industry needs and reduce costs. The consolidated program officially became the Radon Proficiency Program (RPP) in October 1995. The EPA held several stakeholders meetings to accomplish this. The agency also began investigating the feasibility of privatization of all or portions of the RPP. Over the past few years it was suggested that the RPP functions could be performed better by a private group rather than by government. This would allow the federal government to shift their resources to other essential program components. EPA and CRCPD agreed that CRCPD would lead an effort to redesign the RPP so that it could be done by a private enterprise. CRCPD's Board of Directors then assigned the task of drafting a document containing the necessary components of a privatized program to the Suggested State Radon Regulations Committee (SR-11).

The Conference of Radiation Control Program Directors (CRCPD), through a cooperative agreement with the EPA, sponsored its *First CRCPD Radon Stakeholders Meeting* in Pittsburgh, Pennsylvania on October 6 and 7, 1997, in order to solicit comments from a diverse group of interested parties on a proposal for privatizing the EPA's National Radon Proficiency Program. Representatives from the American Association of Radon Scientists and Technologists (AARST), individual states, private industry, CRCPD Board of Directors, CRCPD's Suggested State Radon Regulations Committee (SR-11) and the Committee on Radon (E-25), Radon Training Centers, and the EPA attended this meeting. Mary Smith (Director, EPA's Indoor Environments Division), Jill Lipoti (Chairperson, CRCPD) and Ray Johnson (President, AARST) presented their perspectives on the establishment of a national radon certification program. Ed Chu (EPA) gave an overview of the

NELAC (National Environmental Laboratory Accreditation Conference) for the group's consideration in the development of national radon laboratory accreditation requirements.

Prior to the meeting, the CRCPD distributed a draft prospectus for privatization to over 200 interested parties (including states, AARST members, EPA cooperative partners, and consumer groups) and posted the prospectus on a CRCPD internet site established specifically for the radon privatization effort (http://www.webpub.com/~crcpd/radon.htm) in order to obtain comments from individuals not able to attend the meetings.

The context of the meeting in Pittsburgh focused around five breakout session topics that are instrumental in privatizing EPA's National Radon Proficiency Program: (1) radon tester; (2) radon mitigator; (3) approval and accreditation requirements for radon and radon decay product measurement devices, radon chambers, and radon laboratories; (4) the operational board and committees; and (5) the transition to privatization.

Requirements including education, experience, exams, continuing education credits, ethics, and rights to appeal certification decisions for two levels of radon testers were discussed. The need for additional training and experience requirements for mitigators who remediate large buildings, such as schools, was voiced. The session on devices, radon chambers, and radon laboratories reviewed minimum requirements for operation and identified documents already in draft that would facilitate the privatization process. One entire session was devoted to discussing the necessary functions of a private certification group, the make-up of committees that would be established in support of this group, and tools that could be used to measure the group's success. Discussions on transition to privatization included functions or services that a private certification program could provide to states and to industry while the private group is being piloted for success.

The meeting was designed to be a forum for stakeholder review of the needed elements of a national certification program. Following the meeting, facilitators from Oak Ridge Associated Universities compiled recommendations and comments from the sessions and CRCPD distributed them to meeting attendees and to others who provided written comments.

The result of the *First CRCPD Radon Stakeholders Meeting* was the incorporation of stakeholder recommendations, by CRCPD's SR-11 Committee, into a draft "strawman" document containing the necessary components of a national radon certification program for radon testers and mitigators. This document became the basis of discussion for privatization of EPA's National Radon Proficiency Program at a session held on November 5, 1997, during the joint AARST/National Radon Meeting in Cincinnati, Ohio. Following the Cincinnati meeting, SR-11 committee members incorporated additional stakeholder comments, further refining the draft "strawman" document for discussion at the *Second CRCPD Radon Stakeholders Meeting* held on December 5, 1997, in Baltimore, Maryland. Comments that resulted from this second stakeholders meeting were incorporated into the final plan for privatization.

All documents produced as a result of the radon privatization effort were posted on the CRCPD radon internet site at http://www.webpub.com/~crcpd/radon.htm.

Throughout the privatization process, questions the SR-11 committee sought to answer included the following: Can we describe the minimum structure of a private certification board that

would be appropriate to administer a national radon certification program? Are there minimum certification requirements within each certification category that can be established in order to assure tester and mitigator competency? Once a national certification board and certification categories are established, how should investigations and enforcement actions be handled?

The SR-11 committee's ultimate goal is to present a final document containing the criteria established by this process to the CRCPD's Board of Directors for adoption. The approved document will become part of a request for proposal to those interested in establishing such a board. The final document will be pilot tested with a private organization for one year, after which the private organization will provide the CRCPD with the results of the pilot, including any recommended changes.

