The Radon Riddle: Landlord Liability for a Natural Hazard

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I. INTRODUCTION

Radon is a colorless, odorless, and tasteless radioactive gas\(^1\) that can accumulate to dangerous levels once it becomes trapped inside a building.\(^2\) Radon is a widespread national problem. Twenty-six percent of the homes tested by the Environmental Protection Agency (EPA) were found to have radon levels above the EPA’s suggested guideline of four pico Curies per liter (pCi/l).\(^3\) One com-
Commentators have suggested that the effect of existing indoor radon levels in some homes is the equivalent to that of the daily occurrence of a Three Mile Island accident in those homes' neighborhoods.  

Commentators recognize radon as the EPA's most deadly hazard. Experts believe it to be responsible for as many as 20,000 lung cancer deaths annually in the United States. Radon poses a health risk even at low levels, and children may be more susceptible than adults to radon's effects. Although the problem of radon contamination is serious, the presence of naturally occurring radon in the home was discovered only recently.

Moreover, the liability issues surrounding radon are not yet resolved. Only two radon cases have been filed, and neither court reached the liability assessment issues. Liability questions arise in standards for miners. This measure is based on the amount of alpha-ray energy in the air. Alpha rays are the decay products of radon. 

The EPA guideline of 4 pCi/l is equivalent to .02 WL. CITIZEN'S GUIDE, supra note 1, at 10, 11. The EPA emphasizes that this level is not a health-based standard. Veirs, Radon Too Much Ado or a Real Health Risk?, INDOOR POLLUTION L. REP. Oct. 1988, at 3. It is the health risk equivalent of smoking one-half of a pack of cigarettes per day. Rather, it is the level that a homeowner with elevated levels reasonably can expect to maintain with present technology. Id.; see also U.S. ENVTL. PROTECTION AGENCY, APPLICATION OF RADON REDUCTION METHODS 29 (Report No. EPA 625/5-88/024, Apr. 1989) [hereinafter APPLICATION OF RADON].

In December 1984, a nuclear power plant engineer in Boyertown, Pennsylvania, accidentally discovered the presence of natural radon in the home. The engineer, Stanley Watras, set off radiation detection devices on his way into the power plant. The radiation was traced to his home, which had radon levels that posed a hazard equivalent to smoking 135 packs of cigarettes per day. See M. LAFAVORE, RADON: THE INVISIBLE THREAT 7-10 (1987); Comment, Radon's Radioactive Ramifications: How Federal and State Governments Should Address the Problem, 16 B.C. ENVTL. AFF. L. REV. 329, 329-30 (1988) (authored by Ann Rickard Jackowitz). The first discovery of artificial radon in homes occurred in Grand Junction, Colorado, in the 1960s. High levels of radon were present because these homes had been built atop waste products from uranium mines. See OFFICE OF RADIATION PROGRAMS, U.S. ENVTL. PROTECTION AGENCY, SUMMARY OF STATE RADON PROGRAMS 7-8 (Report No. EPA 520/1-87-19-1, Aug. 1987) [hereinafter SUMMARY OF STATE RADON PROGRAMS].

In Wayne v. Tenesse Valley Auth., 730 F.2d 392 (6th Cir. 1984), cert. denied, 469 U.S. 1159 (1985); Brafford v. Susquehanna Corp., 586 F. Supp. 14 (D. Colo. 1984). In Wayne, the plaintiffs were homeowners who were unsuccessful in their products liability suit brought against a utility. 730 F.2d at 392. The homeowners sued the utility that produced the phosphate slag incorporated into the concrete blocks used to construct their home. Id. at 394. The plaintiffs contacted a governmental task force after they became aware of the dangers of radon by reading a local newspaper article. They were advised to move out of their home and
all types of housing situations. For the private homeowner seeking relief, legal commentators have examined the liability of contractors, real estate agents, and builders.\textsuperscript{10} Tenants of garden apartments, townhouses, and even multistoried apartment buildings also can face radon hazards.\textsuperscript{11} For the tenant injured by radon exposure, the landlord is the most accessible and logical individual from whom to seek compensation. Because the discovery of radon's dangers is recent and because radon is naturally occurring, however, it is unclear whether the landlord of a dwelling contaminated with radon may be held liable for injuries to tenants caused by the radon.

The traditional fault-based landlord-tenant theories\textsuperscript{12} are unlikely to compensate a tenant injured by radon exposure. The requirement that a landlord have notice of the defect will make recovery under a "warranty of habitability" theory problematic for this "invisible" threat.\textsuperscript{13} In addition, recovery under a negligence theory is uncertain. Landlords do not have a duty to test for the presence of radon.\textsuperscript{14} Moreover, because of the long latency of radon-induced cancer, it will be difficult to prove that radon exposure was the proximate cause of a tenant's injury.\textsuperscript{15}

This Comment examines the possible legal theories under which a tenant could proceed against a landlord for damages caused by radon. This Comment argues that the ineffectiveness of these theories in compensating an injured tenant mandates the imposition of a statutory duty to test for and to abate radon contamination, as well as statutory liability for failure to do so. Section II of this Comment examines the nature and extent of the radon problem, including potential health risks. Section III discusses the develop-

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\textsuperscript{12} See infra notes 88–202 and accompanying text.

\textsuperscript{13} See infra notes 136–38 and accompanying text.

\textsuperscript{14} See infra notes 149–70 and accompanying text.

\textsuperscript{15} See infra notes 171–202 and accompanying text.
ment of landlord-tenant theories. Section IV describes recent federal and state action regarding the threat of indoor radon.

This Comment then discusses, in Section V, the inadequacy of the traditional tenant remedies to resolve the radon problem. Section VI proposes the imposition of statutory duties to test for and abate radon and statutory liability for the presence of elevated radon levels in rental housing. These duties would eliminate the difficulties faced by tenants under traditional common law theories. Furthermore, this Comment recommends the use of tax incentives, low-interest loans, and revised building codes to facilitate radon abatement and to limit the threat of indoor radon in the future.

II. RADON: THE NATURE AND EXTENT OF THE PROBLEM

A. Overview

Radon is a chemically inert, radioactive gas that is part of the natural decay process of uranium, an element found throughout the earth's crust.\textsuperscript{16} Once released, radon travels through soil and rock, escaping into the atmosphere or into buildings.\textsuperscript{17} Indoor radon is attributable to three sources: gas from rock and soil containing uranium, building products made from such rock and soil, and well water.\textsuperscript{18}

Ground emissions are the major source of radon in the home.\textsuperscript{19} Soil and rock containing uranium, as well as other radon precursors such as granite, shale, phosphate, and pitchblende, all emit radon.\textsuperscript{20} The concentration of these elements in the soil greatly affects indoor radon levels.\textsuperscript{21} Many of the highest levels of indoor radon have been found in uranium-rich soils.\textsuperscript{22} Areas containing uranium-rich soils are parts of New England; the Reading Prong, a geological formation that runs through parts of eastern Pennsylvania, New Jersey, and New York; the Appalachians; the phosphate mining regions of Flor-

\textsuperscript{16} RADON FACTS, supra note 2, at 1.
\textsuperscript{17} \textit{Id.}
\textsuperscript{18} MASS. REP., supra note 3, at 57.
\textsuperscript{19} See UNIVERSITY OF MAINE REPORT, supra note 1, at 9.
\textsuperscript{20} CITIZEN'S GUIDE, supra note 1, at 1.
\textsuperscript{21} MASS. REP., supra note 3, at 52.
\textsuperscript{22} \textit{Id.}
ida; the Georgia and Carolina coasts; and other areas scattered throughout Wisconsin, Minnesota, and states west of the Rockies.\textsuperscript{23}