SECTION 2
RADON BOARD CREDENTIALING AND STATE RADON PROGRAMS

2.1 CERTIFICATION OF RADON MEASUREMENT AND MITIGATION SERVICES PROVIDERS

Under the current EPA Radon Proficiency Program, individuals may be listed in one of three categories: (1) residential measurement service provider, (2) analytical measurement service provider, (3) residential mitigation service provider. Organizations may also be listed as analytical service providers. Analytical service providers are listed by the brand, model, and type of device they provide services with. During the stakeholder meetings, several participants expressed the need for an entry level measurement service provider who would not provide any type of analytical services. The certification cost associated with this entry level would be lower because fewer hours of training are required. Stakeholders also proposed an advanced mitigation service provider who would receive additional training in the mitigation of complex or large-scale buildings. To meet these needs, and to continue services that are approximately equivalent to the current EPA Radon Proficiency Program, the following certification categories for radon service providers are recommended to the board:

- Board certified radon measurement technician - an individual who provides services with approved devices that are not read or analyzed by the technician. These devices must be processed by an approved analytical service provider.
- Board certified radon measurement specialist - an individual who provides services with approved radon and radon decay product measurement devices including approved portable analytical devices. This category is approximately equivalent to the residential service provider under the current EPA Radon Proficiency Program. However, stakeholders expressed a need to provide additional training in quality assurance and quality control to these individuals.
- Board certified residential mitigation service provider - an individual who provides radon mitigation services in family residences. The board should determine if multi-family residential units are within the scope of the residential mitigator and whether limits on the number of family units within the same building should be imposed. This category is approximately equivalent to the residential mitigation service provider in the current RPP; however, the EPA does not preclude their participants from offering non-residential mitigation services.
- Board certified advanced mitigation service provider - an individual who provides radon mitigation services in all types of buildings.

A certification means the applicant has met the minimum board requirements of prior education, training, examination and/or experience to establish competence in the respective category of radon services. Additional information for measurement and mitigation services providers is found in section 4, Board Certification of Radon Services Providers.

2.2 APPROVAL OF RADON AND RADON DECAY PRODUCT MEASUREMENT DEVICES

The EPA has evaluated many devices used separately or as components for the measurement of radon or radon decay products in indoor air. The device types that pass the program's evaluation criteria are listed in the Radon Proficiency Program Handbook. However, the EPA states in its handbook that "the radon and radon decay product measurement devices included in these checklists are not endorsed or approved by EPA and should not be interpreted as such."

It is recommended that the board establish and phase in a device evaluation program to replace this component of the proficiency program. Through consultation with the EPA, the board should adopt or adapt the existing criteria for device evaluation and listing. It is desirable that the EPA continue to evaluate new devices and continue to require participants to pass its initial device performance test until the board has set up a replacement program.

Board approval of a radon or radon decay product measurement device means the device passed the criteria for accuracy, precision, and quality assurance over a range of environmental conditions representative of indoor environments in different climates during the evaluation and performance test. Once the device evaluation program has been phased in, the board should allow manufacturers of approved devices to advertise that their device is "board approved." However, devices advertised as such must be manufactured to the same specifications as those submitted for testing in order to retain the device approval.

2.3 ACCREDITATION OF RADON CHAMBERS AND RADON LABORATORIES

Board accreditation of radon laboratories and radon chambers means that these facilities have demonstrated requirements for design, operational procedures, performance, and quality assurance. The board should allow radon chambers and radon laboratories to advertise that they are "board accredited."

2.4 MEANING OF A PRIVATE BOARD CREDENTIAL

A certification, device approval, or accreditation from the board simply means that the minimum board requirements for that credential have been satisfied. It does <u>not</u> convey a legal qualification to do business or sell devices in any state that has other restrictions or additional requirements for radon licensing, certification, device approval, and laboratory or radon chamber accreditation. Individuals and organizations with credentials from the board are subject to the requirements of each state in which they operate. Individuals and organizations that receive credentials from the board may advertise that they are 'board certified," or "board accredited." Devices may be advertised as "board approved."

2.5 STATE RADON PROGRAMS AND BOARD CREDENTIALING

State radon programs can become an important "customer" of services provided by the board. The board and state licensing and certification programs share the goals of reducing radon

exposure by increasing public awareness, and protecting consumers through training and standards for radon services. A board program with high standards, reduced costs to the participants, and more options for states and individuals will increase participation by both states and individuals.

2.5.1 State and Federal Radon Programs

The "Strategy on Federal/State Cooperation for Radon Certification Program Development," EPA #22A-5000, January 1992, stated that "There is no universally preferable structure for state radon quality assurance programs. States have many options." This has been demonstrated by the variety of state programs in existence today.

At a basic level, some states have consumer information programs that promote radon testing and EPA listed service providers. Other states have licensing, certification, and enforcement programs for different categories of radon services providers and businesses. Many of these advanced state programs use elements of the voluntary federal program by requiring participation in the Radon Proficiency Program in different ways. Some states duplicate some of the federal functions by using examinations specific to their programs or use an alternate device proficiency program to reduce costs to the industry.

2.5.2 State Options Using Board Credentialing

If the board implements all of the recommended certification categories, states will have more options for licensing and certifying individuals using board certifications. For example, states that now have two levels of measurement service providers should carefully evaluate the certification criteria used by the board for measurement technician and specialist. If these provide the necessary quality assurance and consumer protection, the states can take action to incorporate both levels into their program. Other states may want to retain just one level of measurement service provider and can adopt the level that best meets their needs. States that have special needs could require board certification and, in addition, a short training course or examination specific to that state's program.

Using the credentialing services provided by the board can reduce the time and effort states devote to the licensing or certification process. Ideally, these resources can then be directed to better monitoring, enforcement, and improved quality assurance programs, as well as other priority areas such as outreach or research.

2.5.3 Reciprocity Among State Radon Programs

States that accept board certifications and accreditations for their programs should find it easier to establish formal reciprocity programs with other states. However, even when a state accepts another state program as equivalent to its own, the state will collect fees to cover its program costs. Also, states are likely to be conservative when formally establishing reciprocity with another state.

Formal reciprocity among states becomes less important when they are using the same or similar criteria for their licensing or certification programs. It becomes much easier for an individual to become licensed or certified in multiple states when the states accept the

same board credentials. In this way, industry costs are reduced by eliminating redundant training or examination requirements.

2.6 VALUE TO STAKEHOLDERS

There are many stakeholders who can benefit from the establishment of a private radon certification board. Among them are radon testers and mitigators; states, both regulatory and non-regulatory; radon educators; home inspectors; consumers; and real estate professionals. With participation from this diverse group of interested parties, creating a private board to issue certificates, device approvals, and accreditations can provide a forum to develop consensus standards. Reliance on the board to review applications and administer exams can enable states to shift more resources to essential state program components such as outreach and enforcement. Benefits to the radon measurement industry can result through the reduction of redundant training and examination requirements and through reduced participation costs. Since participants will have to maintain proficiency through renewal certification requirements, consumer and state trust can build through the private board certification process.

Development of an efficient and quality privatized program could result in the EPA recognizing the private board. The EPA, the CRCPD, states, and the board could all participate in promoting the private certification program. This would increase public confidence in radon testing and mitigation services.

SECTION 3
PURPOSE, STRUCTURE, AND OPERATIONAL CRITERIA OF A PRIVATIZED RADON BOARD

3.1 PURPOSE

The primary purpose of the board is to administer a national program to assess and promote the proficiency and quality assurance of radon and radon decay product measurement devices, radon chambers, radon laboratories, and measurement and mitigation service providers in order to reduce unnecessary radiation exposures from radon and radon decay products.

3.1.1 Objectives

The following activities of the privatized radon board support this purpose:

- Establish and promote uniform standards and practice for radon measurement and mitigation
- Encourage the highest standards of practice, professional ethics, and integrity in radon services
- Determine the competence of professional radon testers and mitigators through education and examination requirements for certification by the board
- Determine the performance of radon and radon decay product measurement devices by testing in approved radon chambers over a range of environmental conditions representative of indoor environments in different climates
- Establish criteria for the design and operation of radon chambers, and determine the performance of radon chambers by reference to the EPA chamber or the NIST (National Institute of Standards and Technology) standard
- Issue certificates to radon testers and mitigators, radon and radon decay product measurement devices, radon laboratories, and radon chambers, and maintain a registry of such certificates
- Require continuing education and promote improvements in radon services and radon and radon decay product measurement devices to encourage high standards of practice
- Provide a certification renewal program for individuals demonstrating continued professional development, for devices meeting performance requirements, and for radon laboratories and radon chambers demonstrating quality assurance requirements

3.2 BOARD STRUCTURE

The board should have from 12 to 15 members to provide adequate representation of all Stakeholders.

3.2.1 Board members should be obtained from the following categories of stakeholders:

- States, regulatory, and non-regulatory

- Radon testers
- Radon mitigators
- Radon chambers
- Radon laboratories
- Radon device manufacturers
- Radon educators
- Home inspectors
- Public interest/consumer sector
- Real estate professionals
- Standard setting organizations such as the ICRP (International Council on Radiation Protection) or NCRP (National Council on Radiation Protection and Measurements)
- EPA (non-voting member)

3.2.2 The board should establish a mechanism, such as an advisory council or announced open board meetings, to allow for stakeholder representation and access to the board.

3.2.3 Board members should be certified in radon testing or mitigation or should be appropriately qualified as determined by the board.

3.2.4 Board members should act as individuals and not as representatives of any organization, and should receive no compensation for services from the board.

3.2.5 The terms of office of each board member should be three years beginning January 1 following election to the board. Terms of office should be staggered in order to minimize the number of board vacancies occurring in a given year. If a board member is unable to complete a term of office for any reason, the board should, by majority vote of the remaining board members, elect a replacement for the remainder of the term from that discipline.

3.2.6 A board member may be removed from the board for unethical conduct or other just cause. The board should have a conflict of interest/ethics code for actions that involve board members. A mechanism should be provided to allow board members, who may be unable to travel, to provide comment at board meetings without direct participation, such as absentee voting, voting by proxy, or electronic voting.

3.2.7 Members of the board appointed panels or committees should be allowed to sit with the board without voting privileges.

3.2.8 It is recommended that board members be covered by liability insurance.

3.3 BOARD ADMINISTRATION

The Board shall retain the services of a professional Executive Secretary to maintain a centralized office. This Executive Secretary shall perform the administrative functions including normal correspondences, accounting, bookkeeping, financial reporting, recordkeeping, and

processing of applications and associated fees for certifications and renewals of certifications. It is recommended that the Executive Secretary also administer, grade, and maintain the security of the board's examinations.