Radon from the ground seeps into buildings through cracks and openings in the basement or through the foundation of the structure.\textsuperscript{24} The migration of radon into a home is caused by the tendency of gases to move from areas of high concentration or pressure to areas of lower pressure.\textsuperscript{25} Because radon enters from below, radon levels tend to be highest in the basement or lower floor of a structure.\textsuperscript{26} Radon, however, can travel to higher floors in a multistoried structure through air and elevator shafts.\textsuperscript{27}

Radon also may enter a building through construction materials, such as concrete or brick, that are composed of uranium-bearing rock or sand.\textsuperscript{28} Although construction materials generally are not considered a major source of indoor radon exposure, rocks used for solar heating storage and large stone fireplaces can emit significant amounts of radon.\textsuperscript{29} A third source of indoor radon contamination is well water that has passed through uranium-bearing rock.\textsuperscript{30} The danger occurs when the radon passes from the household water into the air that residents breathe.\textsuperscript{31}

Factors other than soil composition may affect radon levels within a particular structure. These factors include soil permeability, ventilation, home design, and the habits of the occupants.\textsuperscript{32} The permeability of the soil underlying a structure influences radon's ability to infiltrate the structure. When the overlying soil is composed of non-porous clay, the clay blocks radon's entry into a building, despite

\textsuperscript{23} Id. Radon is found in many of the Western states that have uranium mining. \textit{SUMMARY OF STATE RADON PROGRAMS}, \textit{supra} note 8, at 7. Since the risks of radon were discovered in these areas in the 1950s and 1960s, the federal government has taken action. Congress passed the Uranium Mill Tailings Radiation Control Act in 1978, and the EPA promulgated health standards for the areas near uranium processing sites. \textit{See Uranium Mill Tailings Radiation Control Act}, 42 U.S.C. §§ 7901–7942 (1988); 40 C.F.R. §§ 192.00–192.43 (1989).

\textsuperscript{24} \textit{CITIZEN'S GUIDE}, \textit{supra} note 1, at 4.

\textsuperscript{25} \textit{MASS. REP.}, \textit{supra} note 3, at 57.

\textsuperscript{26} Kass & Gerrard, \textit{supra} note 5, at 2, col. 2.

\textsuperscript{27} Shepherd & Gaynor, \textit{supra} note 11, at 7.

\textsuperscript{28} \textit{MASS. REP.}, \textit{supra} note 3, at 59.

\textsuperscript{29} Id. This occurs because more soil and rock is used in their construction. \textit{Id.}

\textsuperscript{30} \textit{Id.} at 58.

\textsuperscript{31} \textit{UNIVERSITY OF MAINE REPORT}, \textit{supra} note 1, at 4. Much of the radon ingested with water diffuses through the stomach walls. Radon and its radioactive products known as "daughters" can affect some cells in the stomach. However, the exposure of the organs in the digestive tract is minimal compared to the exposure of the respiratory system. \textit{Id.}

\textsuperscript{32} \textit{See MASS. REP.}, \textit{supra} note 3, at 52–57.
the presence of uranium-rich rock.\textsuperscript{33} Alternatively, porous sand does not prevent radon’s entry into a building and can lead to high indoor radon levels even from rock with low uranium content.\textsuperscript{34} Therefore, variations in soil type over the same rock can lead to large differences in radon levels.\textsuperscript{35} Structures built on gas-permeable soils such as sand, gravel, or fractured bedrock can have high radon levels.\textsuperscript{36}

Furthermore, indoor radon levels are dependent on ventilation.\textsuperscript{37} As air exchange rates decrease, radon levels tend to increase.\textsuperscript{38} Thus, energy-efficient construction that limits air exchange rates can exacerbate indoor radon contamination.\textsuperscript{39} In addition, other design features play a role in high radon levels. Homes containing basements and sump holes have been associated with high radon levels.\textsuperscript{40}

Lastly, the habits of the occupants can influence indoor radon levels.\textsuperscript{41} The pattern of opening windows and using fans can alter radon levels. In addition, heavy use of water agitators such as show­ers and washing machines can increase radon levels.\textsuperscript{42}

\textbf{B. The Health Risks}

While there are no known immediate effects from indoor radon exposure,\textsuperscript{43} experts believe that radon is responsible for between 5000 and 20,000 lung cancer deaths annually in the United States,\textsuperscript{44}
making it the second leading cause of cancer behind cigarette smoking.\textsuperscript{45} In addition, scientists also suspect radon of causing stomach cancer.\textsuperscript{46}

Radon is dangerous because it has a short half-life,\textsuperscript{47} and as it decays it emits several dangerous radiation particles.\textsuperscript{48} The radioactive products of radon decay, known as "radon daughters" or "radon progeny," include radioactive forms of the elements polonium, bismuth, and lead.\textsuperscript{49}

Both radon and radon daughters are alpha emitters, which cause mutations in cells and tissues.\textsuperscript{50} The mutations occur when inhaled radioactive particles hit and damage molecules in living cells.\textsuperscript{51} Alpha particle radiation poses the greatest health threat because it is the heaviest and slowest moving of the three types of radiation and, thus, has a higher probability of damaging cells.\textsuperscript{52}


\textsuperscript{46} UNIVERSITY OF MAINE REPORT, supra note 1, at 6.

\textsuperscript{47} A half-life is the time required for half of the atoms of a radioactive substance to disintegrate. WEBSTER'S THIRD NEW INTERNATIONAL DICTIONARY (1986). Radon's half-life is 3.8 days. Short half-lives are dangerous because they produce a more intense radiation dose. Galen, Health Dangers That Put Everything Else to Shame, Nat'l L.J., July 21, 1986, at 8.

\textsuperscript{48} See UNIVERSITY OF MAINE REPORT, supra note 1, at 2. Radon emits polonium 218, which is a radioactive solid that tends to adhere to dust, smoke, and lung tissue. Comment, supra note 8, at 333–34. When polonium 218 is inhaled into the lungs, the energized particle is transformed into lead 214 in three minutes. Lead 214 then decays with a 27-minute half-life to bismuth 214, which decays with a 20-minute half-life to polonium 214. Id. at 334. This particle turns almost immediately into the stable compound of lead. The mean time for all four decays is less than one hour. Id. With each successive decay of the elements, the elements emit a small amount of intense radiation. See id.; see also UNIVERSITY OF MAINE REPORT, supra note 1, at 2.


\textsuperscript{50} M. JOKL: THE THEORY AND PRACTICE OF INDOOR CLIMATE 223 (1989).

\textsuperscript{51} MASS. REP., supra note 3, at 44. The biological damage occurs when the radiation separates electrons in the nucleus of a cell from their atoms, creating ions or fragment molecules, a process called ionization. Veirs, supra note 3, at 3. As these radiations pass through tissue, they leave a trail of ionized and fragmented particles, which are also highly reactive and create more damage. Id. After being damaged the cells try to repair themselves. Id. Mutations are the result of incorrect repairing of genetic molecules (DNA), which then reproduce incorrectly. Id.; MASS. REP., supra note 3, at 44. For an exhaustive explanation of the effects of radiation on the body and radiation theory in general, see Allen v. United States, 588 F. Supp. 247 (C.D. Utah 1984).