3.3.1 The board, through the appropriate panels or committees, shall develop procedures for addressing the following key administrative functions:

- Handling phone inquiries
- Interfacing with customer groups
- Distribution of new and updated radon documents as well as notification of courses, exams, and other key information
- Database/website development and maintenance
- Communications to states regarding state needs
- Records tracking
- Exam administration, grading, distribution of results, maintenance, and security
- Maintaining lists of certified individuals, approved devices, accredited radon laboratories, and accredited radon chambers

3.3.2 The board, through the appropriate panels or committees, shall develop procedures and tracking mechanisms for processing certifications from application for certification to receipt of certification within specific deadlines that include documentation on when/why applications are sent back to the applicant and when/why applications are routed to specific panels by the Executive Secretary.

3.3.3 The board, through the appropriate panels or committees, shall develop procedures describing actions for which a certification, approval, or accreditation can be denied or revoked.

3.3.4 The board, through the appropriate panels or committees, shall develop procedures describing the process by which an applicant can appeal a board decision regarding the denial or revocation of a certification, approval, or accreditation or by which a board member can appeal removal from the board.

3.3.5 The board, through the appropriate panels or committees, shall develop procedures for the review of initial and continuing education courses, course instructors, measurement standard operating procedures (SOPs), mitigation SOPs, radon testers, radon mitigators, radon and radon decay product measurement devices, radon laboratories, and radon chambers.

3.3.6 The board shall develop a plan with estimated timeframes for the following:

- Development of procedures listed in sections 3.3.1 through 3.3.5
- Date of establishment of the board
- Date of establishment of panels
- Date of establishment of committees
- Date when the board will begin issuing certifications, approvals and accreditations
- Revenues, costs, and funding sources that will secure the board's financial security

- Costs of certification for applicants

3.3.7 The board shall develop a process for evaluating the success of the board in order to facilitate state and industry "buy-in." At a minimum, it is recommended that the board evaluate the following components:

- Number of private program participants, including the number of regulatory state, non-regulatory state, and industry participants
- Resolution of complaints
- Number of uncertified individuals conducting business
- Number of homes tested and mitigated
- An evaluation of customer service, such as response to phone inquiries

3.4 NOMINATIONS AND ELECTIONS

The board should appoint a nominating committee to address how nominations and elections should be run.

3.4.1 The board, through its nominating committee, should develop a process for the nomination and election of initial board members and future board members, and develop a process for the selection and appointment of panel members and committee members.

3.4.2 For the election of board members, this process should address the following:

- Who can nominate an individual for the board
- Who can review credentials and select the slate of candidates for the board, and
- Who is eligible to vote for a board member

3.4.2 For the selection of panel and committee members, this process should address the following:

- Who can nominate an individual for a panel or a committee
- Who is eligible to review credentials and to appoint a panel or committee member

3.5 PANELS

The board should establish panels that report to the board. These panels should develop the criteria for certification, device approval, and accreditation, and develop standard operating procedures for reviewing applications and granting certifications, device approvals, and accreditations. These standards and procedures shall be approved by the board.

3.5.1 At a minimum, the following panels should be established:

- Measurement service provider certification
- Mitigation service provider certification

- Measurement device approval
- Radon chamber accreditation
- Radon laboratory accreditation
- Examinations

3.5.2 Participation in each panel should be solicited from the pertinent groups identified under section 3.2.1.

3.5.3 Other panels may be established for the efficient administration of board affairs, as determined by the board.

3.5.4 Members of panels and their chairs should be subjected to a board approved nominations and appointment process.

3.5.5 The term of panel appointment should not exceed three years. Additional terms should be allowed, following review by the board.

3.5.6 It is recommended that one-third of the panel membership be changed each year.

3.5.7 Panel members should be appropriately qualified for their panel as determined by the board approved selection criteria.

3.6 COMMITTEES

The board should establish committees that report to the board. These committees should gather data, set criteria, develop protocols and standards, and make recommendations or nominations. These criteria, protocols, and standards shall be approved by the board.

3.6.1 At a minimum, the following committees should be established:

- Nominating
- Public Awareness
- Professional Standards, Ethics, and Investigations
- Government Relations
- Protocols and Standards of Practice

3.6.2 Participation in each committee should be solicited from the pertinent groups identified under 3.2.1.

3.6.3 Other committees may be established for the efficient administration of board affairs, as determined by the board.

3.6.4 Members of committees and their chairs should be subjected to a board approved nominations and appointment process.

3.6.5 The term of committee appointment should not exceed three years. Additional terms should be allowed, following review by the board.

3.6.6 It is recommended that one-third of the committee membership be changed each year.

3.6.7 Committee members should be appropriately qualified for their committee as determined by the board approved selection criteria.

3.7 CERTIFICATION, DEVICE APPROVAL, AND ACCREDITATION

Standard operating procedures for reviewing and tracking all applications for certification, device approval, and accreditation should be established by the board in concurrence with the appropriate panels or committees. This process should be documented in order to ensure consistent application reviews and should include checks and balances for industry members who may find themselves reviewing applications of competitors.

3.7.1 Applicants for certification, approval, or accreditation shall apply to the board on forms designated by the board. The board should work with the government relations committee to develop forms suitable to the certification, device approval, and accreditation criteria and states needs.

3.7.2 Applicants for certification as radon measurement or mitigation service providers shall fulfill the examination requirements of section 4, Board Certification of Radon Service Providers.

3.7.3 Applicants for measurement device approval shall submit results of quality assurance and performance testing.

3.7.4 Applicants for accreditation of radon laboratories and radon chambers shall provide design and operational criteria for their facility and provide quality assurance test results.

3.8 CERTIFICATION AND ACCREDITATION RENEWAL

Standard operating procedures for renewing certifications and accreditations should be established by the board in concurrence with the appropriate panels or committees.

3.8.1 All certifications shall be renewed every two years.

3.8.2 Applicants for renewal as measurement or mitigation service providers shall demonstrate the requisite number of continuing education credits.

3.8.3 Applicants for accreditation of radon laboratories or radon chambers shall meet quality assurance requirements as determined by the board.

3.9 DENIAL OR REVOCATION OF CERTIFICATION

The professional standards, ethics, and investigations committee, in consultation with the appropriate panels or committees, shall develop a list of violations and offenses that would constitute

cause for either denial or revocation of a certification, approval, or accreditation. This list shall be provided to the board for approval.

3.9.1 At a minimum, certifications, approvals, or accreditations shall be either denied or revoked for the following offenses:

- Failure to adhere to a board approved established code of ethics
- Failure of individuals, devices, radon chambers, or radon laboratories to meet board approved performance requirements
- Failure to maintain and implement a quality assurance/quality control plan
- Failure to follow board approved measurement protocols
- Failure to comply with board approved mitigation standards
- False or misleading application information

3.9.2 The above list should be expanded upon by the appropriate panels or committees.

3.10 APPEAL RIGHTS AND APPEAL PROCESS

Any person, facility, or device denied a certification, approval, or accreditation or whose certification, approval, or accreditation has been revoked, shall have the right to appeal this decision. Any board member removed from the board shall have the right to appeal this decision.

The board should establish and maintain a legally defensible appeals process by which complaints regarding the denial or revocation of a certification, approval, or accreditation can be heard within a timely manner.

3.11 BYLAWS AND BYLAW AMENDMENTS

The board should develop and adopt bylaws that define the objectives, structure, and operating criteria of the board as prescribed in sections 3.1 through 3.10 above. The bylaws of the board may be changed by two-thirds vote of the board.

SECTION 4
BOARD CERTIFICATION OF RADON SERVICE PROVIDERS

4.1 BOARD CERTIFIED RADON MEASUREMENT TECHNICIAN

The radon measurement technician is an individual who provides nonanalytical on-site residential measurement services with devices that meet the board or EPA requirements. The measurement services provided by the technician are limited by the scope of the training program and examination requirements. A radon measurement technician shall not provide consultation to clients on radon entry, diagnostics, or mitigation system components or installations unless also certified as a radon mitigation service provider. An individual providing on-site measurement services with analytical devices should be board certified as a radon measurement specialist.

4.1.1 Measurement Services and Duties of the Board Certified Radon Measurement Technician

- Places and retrieves nonanalytical devices
- Uses a board accredited laboratory (or EPA proficient analytical service provider) to analyze measurement devices
- Follows the approved measurement protocol for the type of measurement performed
- Reports and interprets radon measurement results to the client in a manner consistent with approved measurement protocols and guidelines for client reporting
- Implements, maintains, and documents a quality control and quality assurance program for each type of nonanalytical measurement device used
- Obtains state licensing or certification in all states in which the technician provides radon measurement services when required by the state

4.1.2 Minimum Training Requirements of the Board Certified Radon Measurement Technician

The radon measurement technician applicant should complete a minimum of eight hours of board-approved training. The approved training should cover those tasks performed by the measurement technician and should include the following topics:

- Radiation fundamentals of radon and radon decay products
- Exposure mechanisms and potential health effects of radon and radon decay products
- Description and operating principles of nonanalytical radon measurement devices
- Overview of analytical radon measurement devices
- Measurement procedures, client reporting, and post measurement recommended actions for homeowner measurements using nonanalytical devices
- Measurement procedures, client reporting, and post measurement recommended actions for real estate transaction measurements using nonanalytical devices
- Preventing interference with the measurement
- Implementing and documenting a quality control and quality assurance plan for nonanalytical radon measurement devices

- Overview of radon mitigation and the *Consumer's Guide to Radon Reduction*
- Health and safety considerations for the radon measurement technician

4.1.3 Examination Requirements of the Board Certified Radon Measurement Technician

The radon measurement technician applicant shall attain a passing score on the radon measurement technician examination. The radon measurement technician examination should test the applicant's knowledge necessary to carry out those tasks performed by the measurement technician.

4.1.4 Continuing Education Requirements of the Board Certified Radon Measurement Technician

The radon measurement technician should complete a minimum of eight hours of continuing education during each biennial certification and renewal period.

4.2 BOARD CERTIFIED RADON MEASUREMENT SPECIALIST

The radon measurement specialist is an individual who provides on-site residential and nonresidential measurement services with board (or EPA) approved analytical and/or nonanalytical radon and radon decay product measurement devices. The measurement services provided by the specialist may include the evaluation and interpretation of protocol and diagnostic measurements.