\textsuperscript{52} Letson, Radon Gas: The Natural Hazard, 18 COLO. LAW. 623, 628 (Apr. 1989). Alpha particles may be compared to cannon balls because they are relatively large, don't travel far, and cause a great deal of damage. Id. Because of their slow speed, alpha particles can break
Radon enters the body principally through the respiratory system, and the primary radiation damage is to the cells in the lungs. The inhaled radon and radon daughters are retained in the respiratory system, and the resulting ionizing process can lead to cancer. Similarly, radon and its daughters diffuse into the stomach walls and ionize within the digestive tract.

An individual's health risk from radon progeny in residential buildings depends on the person's time-integrated exposure to radon. To measure the risk, the EPA designed a model that assumes seventy-five percent of an individual's time is spent at home over a seventy-year period. Based on these assumptions, the EPA has estimated that, at their suggested guideline of 4 pCi/l, between one and five of every hundred people will develop lung cancer. With a level of 20 pCi/l, between six and twenty-one of every hundred would develop cancer. The question of risk at high exposure levels is well settled although there is some debate over the risks of low level radon exposure. Furthermore, there is growing concern for the elderly and the young, who may be more susceptible to the radon progeny.

C. Detection and Control

Specialized devices are needed for measuring indoor radon levels. The two most popular commercially available radon detectors are

molecules in several places whereas fast electrons from beta or gamma radiation will, at most, cause a single break. University of Maine Report, supra note 1, at 4.

54 M. Jokl, supra note 50, at 223.
55 University of Maine Report, supra note 1, at 4.
58 Id. at 9.
59 Id.
60 Cross & Murray, supra note 4, at 699; see also Veirs, supra note 3, at 7; Brody, Some Scientists Say Concern Over Radon is Overblown by EPA, N.Y. Times, Jan. 8, 1991, at C4, col. 1.
the charcoal canister and the alpha track detectors.\textsuperscript{64} These devices are exposed to the air in a home for a specified period and subsequently are studied in a laboratory.\textsuperscript{65} Their primary advantages are that they are simple; they are relatively inexpensive; and they provide averaged measurements over a period of time.\textsuperscript{66} The ability to provide the averaged data is particularly significant because radon levels often vary significantly from one day to another and with the seasons.\textsuperscript{67}

The EPA has established various time frames for performing remedial action. These time frames vary with the severity of the radon levels detected.\textsuperscript{68} In the most extreme cases, the EPA advises relocation of the residents.\textsuperscript{69} There are various control methods available, however, to reduce less serious indoor radon levels.\textsuperscript{70} For most buildings, one or a combination of the methods should reduce these radon levels to acceptable levels.\textsuperscript{71}

Increased ventilation can be used to abate radon in the home.\textsuperscript{72} This can be as simple as opening windows and vents in the lowest levels of the structure that are in direct contact with the primary source of radon.\textsuperscript{73} This process increases the air exchange rates, which both dilutes radon concentrations and neutralizes the pressure differentials between indoors and outdoors.\textsuperscript{74} Alternately, fans can be used to blow fresh air into a home.\textsuperscript{75}

There are several disadvantages, however, to increased ventilation as a method for radon reduction. Increased ventilation can increase heating and cooling costs substantially, can compromise home security, and can be impractical in extreme weather condi-

\textsuperscript{64} \textsc{Citizen's Guide}, supra note 1, at 5.
\textsuperscript{65} \textit{Id.} The charcoal canister is used for three to seven days. The alpha track detector is left in place for periods of up to 12 months with a minimum of a three-month survey. \textsc{Application of Radon}, supra note 3, at 18; see also Ross, \textit{Comparing Radon Tests}, \textsc{Indoor Pollution} L. Rep., Feb. 1989, at 1.
\textsuperscript{66} \textsc{Application of Radon}, supra note 3, at 17.
\textsuperscript{67} \textit{Id.} The EPA recommends these methods for initial screening of the radon levels. More complicated devices often are used in pre-mitigation diagnostic testing and in evaluation of the performance of radon control measures. \textit{See id.}
\textsuperscript{68} \textsc{See Citizen's Guide}, supra note 1, at 7.
\textsuperscript{69} \textit{See Kornreich, supra note 10, at 19.}
\textsuperscript{70} \textsc{Application of Radon}, supra note 3, at 9–15.
\textsuperscript{71} Cross & Murray, supra note 4, at 699.
\textsuperscript{72} \textsc{Radon Reduction}, supra note 38, at 4–5.
\textsuperscript{73} \textit{Id.} at 5.
\textsuperscript{74} \textit{Id.}
\textsuperscript{75} \textit{Id.} at 6–7. This process is known as forced ventilation. \textit{Id.} The EPA cautions against using exhaust fans because they pull radon into the home by creating pressure differentials. \textit{Id.} at 7.
tions. The prevailing radon reduction strategy, therefore, is to prevent radon's entry into a home, rather than trying to rid the structure of the existing gas.

One of the most widely used radon reduction techniques is subslab suction. This method involves a combination of fans and pipes to ventilate radon away from the foundation of the building. Subslab suction can reduce indoor levels by eighty to ninety-nine percent. The installation costs range from eight hundred dollars to two thousand dollars. Another method for keeping radon from entering the home is to seal the openings and cracks of a structure. This process, however, is not always successful. Furthermore, the settling of a home can produce more cracks and openings, and with age, sealants lose their ability to keep out radon.

In addition to these methods, there are other radon reduction techniques available. Generally, the costs of reducing radon levels can run between $30 and $2500. The EPA recommends carefully selecting professional contractors trained in radon reduction procedures whenremediyying an indoor radon problem.

III. LANDLORD-TENANT LIABILITY THEORIES

At common law, the doctrine of caveat emptor immunized landlords from liability for injuries to tenants occurring on leased premises. Because tenants had the opportunity to inspect the premises before leasing them, courts deemed tenants to have assumed the

76 Id.
77 APPLICATION OF RADON, supra note 3, at 7.
78 RADON REDUCTION, supra note 38, at 13.
79 Id.
80 APPLICATION OF RADON, supra note 3, at 11. This process is most effective with highly permeable soil under the slab. Id.
81 Id.
82 Id. at 10.
83 See id.
84 RADON REDUCTION, supra note 38, at 11.
85 See id. at 4–13. Other reduction methods include: block-wall ventilation (wall suction and wall pressurization); house pressurization (fans used to blow upstairs air into the basement); drain-tile suction (pipes used to drain water away from the foundation of the home); and covering exposed earth (impermeable substances such as concrete are used). Id. at 9, 11-12, 14–15, 17.
86 See APPLICATION OF RADON, supra note 3, at 9–15.
87 RADON REDUCTION, supra note 38, at 1.
risk of any personal injury or property damage caused by a defect in the premises. Over time in the United States, however, several exceptions to the general rule of landlord tort immunity developed.

For example, a landlord may be liable for a defect in existence at the time of letting, if the landlord knew about that defect and failed to disclose it or concealed it from a prospective tenant. A landlord has a duty to use reasonable care to keep portions of the premises over which the landlord retains control in a reasonably safe condition. Accordingly, a landlord’s tort liability extends to dangerous conditions in common areas of apartment buildings, as well as to services that are connected to a central system, such as heating and hot water. Tenants have attempted to impose liability upon landlords on the theory that they have breached a contract to repair or have made negligent repairs that resulted in tenant injuries.

A. Constructive Eviction

Tenants’ rights were expanded by the judicial development of the doctrine of constructive eviction. Under common law, tenants were forbidden from withholding rents or terminating lease agreements, despite the existence of uninhabitable conditions, unless the landlord actually had evicted them. A constructive eviction occurs when there has been no physical expulsion of the tenant, but a landlord’s wrongful acts substantially and materially deprive the tenant of the beneficial use and enjoyment of the premises. To be able to invoke

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89 See 49 AM. JUR. 2D Landlord & Tenant § 358 (1965).
90 See Browder, supra note 88, 102–09.
92 See Browder, supra note 88, at 102.
94 See W. KEETON, D. DOBBS, R. KEETON & R. OWEN, THE LAW OF TORTS § 63, at 445–46 (5th ed. 1984) [hereinafter PROSSER & KEETON] (citing Mahan-Jellico Coal Co. v. Dulling, 282 Ky. 698, 139 S.W.2d 749 (1940) (landlord attempted to repair steps, but steps led to tenant injury); Barham v. Baca, 80 N.M. 502, 458 P.2d 228 (1969) (landlord negligently applied new plaster, which fell and injured tenant)).
95 CUNNINGHAM, supra note 93, § 6.31, at 304.
96 Id. at 302.
97 See, e.g., Barash v. Pennsylvania Terminal Real Estate Corp., 26 N.Y.2d 77, 83, 256 N.E.2d 707, 710, 308 N.Y.S.2d 649, 653 (1970) (landlord failed to provide adequate ventilation). While the older cases required intentional conduct by the landlord, modern courts consider
constructive eviction a tenant generally must complete the eviction process and vacate the premises. There is a risk, however, that a judge would not find a substantial interference to exist and the tenant would remain liable for the rent. A constructive eviction may be predicated on the landlord's breach of any express or implied covenant or any judicially recognized duty as to common area or central systems. Courts have found constructive eviction when a tenant's occupancy was interfered with by insect infestation and from the landlord's nearby brothel.

While constructive eviction has become unpopular for traditional landlord-tenant issues, the presence of environmental hazards has resurrected the theory. In Skylar v. 181 East 73rd Street Co., a residential asbestos case in which a landlord used asbestos to repair leaks to a tenant's terrace, the New York Supreme Court examined the theory of constructive eviction. In dicta, the court suggested that the tenant could claim partial constructive eviction for the deprivation of the use and enjoyment of the terrace. In addition, in a pending case, a commercial subtenant who is seeking to terminate a lease based on the presence of asbestos is using constructive eviction theories.

At least one court has embraced a constructive eviction-type theory in a radon case, although not in a landlord-tenant context. In intent immaterial if a landlord's act or omission to act deprives the tenant of the beneficial use and enjoyment of the premises. C. MOYNIHAN, INTRODUCTION TO THE LAW OF REAL PROPERTY § 3, at 75 (2d ed. 1988) (citing Blackett v. Olanoff, 371 Mass. 714, 358 N.E.2d 817 (1977); Hopkins v. Murphy, 238 Mass. 476, 124 N.E.2d 252 (1919)).

Moynihan, supra note 97, § 3, at 75.

99 CUNNINGHAM, supra note 93, § 6.36, at 303.

100 Id. § 6.36, at 304.


102 See Dyett v. Pendleton, 8 Cow. 727 (N.Y. 1826).

103 The requirement that tenants must vacate the premises, the difficulty of showing substantial interference, the shortage of rental housing, and the high cost of moving made this theory unworkable for many tenants. CUNNINGHAM, supra note 93, at 304. See generally Comment, Constructive Eviction—An Illusive Tenant Remedy?, 29 HOW. L.J. 13 (1986).


105 Id. at 12,963.

106 Id.

Brafford v. Susquehanna Corp.,108 an indoor radon exposure case, a South Dakota family sued a company that operated a nearby uranium mill on a constructive eviction theory.109 The constructive eviction was premised upon a statute that made it unlawful for a landlord to evict a tenant forcibly.110 The plaintiff homeowners alleged that, before they bought their house, radioactive waste, known as mill tailings, from the nearby uranium mill was placed in and around the foundation of their home.111 The family alleged that the radioactive decay of the tailings led to the emission of radon gas from the tailings and that radon had permeated their home during the period during which they had resided there.112 The plaintiffs claimed that radiation measurements taken by the EPA and the South Dakota Department of Health and Natural Resources showed that, because of the tailings on the property, the family had been exposed to radiation levels substantially in excess of United States government standards.113

The District Court for the District of Colorado found that the plaintiffs were entitled to a trial on the issue of whether the presence of radon had evicted the family under the South Dakota forcible eviction statute.114 The court rejected the defendant’s strict reading of the statutory phrase “forcible exclusion” to require physical force and relied on case law interpreting the statute more broadly.115 The prior case, on which this court relied, had found the statute to have constructive application, rather than requiring actual physical exclusion or expulsion.116 A final determination of whether the defendant’s actions constituted denial of physical access in the manner prescribed by precedent would be based on factual questions regarding the defendant’s intent and the plaintiff’s knowledge.117

109 Id. at 15–16.
110 Id. The statute at issue provides: “For forcibly ejecting or excluding a person from the possession of real property, the measure of damages is three times such a sum as would compensate for the detriment caused to him by the act complained of.” S.D. CODIFIED LAWS ANN. § 21-3-6 (1990).
111 Id. at 15.
112 Id.
113 Id.
115 Id. at 16.
116 See id. In Shippy v. Hollopeter, 304 N.W.2d 118 (S.D. 1981), the South Dakota Supreme Court held that removing passageway fences and replacing them with a traditional fence constituted forcible exclusion. Id. at 122. Therefore, no physical force was necessary to constitute a forcible eviction. See id.
117 Id.
The Brafford court made two other findings. The court found that the federal regulation of nuclear energy does not preempt a state court’s authorization of a punitive damage award for conduct related to radiation hazards. The court also indicated that the plaintiffs’ cellular damage could be considered a present harm. This would allow plaintiffs to recover for their increased risk of cancer, even before that cancer developed. The court did not reach those issues because the parties agreed to settle the case.

B. Implied Warranty of Habitability

The acceptance of constructive eviction marked a partial recognition of a tenant’s right to a habitable dwelling, rather than the mere right to possession. Courts began to recognize that the purpose of the modern lease was not to transfer an interest in land, but to exchange a dwelling suitable for immediate occupation for the payment of rent. The change in judicial attitudes toward the nature of the lease and the development of housing codes was the impetus for the application of the warranty of habitability to residential dwellings.

Many states now recognize an implied warranty of habitability for rental of residential units. Under this theory, a landlord implicitly warrants that the premises are fit for human occupation, that at the commencement of the lease there are no latent defects in the facilities vital to the residential use of the premises, and that the premises will remain habitable throughout the tenancy. Policy foundations supporting an implied warranty include the public health and safety protections implied in housing codes, the expectations of residential tenants, and the often unequal bargaining positions of landlords and tenants.

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118 Id. at 17.
119 Brafford, 586 F. Supp. at 18; see infra notes 185–94 and accompanying text.
120 Cross & Murray, supra note 4, at 689 n.9.
121 CUNNINGHAM, supra note 93, § 6.36, at 305.
123 See CUNNINGHAM, supra note 93, §§ 6.37–6.38, at 306–13. Housing codes were developed in the 20th century and mandate that landlords provide certain facilities in dwellings. Their principle purpose is to safeguard public health. Id. § 6.37, at 306.
124 Id. § 6.38, at 316.
126 Glazerman, supra note 107, at 678; see, e.g., Hemingway, 363 Mass. at 199, 293 N.E.2d at 843; Pugh, 486 Pa. at 289, 405 A.2d at 905.
127 Glazerman, supra note 107, at 678; see, e.g., Javins v. First Nat'l Realty Corp., 428
Because warranty of habitability theory developed from Anglo-American contract law, its application to premises liability has allowed for judicial discretion. Generally, the courts have taken one of two positions. Some courts view warranty theory as purely contractual in nature and having no effect on a landlord’s tort liability. These jurisdictions apply common law tort principles to determine liability for a tenant’s injuries. Other jurisdictions determine a landlord’s liability by using a fault-based warranty standard that mirrors tort law negligence.