4.2.1 Prior Education Requirements of the Board Certified Radon Measurement Specialist

- High school diploma or equivalent

4.2.2 Measurement Services and Duties of the Board Certified Radon Measurement Specialist

- Places and retrieves analytical and/or nonanalytical devices
- Uses a board-accredited laboratory (or EPA proficient analytical service provider) to analyze measurement devices
- Follows the approved measurement protocol for the type of measurement performed
- Reports and interprets radon measurement results to the client in a manner consistent with the approved measurement protocols and guidelines for client reporting
- Implements, maintains, and documents a quality control and quality assurance program for each type of measurement device used
- Obtains state licensing or certification in all states in which the specialist provides radon measurement services when required by the state

4.2.3 Training Requirements of the Board Certified Radon Measurement Specialist

The radon measurement specialist applicant should complete a minimum of 24 hours of board approved training. The approved training should cover those tasks performed by the measurement specialist and should include the following topics:

- Radiation fundamentals of radon and radon decay products
- Exposure mechanisms and potential health effects of radon and radon decay products
- Scientific evidence for the carcinogenic properties of radon and radon decay products
- Fundamentals of radon entry into buildings
- Description and operating principles of analytical and nonanalytical radon and radon decay product measurement devices
- Measurement procedures, client reporting, and post measurement recommended actions for homeowner measurements using analytical and nonanalytical devices
- Measurement procedures, client reporting, and post measurement recommended actions for real estate transaction measurements using analytical and nonanalytical devices
- Preventing interference with the measurement
- Implementing and documenting a quality control and quality assurance plan for analytical and nonanalytical radon and radon decay product measurement devices
- Measuring radon in water
- Radon mitigation systems and principles
- Health and safety considerations for the radon measurement specialist and technician.

4.2.4 Examination Requirements of the Board Certified Radon Measurement Specialist

The radon measurement specialist applicant shall attain a passing score on the radon measurement specialist examination. The radon measurement specialist examination should test the applicant's knowledge necessary to carry out those tasks performed by the measurement specialist.

4.2.5 Continuing Education Requirements of the Board Certified Radon Measurement Specialist

The radon measurement specialist should complete a minimum of 16 hours of continuing education during each biennial certification and renewal period.

4.3 BOARD CERTIFIED RESIDENTIAL RADON MITIGATION SERVICE PROVIDER

The residential radon mitigation service provider is an individual who performs or evaluates diagnostic measurements and designs, installs, or supervises the installation of residential radon mitigation systems.

4.3.1 Experience and Prior Education Requirements for the Board Certified Residential Radon Mitigation Service Provider

The applicant for residential radon mitigator should meet at least one of the following requirements:

- A four year degree in civil engineering, mechanical engineering, building construction, or architecture
- Two years of hands-on experience in the building trades or two years experience as a licensed contractor
- One year experience installing radon mitigation systems

4.3.2 Mitigation Services and Duties of the Board Certified Residential Radon Mitigation Service Provider

- Reviews and evaluates radon measurement results
- Performs residential building inspections and homeowner interviews
- Performs and interprets diagnostic measurements
- Designs active slab depressurization, building pressurization, building ventilation, and radon in water mitigation systems
- Installs or supervises the installation of active slab depressurization, building pressurization, building ventilation, and radon in water mitigation systems in family residences that comply with approved mitigation standards
- Performs sealing of the building envelope to enhance operation of the mitigation system, when necessary
- Performs operational and diagnostic checks on residential radon mitigation systems
- Provides system operating instructions to clients
- Recommends independent post-mitigation radon testing
- Obtains state licensing or certification in all states in which the residential mitigation service provider contracts for business when required by the state

4.3.3 Minimum Training Requirements of the Board Certified Residential Radon Mitigation Service Provider

The residential radon mitigation service provider applicant should complete a minimum of 32 hours of board approved training at least 16 hours of which shall be "hands-on" training. The approved training should cover those tasks performed by the residential mitigation service provider and should at a minimum include the following topics:

- Radiation fundamentals of radon and radon decay products
- Exposure mechanisms and potential health effects of radon and radon decay products
- Scientific evidence for the carcinogenic properties of radon and radon decay products
- Overview of operating principles of analytical and nonanalytical radon and radon decay product measurement devices
- Overview of measurement procedures and mitigation recommendations for homeowner measurements
- Overview of measurement procedures and mitigation recommendations for real

estate transaction measurements
- Radon entry into buildings
- Building dynamics, investigation, and diagnostic measurements
- Selecting a mitigation strategy
- Designing and installing mitigation systems
- Mitigation installation standards and building code considerations
- Checking for backdrafting
- Techniques for radon resistant new construction
- Health and safety considerations for the residential radon mitigation service provider
- "Hands-on" training in mitigation system design, installation, and operational checks

4.3.4 Examination Requirements of the Board Certified Residential Radon Mitigation Service Provider

The residential radon mitigation service provider applicant shall attain a passing score on the residential radon mitigation service provider examination. The residential radon mitigation service provider examination should test the applicant's knowledge necessary to carry out those tasks performed by the residential mitigation service provider.

4.3.5 Continuing Education Requirements of the Board Certified Residential Radon Mitigation Service Provider

The residential radon mitigation service provider should complete a minimum of 16 hours of continuing education during each biennial certification and renewal period.