Generally, all jurisdictions that recognize an implied warranty of habitability indicate that proof of housing code violations having severe health and safety consequences is sufficient to establish a breach of this implied warranty. Furthermore, several jurisdictions have defined the implied warranty of habitability broadly enough to include all situations in which leased premises are unfit for habitation because of health or safety hazards. The test for whether a material breach has occurred is a factual one. In making such a determination, courts typically consider the nature of the defect in leased premises, its effect on safety, whether the defect violates an applicable housing code, the possibility that it could be repaired in a reasonable time, and the length of time a defect has existed.

In order to find a breach of the implied warranty of habitability, courts generally require that a landlord have notice of the defective condition and a reasonable time in which to correct the defect before the tenant successfully may assert a breach of warranty. If a defect


129 See id. (citing to the Kansas Supreme Court, which had an implied warranty in 1971 and adopted the URLTRA in 1975, but continued to decide liability cases without a flicker of recognition of these warranties).

130 See id. at 162–63. For the purposes of this Comment, warranty theory, negligence, and strict liability will be discussed separately, despite their apparent overlap.

131 See id. at 316; see also CUNNINGHAM, supra note 93, § 6.38, at 315.

132 CUNNINGHAM, supra note 93, § 6.38, at 315.

133 Id. at 316 (citing Boston Hous. Auth. v. Hemingway, 363 Mass. 184, 293 N.E.2d 831 (1973); Pugh v. Holmes, 486 Pa. 272, 405 A.2d 897 (1979)).

134 Hemingway, 363 Mass. at 200, 293 N.E.2d at 843.

135 Id. at 200–01, 293 N.E.2d at 843–44. Other considerations are the age of the structure, the amount of the rent, and whether the defect was caused by abnormal conduct or use by the tenant. Id.; see also CUNNINGHAM, supra note 93, § 6.38, at 316.

136 Love, supra note 88, at 104; see also Berzito v. Gambino, 63 N.J. 460, 469, 308 A.2d 17, 22 (1973); Pugh, 486 Pa. at 290, 405 A.2d at 906.
is present at the time of the lease, the notice requirement is waived if a landlord knew, or should have known, of the defective condition. 137 If a reasonable inspection would not have disclosed the defect, however, notice is required. 138

In addition to implied warranties, there are also statutory warranties of habitability that impose a duty upon landlords to put and keep premises in habitable condition. 139 This type of statutory duty is found in the Uniform Residential Landlord and Tenant Act (URLTA), adopted by at least seventeen states, 140 as well as the civil codes of states that have incorporated the Field Code 141 and the American Bar Foundation’s Model Residential Landlord-Tenant Code. 142 Further, approximately eight states have put the implied warranty in statutory form, although less comprehensively. 143

While many of the habitability cases involve housing code violations, legal commentators have suggested that the warranty of habitability may be extended to assert a claim against a landlord for the presence of asbestos. 144 One commentator has suggested that the presence of pervasive legislation regarding asbestos may encourage courts to find a breach of the warranty of habitability regardless of fault. 145 Courts may impose this strict liability because the statutes provide proof of the public concern for the dangers of asbestos and the demand to hold individuals liable for putting others at risk. 146 The commentator believes that, at the very least, such a theory could affect the rental obligation of the tenant. 147

137 Love, supra note 88, at 104.
138 Id.
139 See Browder, supra note 88, at 112–16.
140 See id. at 113–15; CUNNINGHAM, supra note 93, § 6.39, at 323.
143 Id. at 326. These states include Idaho, Maine, Michigan, Minnesota, New York, Rhode Island, West Virginia, and Wisconsin. Id.
144 See Glazerman, supra note 107, at 677–79; Truglia, Asbestos as an Impairment of Habitability, N.Y.L.J., May 26, 1987, at 32.
145 See Truglia, supra note 144, at 32.
146 See id.
147 Id. Under the warranty of habitability, contract remedies such as rescission and specific performance are available. See Love, supra note 88, at 109–10. Furthermore, some courts have allowed recovery for a tenant’s personal injuries. These courts have done so by defining them as consequential damages of the landlord’s breach of warranty under common law or by analogy to the Uniform Commercial Code. See U.C.C. § 2-715(2)(b) (1990); Comment, Let the Landlord Beware: California Imposes Strict Liability on Lessors of Rental Housing, 51 Mo.
The modern trend in premises liability law is toward holding landlords to a negligence standard. To prove negligence a tenant must show that: the landlord owed the tenant a duty or obligation recognized by law; the landlord breached this duty; and, as a proximate result of the breach, the tenant was injured. A duty requires a person to conform to certain standards of conduct for the protection of others. The theory of negligence presumes a uniform standard of behavior requiring an individual to act as a reasonable person.

The landmark case of Sargent v. Ross illustrates the flexibility of the negligence approach. In Ross a tenant's child fell from an outside stairway that served only their second-floor apartment. The landlord had constructed the stairway at such a steep incline that it was unreasonably dangerous. The court noted that, by recognizing an implied warranty of habitability in an earlier case, it had removed the doctrine of caveat emptor from landlord-tenant disputes and "discarded the very legal foundation and justification for the landlord's immunity in tort." The court reasoned that, to prevent individuals from being exposed to unreasonable harm, landlords should be held to the same standard of care as other people.

According to Ross and its progeny, landlords must act reasonably in all circumstances, taking into account the likelihood of injury to others and the burden of reducing or avoiding the risk. A focus on due care has replaced the common law focus on control as the primary issue in negligence suits against landlords. The common law exceptions to the landlord tort immunity doctrine now are...
considered only in determining whether a landlord's conduct was negligent. These exceptions provide insight into whether a landlord's conduct was unreasonable and whether the harm was foreseeable.\textsuperscript{161}

Courts have found landlords negligent for violation of an implied warranty of habitability in many different circumstances, such as the failure to warn about or repair defective heating appliances\textsuperscript{162} and the failure to provide adequate security.\textsuperscript{163} In addition, courts have used violations of habitability statutes\textsuperscript{164} as evidence of a landlord's negligence.\textsuperscript{165} Furthermore, landlords have been held to a negligence standard when a tenant's child was injured or killed by the household toxin, lead paint.\textsuperscript{166} Courts applied this standard even before lead paint was regulated in housing codes and other statutes.\textsuperscript{167}

The current status of the law in this area is illustrated by \textit{Norwood v. Lazarus},\textsuperscript{168} in which a landlord was found negligent with respect to the use of lead paint that flaked and fell to the floor in common hallways.\textsuperscript{169} The Missouri Appeals Court held that the landlord's negligence was the legal cause of the injury to the tenant's child and further held that it was foreseeable that the child would ingest the paint flakes.\textsuperscript{170}

In addition to providing proof of a breach of a duty, the proof of proximate causation of an injury also will be difficult for a tenant seeking recovery for a latent disease.\textsuperscript{171} The tenant may seek to recover for being placed "at risk" for developing a disease and for the anxiety that this increased susceptibility has caused him or her.\textsuperscript{172} Most jurisdictions follow the precedent established by centuries of

\textsuperscript{161} Ross, 113 N.H. at 399, 308 A.2d at 535; see generally Prosser & Keeton, \textit{supra} note 94, §§ 31, 43, at 169–73, 280–300.


\textsuperscript{163} See, \textit{e.g.}, Trentacost v. Brussel, 82 N.J. 214, 412 A.2d 436 (1980).

\textsuperscript{164} \textit{See supra} note 139 and accompanying text.

\textsuperscript{165} \textit{See Davis & DeLa Torre, \textit{supra} note 128, at 164 (citing Bennett v. Mattison, 382 So. 2d 873, 875 (Fla. Dist. Ct. App. 1980)).}

\textsuperscript{166} \textit{See, e.g., Norwood v. Lazarus, 634 S.W.2d 584 (Mo. App. 1982).}


\textsuperscript{168} 634 S.W.2d 584 (Mo. App. 1982).

\textsuperscript{169} \textit{Id.} at 587.

\textsuperscript{170} \textit{Id.} at 588. Previous cases had not considered ingestion of paint flakes foreseeable. See, \textit{e.g., Montgomery v. Cantelli, 174 So. 2d 238, 240 (La. 1965), cert. denied, 247 La. 1082, 176 So. 2d 143 (1965); Weaver v. Arthur A. Schneider Realty Co., 381 S.W.2d 866, 869 (Mo. 1964).}

\textsuperscript{171} \textit{See Cross & Murray, \textit{supra} note 4, at 724.}

\textsuperscript{172} \textit{See id.} at 724–34.
Anglo-American tort law and deny recovery for "at risk" injuries absent physical harm or manifested disease.\(^{173}\) This trend stems from the fear that speculative injuries would open the floodgates of litigation.\(^{174}\)

Recently, a Pennsylvania trial court adhered to this view in an indoor radon case. The plaintiff in *Nobel v. Kanze*,\(^{175}\) brought a suit against his home ventilation contractor after plaintiff Nobel discovered dangerous levels of radon in his new home.\(^{176}\) The plaintiff claimed that the ventilation system was faulty and actually pulled radon into his home. The plaintiff sought to recover the substantial sums of money he had expended to isolate the source of the radon and reduce the high concentrations of the gas.\(^{177}\)

The court granted the defendant's motion for partial summary judgment relating to the plaintiff's claims for increased risk of cancer and emotional distress because the plaintiff did not plead physical harm.\(^{178}\) The appellate court denied the plaintiff's appeal on this issue.\(^{179}\)

Despite the *Nobel* decision, there is growing support for granting damages for future risk of illness.\(^{180}\) In *Sterling v. Velsicol Chemical Corp.*,\(^{181}\) a case involving a hazardous waste disposal site, the District Court for the Western District of Tennessee ruled that enhanced susceptibility to liver and kidney disease, as well as to cancer, is an existing condition rather than a speculative future injury.\(^{182}\) The plaintiffs could have been compensated without proving any present injury.\(^{183}\) Other cases also have implied that proving pure increased risk of cancer may be sufficient for recovery.\(^{184}\)

\(^{173}\) *Id.* at 725.

\(^{174}\) *See id.*


\(^{177}\) *Id.*


\(^{179}\) *Id.*

\(^{180}\) *See* Cross & Murray, *supra* note 4, at 725–26.


\(^{182}\) *See id.* at 322.

\(^{183}\) *See id.* The court's language was dicta because plaintiffs suffered physical harm. Cross & Murray, *supra* note 4, at 726 n.268.

When a present physical injury exists, courts are more willing to allow a cause of action for future harm.\textsuperscript{185} The policy rationale behind this view is that parties are required to seek compensation for all harms accruing from the same action under the theory of res judicata.\textsuperscript{186} Therefore, a plaintiff suing for present harm is not only permitted, but also required, to include claims for future risks.\textsuperscript{187} Under these circumstances, an "at risk" injury may be proven if the plaintiff demonstrates that there is a reasonable medical probability or substantial risk that future injury will result.\textsuperscript{188}

The issue of present physical injury was discussed in \textit{Brafford v. Susquehanna}.\textsuperscript{189} In \textit{Brafford}, the District Court for the District of Colorado held that present cellular changes might satisfy the physical injury requirement.\textsuperscript{190} The court observed that medical experts are able to conclude, with a reasonable degree of certainty, that chromosome damage resulted from radiation exposure and that this damage is of sufficient magnitude to constitute a present physical injury entitling plaintiffs to recover for the increased risk of future cancer.\textsuperscript{191}

The level of probability of future cancer risk that a plaintiff must prove is unclear.\textsuperscript{192} Even with the presence of existing physical harm, many courts have suggested that a plaintiff must prove at least a fifty-percent probability of future cancer.\textsuperscript{193} However, some courts have granted relief with less than a fifty-percent chance of future harm.\textsuperscript{194}

Although courts are reluctant to allow recovery for future illness, they are somewhat more inclined to grant damages for fear of cancer.\textsuperscript{195} Physical injury or impact is a necessary criterion for recovery.

\textsuperscript{185} Cross \& Murray, supra note 4, at 727.
\textsuperscript{186} See id. (citing Jackson v. Johns-Manville Sales Corp., 781 F.2d 394, 410-11 (5th Cir.), cert. denied, 478 U.S. 1022 (1986); Gideon v. Johns-Manville Sales Corp., 761 F.2d 1129, 1137 (5th Cir. 1985)).
\textsuperscript{187} Id.
\textsuperscript{189} 586 F. Supp. 14 (D. Colo. 1984); see supra notes 108-20 and accompanying text.
\textsuperscript{190} See id. at 18.
\textsuperscript{191} Id. at 17-18.
\textsuperscript{192} Cross \& Murray, supra note 4, at 729.
\textsuperscript{193} Id. (citing Jackson v. Johns-Manville Sales Corp., 781 F.2d 394, 413 (5th Cir.), cert. denied, 478 U.S. 1022 (1986)).
\textsuperscript{194} Id. at 730 (citing Martin v. City of New Orleans, 678 F.2d 1321 (5th Cir. 1982), cert. denied, 459 U.S. 1203 (1983); James v. United States, 483 F. Supp. 581 (N.D. Cal. 1980)).
\textsuperscript{195} Id. at 731.
for emotional distress in many jurisdictions, but this requirement has been relatively easy to satisfy.\textsuperscript{196} Courts have found ingestion, inhalation, or other contact to satisfy the impact factor.\textsuperscript{197} An additional requirement to recover for the fear of cancer is that the fear must be reasonable.\textsuperscript{198} Courts apply a low standard in satisfaction of this requirement as well.\textsuperscript{199}

Plaintiffs also may be able to recover for the cost of medical surveillance to detect and treat cancer.\textsuperscript{200} The threshold for obtaining relief for these costs is ambiguous. Courts have authorized recovery for medically advisable treatment and when there is a reasonable probability of future harm.\textsuperscript{201} Courts have not required the presence of a physical injury to recover these costs.\textsuperscript{202}

\textbf{D. Strict Liability}

Another possible theory that tenants could pursue against landlords is strict liability. Strict liability eliminates the need to prove misconduct by the landlord and focuses a court’s attention on the status of a dwelling. Section 402A of the \textit{Restatement (Second) of Torts} addresses strict liability, in general, and provides for application of the doctrine to a seller of any defective product that is unreasonably dangerous and causes the user harm.\textsuperscript{203} The defect can be a flaw in the product that was present at the time of sale, a failure to warn of a risk or hazard related to the design, or a defective design.\textsuperscript{204} Therefore, courts have applied strict liability in a variety of situations involving products liability.