4.4 BOARD CERTIFIED ADVANCED RADON MITIGATION SERVICE PROVIDER

The advanced radon mitigation service provider is an individual who performs or evaluates diagnostic measurements and designs, installs, or supervises the installation of residential and advanced radon mitigation systems.

4.4.1 Experience Requirements of the Board Certified Advanced Radon Mitigation Service Provider

The applicant for advanced radon mitigator should have one year of experience as a residential radon mitigation service provider.

4.4.2 Mitigation Services and Duties of the Board Certified Advanced Radon Mitigation Service Provider

- Reviews and evaluates radon measurement results
- Performs building inspections and homeowner interviews
- Inspects and evaluates the effects of single and multi-zoned heating, ventilating, and air conditioning systems on building pressurization and radon entry and dilution
- Performs and interprets diagnostic measurements
- Designs active slab depressurization, building pressurization, building ventilation,

and radon in water mitigation systems for residential and nonresidential buildings

- Uses a licensed heating, ventilating, and air conditioning contractor or engineer to balance multi-zoned systems when necessary for radon reduction
- Installs or directly supervises the installation of active slab depressurization, building pressurization, building ventilation, and radon in water mitigation systems in residential and nonresidential buildings that comply with approved mitigation standards
- Performs sealing of the building envelope to enhance operation of the mitigation system, when necessary
- Performs operational and diagnostic checks on radon mitigation systems
- Provides system operating instructions to clients
- Recommends independent post-mitigation radon testing
- Obtains state licensing or certification in all states in which the residential mitigation service provider contracts for business when required by the state

4.4.3 Minimum Training Requirements of the Board Certified Advanced Radon Mitigation Service Provider

The advanced radon mitigation service provider applicant should complete the training and examination requirements of the residential mitigation service provider. In addition, the applicant should complete 16 hours of training on nonresidential large scale building structures and components. The approved training should cover those tasks performed by the advanced mitigation service provider and should at a minimum include the following topics:

- Mitigation installation standards and commercial building code considerations
- Large scale building foundations and basements
- Radon entry and distribution pathways in large scale buildings
- Inspection and evaluation of multi-zoned heating, ventilating, and air conditioning systems
- Determining ventilation rates in large scale buildings
- Evaluation of pressure differentials in large scale buildings
- Principles of heating, ventilating, and air conditioning system balancing
- Special considerations for condominiums and apartment buildings
- Design and installation of radon mitigation systems in large scale buildings

4.4.4 Examination Requirements of the Board Certified Advanced Radon Mitigation Service Provider

The advanced radon mitigation service provider applicant shall attain a passing score on the advanced radon mitigation service provider examination provided with the training course. The advanced radon mitigation service provider examination should test the applicant's knowledge necessary to carry out those tasks performed by the advanced mitigation service provider.

4.4.5 Continuing Education Requirements of the Board Certified Advanced Radon Mitigation Service Provider

The advanced radon mitigation service provider should complete a minimum of 16 hours of continuing education during each biennial certification and renewal period.

SECTION 5
BOARD ACCREDITATION OF RADON CHAMBERS

5.1 STANDARD SETTING PANEL FOR RADON CHAMBERS

A standard setting panel shall be appointed for accrediting radon chambers.

5.1.1 Panel Composition

The panel should be comprised of stakeholders from the pertinent board member categories listed in section 3.2.1 and where appropriate should utilize existing documents and standards from nationally recognized organizations such as ANSI (American National Standards Institute), NVLAP (National Voluntary Laboratory Accreditation Program), EPA (Environmental Protection Agency), NELAC, or ISO (International Standards Organization) for development of this issue.

5.1.2 Panel Objectives

The objectives of the panel should include considering the adoption of previously published standards that are appropriate or establishing new standards, as determined by the panel, and defining terms used throughout the radon chamber accreditation process.

5.1.3 Networking

The standard setting panel should consider networking with NELAC to use ISO documents and to encourage NELAC to conduct site investigations of radon chambers.

5.2 MINIMUM ACCREDITATION REQUIREMENTS FOR RADON CHAMBERS

At a minimum, accredited radon chambers should demonstrate the following:

- Appropriate design and operational criteria including capabilities for device exposures over the range of environmental conditions encountered in indoor environments
- Acceptable performance on intercomparison exercises with other board accredited radon chambers
- Acceptable ongoing quality assurance results
- Traceability to the EPA chamber or NIST standard

SECTION 6
BOARD APPROVAL OF RADON AND RADON DECAY PRODUCT MEASUREMENT DEVICES

6.1 STANDARD SETTING PANEL FOR RADON AND RADON DECAY PRODUCT MEASUREMENT DEVICES

A standard setting panel shall be appointed for approving radon and radon decay product measurement devices.

6.1.1 Panel Composition

The standard setting panel should be comprised of stakeholders from the pertinent board member categories listed in section 3.2.1 and should utilize existing documents and standards from nationally recognized organizations (such as ANSI, NVLAP, EPA, NELAC, or ISO) for development of this issue.

6.1.2 Panel Objectives

The objectives of the panel should include considering the adoption of previously published standards that are appropriate or establishing new standards, as determined by the panel, and defining terms used throughout the radon measurement device approval process.