Strict liability first was applied to real estate in the landmark case \textit{Schipper v. Levitt & Sons.}\textsuperscript{205} In that case, the New Jersey Supreme Court held a builder-vendor strictly liable when a child was scalded as a result of a defective water heater.\textsuperscript{206} The court based its holding on public policy considerations, including the unequal bargaining position of the homeowner in relation to the builder, the buyer's

\begin{flushleft}
\textsuperscript{196} \textit{Id.} (citing Herber v. Johns-Manville Corp., 785 F.2d 79, 85 (3d Cir. 1986); Wetherill v. University of Chicago, 565 F. Supp. 1553, 1560 (N.D. Ill. 1983)).
\textsuperscript{197} \textit{Id.}
\textsuperscript{198} \textit{Id. at 732.}
\textsuperscript{199} \textit{Id.}
\textsuperscript{200} \textit{Id. at 734.}
\textsuperscript{201} See \textit{id. at 734.}
\textsuperscript{202} \textit{Id. at 735.}
\textsuperscript{203} See \textit{Restatement (Second) of Torts} § 402A (1965).
\textsuperscript{204} \textit{PROSSER} & \textit{KEETON}, supra note 94, § 99, at 695–98.
\textsuperscript{205} 44 N.J. 70, 207 A.2d 314 (1965).
\textsuperscript{206} See \textit{id.} at 73–74, 90, 207 A.2d at 316, 325.
\end{flushleft}
reliance on the skill and representations of the builder, and the deep pocket and cost-spreading ability of the builder. Schipper provides an important precedent for the classification of a dwelling as a product for strict liability purposes. Although courts traditionally have refused to impose strict liability upon landlords, the California Supreme Court has taken the position that a landlord of residential property may be subject to strict liability for injuries to a tenant that are caused by a latent defect in the premises. In Becker v. IRM Corp., a tenant plaintiff sustained a severely lacerated broken arm when he slipped and fell against an untempered glass shower door in an apartment he rented from the defendant IRM Corporation. The defendant had acquired the building in a used condition four years before plaintiff’s accident. A pre-purchase inspection by the defendant’s officers revealed no visible differences in the shower doors, but in actuality, a small marking indicated that temper was absent from the shower doors.

The court imposed a strict liability standard on the lessor by analogizing to the application of strict liability under contractual warranty theory in commercial transactions. This theory grew out of an earlier California case, Greenman v. Yuba Power Products, Inc., where the court shifted the burden of loss from the consumer to the overall producing and marketing enterprise. The court in Becker found landlords to be integral parts of the marketing of real estate and held that, like a manufacturer, they should bear the cost of protecting tenants as a cost of doing business. The court in Becker also relied on Green v. Superior Court, which imposed an implied warranty of habitability on rental housing, as well as on

207 Id. at 91, 207 A.2d at 325–26.

208 See id. at 90–92, 207 A.2d at 326. The court analogized mass-produced homes to mass-produced automobiles. See id. at 90–92, 207 A.2d at 326.


212 Id. at 457, 698 P.2d at 117, 213 Cal. Rptr. at 214.

213 Id. at 458, 698 P.2d at 117, 213 Cal. Rptr. at 214.

214 Id. at 547–48, 698 P.2d at 117–18, 213 Cal. Rptr. at 214–15.

215 Id. at 458–64, 698 P.2d at 118–22, 213 Cal. Rptr. at 215–19.


217 Id. at 63, 377 P.2d at 901, 27 Cal. Rptr. at 701.

218 Becker, 38 Cal. 3d at 464, 698 P.2d at 122, 213 Cal. Rptr. at 219.

cases that held landlords strictly liable to tenants for injuries from furniture and fixtures, to show that public policy compelled a landlord to bear the responsibility for injuries caused by uninhabitable dwellings.

Further support for the imposition of a strict liability standard on landlords may be found in Kaplan v. Coulston. Kaplan involved a tenant who was injured due to the collapse of a cabinet. The trial court held that imposition of strict liability upon landlords for breach of an implied warranty of habitability would be in the interests of justice. The trial court compared the landlord-tenant relationship to that of seller and purchaser in the products liability field. The court then based its decision on factors typically utilized in products liability cases. It reasoned that landlords, like sellers, have superior knowledge about, and are in a better position to prevent, defects. According to the court, just as the liability of the seller does not depend on awareness of the defect even when multiple inspections would not reveal the defect, neither should the liability of the lessor be based upon the knowledge of the defect. Furthermore, the deep pocket and cost-spreading policies behind products liability theory hold true for the landlord-tenant situation. The landlord may purchase liability insurance and pass the costs on to tenants through rent charges.

Similarly, the Kaplan court compared tenants to purchasers. Tenants rely on the representations of the landlord and the implied warranty that the dwelling will be safe. The Kaplan court's holding also was influenced by tenants' difficult burden of proof under a negligence theory. The injury may have been caused by the landlord's failure to discover or repair the defect. Therefore, the tenant,

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221 See Becker, 38 Cal. 3d at 462, 698 P.2d at 121, 213 Cal. Rptr. at 217–18.
222 85 Misc. 2d 745, 381 N.Y.S.2d 634 (1976).
223 Id. at 745, 381 N.Y.S.2d at 634.
224 Id. at 751–52, 381 N.Y.S.2d at 638.
225 Id. at 752, 381 N.Y.S.2d at 638.
226 Id. at 750, 381 N.Y.S.2d at 638.
227 Id. at 752, 381 N.Y.S.2d at 639. The producing and marketing enterprises are able to deal with the costs of customer injuries because of their greater monetary resources. This makes them the deeper pockets. See Greenman v. Yuba Power Prods., Inc., 59 Cal. 2d 57, 63, 377 P.2d 897, 901, 27 Cal. Rptr. 697, 701 (1963).
228 Kaplan, 85 Misc. 2d at 750, 381 N.Y.S.2d at 638.
229 Id. at 751, 381 N.Y.S.2d at 638.
230 Id. at 750–51, 381 N.Y.S.2d at 638.
like the purchaser, may find it impossible to show that the landlord knew, or should have known, of the defect. 231

Other courts, like the New Jersey court in *Dwyer v. Skyline Apartments, Inc.*, 232 have refused to impose strict liability upon landlords. This case involved a long-term tenant who was burned when a hot water faucet fell out of a bathroom wall. 233 The court described the faulty faucet as a latent defect unknown to the tenant, unknown to the landlord, and not discernible on a reasonable inspection. 234 The court’s arguments against strict liability included: 1) landlords, unlike product manufacturers, are not engaged in mass production and putting products in the stream of commerce; 2) landlords have not created the product with the defect; 3) apartments are composed of many parts that are constructed by various entities and are under the constant stress of use and deterioration; 4) landlords do not have the expertise to detect and remedy all of the conditions; 5) tenants do not expect a completely perfect apartment; and 6) landlords should not have such a burden imposed on them when they could not have detected the defect. 235 Furthermore, tenants, rather than landlords, have possession of the property and should notify landlords of defects. 236 Finally, landlords of old buildings may not have recourse against the contractors or other parties that actually are responsible for the defects. 237

The vast majority of courts have adopted the view presented in *Dwyer* and have held that the common law warranty of habitability does not give rise to strict liability. 238 This view also holds true for statutory warranties of habitability. For example, in *Meyer v. Parkin*, 239 a family sued its landlord based on a statutory covenant of habitability to recover for their child’s permanent physical and neurological damage, which they alleged was a result of toxic poisoning.

231 *Id.* at 751, 381 N.Y.S.2d at 638. Lastly, the Kaplan court was influenced by the Louisiana statute imposing strict liability upon landlords. *Id.* The statute provides for liability without fault. LA. CIV. CODE ANN. art. 2695 (West 1990). “A lessee needs only show injury from an accident caused by a defect on the premises.” Joyna v. Aetna Casualty & Sur. Co., 240 So. 2d 545 (La. 1970).