6.2 MINIMUM APPROVAL REQUIREMENTS FOR RADON AND RADON DECAY PRODUCT MEASUREMENT DEVICES

The panel should develop criteria for the performance, precision, and bias of radon and radon decay product devices and establish procedures for evaluating devices in accordance with these criteria. Radon and radon decay product devices should pass performance tests, within +/- 25% in a board accredited radon chamber. Devices that have demonstrated acceptable performance through the EPA's device evaluation program or by meeting comparable state requirements should be considered for approval by the board. Additional device evaluation and performance testing procedures may be established by the panel.

6.2.1 Test Conditions

The tests should be performed over the range of environmental conditions representative of indoor environments in different climates. Additional device evaluation and performance testing procedures may be established by the panel.

SECTION 7
BOARD ACCREDITATION OF RADON LABORATORIES

7.1 STANDARD SETTING PANEL FOR RADON LABORATORIES

A standard setting panel shall be appointed for accrediting radon laboratories.

7.1.1 Panel Composition

The standard setting panel should be comprised of stakeholders from the pertinent board member categories listed in section 3.2.1 and should utilize existing documents and standards from nationally recognized organizations (such as ANSI, NVLAP, EPA, NELAC, or ISO) for development of this issue.

7.1.2 Panel Objectives

The objectives of the panel should include considering the adoption of previously published standards that are appropriate or establishing new standards, as determined by the panel, and defining terms used throughout the radon laboratory accreditation process.

7.1.3 Networking

The standards setting panel should consider networking with NELAC (National Environmental Laboratory Accreditation Committee) to conduct site inspections of radon laboratories.

7.2 MINIMUM ACCREDITATION REQUIREMENTS FOR RADON LABORATORIES

Laboratory accreditation should be received for each device or analysis system reviewed and approved by the board. At a minimum, the accredited radon laboratory should demonstrate the following:

- Appropriate safety, design, and operational criteria
- Acceptable performance through evaluation procedures established by the panel
- Acceptable ongoing quality assurance results

SECTION 8
GENERAL RECOMMENDATIONS

8.1 TRANSITION CONSIDERATIONS

Where possible, the board should quickly adopt existing standards and procedures that are now used for the EPA's National Radon Proficiency Program. The board should seek cooperation from the EPA to obtain additional program components for the administration of the board's program, such as the current EPA examination databases. Modifications, when necessary, can be made to enhance the program as time permits.

The board should implement "reciprocity" (grandfathering) between "board certified measurement specialist" and "EPA residential service provider." If additional training will be required, such as for QA/QC, the residential service providers could be allowed time to fully qualify. The board should also implement reciprocity between the EPA listed "residential mitigation service provider" and its own "residential mitigation service provider." The board should investigate issues regarding reciprocity with the EPA and the states, to include the conditions for mutual delisting and decertification of participants.

This privatization document addresses the accreditation of non-portable analytical laboratories or services. It does not include performance testing or proficiency evaluation of analytical service providers who use portable devices. Substantial resources are needed to conduct a program similar to the EPA's proficiency evaluation of analytical service providers. To fill this need, the board may appoint a committee to study new and efficient ways to monitor the proficiency of these portable analytical services. At this time, some states may have to implement their own proficiency programs for this type of service provider by requiring performance tests for individuals and organizations using these devices.

8.2 GOVERNMENT RELATIONS COMMITTEE

State participation and federal acceptance is critical to the implementation and long-term success of a private radon certification board. Establishing a government relations committee can provide a valuable liaison between the board and federal and state governments. This committee could assist states to pass laws that would recognize board credentials and coordinate the lead-time states need to revise laws and administrative rules. Therefore, it is important that the board establish a proposed timeline stating when it expects to issue certificates and implement its procedures so that states will have sufficient time to plan accordingly. The committee could assist with other issues such as (1) coordinating with states to revoke certifications, (2) acceptance of currently approved devices, (3) reciprocity issues, and (4) sharing resources such as databases and proficiency test results.

8.3 LIABILITY ISSUES

The board should consult legal counsel concerning the following liability issues:

- Liability insurance for board members

- Indemnification of the certification board members and the CRCPD board members
- The board should clearly state what device approval means or does not mean. This statement should be reviewed to avoid liability issues for device approvals
- Appeal procedures and revocations

CRCPD'S MISSION: A PARTNERSHIP DEDICATED TO RADIATION PROTECTION.

The Conference of Radiation Control Program Directors, Inc. (CRCPD) is a nonprofit organization made up of individuals in state and local government who regulate and control the use of radiation sources, and of individuals, regardless of employer affiliation, who have expressed an interest in radiation protection. CRCPD was formed in 1968.

The objectives and purposes of the organization are: to promote radiological health in all aspects and phases, to encourage and promote cooperative enforcement programs with federal agencies and between related enforcement agencies within each state, to encourage the interchange of experience among radiation control programs, to collect and make accessible to the membership of the CRCPD such information and data as might be of assistance to them in the proper fulfillment of their duties, to promote and foster uniformity of radiation control laws and regulation, to encourage and support programs that will contribute to radiation control for all, to assist the membership in their technical work and development, and to exercise leadership with radiation control professionals and consumers in radiation control development and action.

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