233 *Id.* at 51, 301 A.2d at 464.

234 *Id.* at 53, 301 A.2d at 465.

235 See *Id.* at 55–56, 301 A.2d at 467.


237 See *Id.*


from formaldehyde exposure during their tenancy. The Minnesota Court of Appeals held that the habitability statute did not permit recovery for damages based on strict liability. The court stated that the legislature had not eliminated the element of knowledge from the rule that a lessor has a duty to warn the tenant of concealed defects about which the lessor knew or should have known.

The Massachusetts Supreme Judicial Court, however, has held a landlord strictly liable for breach of a statutory duty. In Bencosme v. Kokaras, the court held a landlord strictly liable for the injuries a young child sustained from lead paint poisoning. The landlord had failed to remove the paint and plaster as required by the Massachusetts lead paint abatement statute. The court cautioned that it was not adopting a general standard of strict liability; rather, it was determining the legislative intent of the statute. The court held that the legislature had created strict liability in its lead paint legislation and that notice to the landlord, therefore, was not required.

IV. RECENT FEDERAL AND STATE ACTION

The liability of a landlord for injuries caused by indoor radon exposure might be dealt with statutorily as well as judicially. Federal and state legislatures recently have begun to take action regarding the radon threat. For example, title IV of the 1986 Superfund Amendments and Reauthorization Act (SARA), gave the EPA explicit authority to conduct research and spread information about radon and other indoor air pollutants. Since that time, the EPA

240 Id. at 436.
241 See id. at 438. The Minnesota statute provides for several covenants regarding the habitability of the premises and the continuous duty upon the landlord to keep the premises fit. MINN. STAT. § 504.18 (1990).
242 Meyer, 350 N.W.2d at 439.
244 See id. at 43–44, 507 N.E.2d at 750.
245 See id. at 41, 507 N.E.2d at 749. The Massachusetts statute holds an owner of premises liable for all damages caused by his failure to cover or remove lead as required by chapter 111, section 197 of the Massachusetts General Laws. See MASS. GEN. LAWS ANN. ch. 111, § 199 (West 1983 & Supp. 1990).
246 See Bencosme, 400 Mass. at 43, 507 N.E.2d at 750.
247 Id.
has conducted studies of indoor radon levels and has surveyed twenty-five states for radon contamination.\(^{250}\)

Congress enacted the Indoor Radon Abatement Act in October 1988 to assist states in establishing programs to alleviate radon contamination.\(^{251}\) The Act states that the national goal is that the air within buildings "should be as free of radon as the ambient air outside of buildings."\(^{252}\) To achieve this national goal, the Act requires the EPA to establish a radon information clearinghouse to update the public on radon's health effects and methods of measuring and reducing indoor radon levels.\(^{253}\) The Act also requires the EPA to study radon levels in schools\(^{254}\) and federal buildings.\(^{255}\)

Another important provision of the Act requires the EPA to develop model construction standards and techniques for controlling indoor radon.\(^{256}\) Organizations responsible for building construction standards and techniques are supposed to assist the EPA in establishing these standards.\(^{257}\) The EPA is authorized to ensure that the entities responsible for developing national model building codes and regulating building construction adopt the Agency's model standards and techniques.\(^{258}\)

In addition, the Act authorized the EPA to develop the State Indoor Radon Grants Program (SIRG) to assist states in the cost of testing and mitigating indoor radon concentrations.\(^{259}\) The program is a three-year federal matching grant to encourage radon abatement.\(^{260}\) The federal government pays up to seventy-five percent of the abatement program's cost for the first year, up to sixty percent in the second year, and up to fifty percent in the third year.\(^{261}\) The EPA's ten regional offices act as project directors and distribute the funds to the states while also reviewing the states' quarterly progress reports and detailed work plans for the use of the funding.\(^{262}\) The EPA provides guidance on ten activities that are eligible for

\(^{250}\) See Survey, supra note 3, at 1.


\(^{252}\) Id. § 2661.

\(^{253}\) Id. § 2665(a)(1).

\(^{254}\) Id. § 2667.

\(^{255}\) Id. § 2669.

\(^{256}\) Id. § 2664.

\(^{257}\) Id.

\(^{258}\) Id.


\(^{260}\) See id. at 36,857-58.

\(^{261}\) Telephone interview with Jamie Burnett, EPA-Radon Division, Attorney Advisor (Oct. 1989).

\(^{262}\) Telephone interview with Sharon Saile, EPA-Radon Division, Project Analyst (Sept. 1990).
funding under this financial assistance program. These activities include: 1) radon surveys, 2) public information and educational materials, 3) radon control programs, 4) purchase of measurement equipment or devices, 5) purchase and maintenance of analytical equipment, 6) training, 7) payment of program overhead and administration, 8) data storage management, 9) mitigation demonstrations and 10) toll-free hotlines. Furthermore, a state may use SIRG funds to provide financial assistance to individuals for demonstration projects or for the purchase and analysis of radon measurement devices. Every state has applied for these grants.

Other congressional measures may be forthcoming. Pending before Congress in both 1988 and 1989, the Radon Gas Tax Relief Act would provide a full tax deduction to builders and developers of commercial, public, and residential properties who test for radon contamination. The tax deduction also would apply to the costs of materials and labor used for installation of radon prevention measures. In addition, the bill would provide families with a tax credit of up to $4000 for repair costs when families find unsafe radon levels.

State legislation regarding radon has been sporadic. New Jersey and Florida, however, have been at the forefront of addressing the radon problem. New Jersey has an extensive radon program that calls for radon testing and a study of its health effects. In addition, the program provides for confirmation of radon test results through free second opinions, the monitoring of radon levels, the certification of home improvement and testing firms, and an information and outreach program with a toll-free radon hotline staffed by scientists. New Jersey also has a law requiring the seller of a building that has been tested for radon to provide the buyer, at the time of

264 Id. at 7-15. These activities are listed in the Indoor Radon Abatement Act, 15 U.S.C. § 2666(c) (1988).
265 Id. at 20-21; see also 15 U.S.C § 2666(i)4 (1988).
266 Telephone interview with Sharon Saille, EPA-Radon Division, Project Analyst (Sept. 1990).
269 Id. at 2.
270 Shepherd & Gaynor, supra note 11, at 8.
271 See id.; MASS. REP., supra note 3, at 68-69.
272 See N.J. REV. STAT. §§ 13:1k-14, 26:2d-60 (1989); MASS. REP., supra note 3, at 68.
contracting, with a copy of the test results and evidence of mitigation.\textsuperscript{274} Violations of certain provisions of this law constitute a third-degree crime.\textsuperscript{275} In September 1989, New Jersey Governor Thomas H. Kean signed a statute requiring the development of a revised construction code and mandating that contractors adhere to these radon-minimizing standards.\textsuperscript{276} Finally, New Jersey provides low-interest loans to assist homeowners in the costs of radon mitigation.\textsuperscript{277}

Florida enacted a comprehensive radon statute in 1988.\textsuperscript{278} One of its goals is to develop a building code for radon-resistant construction. The law imposes a tax on building permits to finance the development of the code.\textsuperscript{279} The law requires all public and private schools, as well as all state-owned, -operated, and -licensed day-care centers, to be tested. In addition, the state provides certification for individuals who measure and mitigate radon.\textsuperscript{280} Finally, the law requires a general warning about radon to be provided to buyers and renters. These clauses must be on at least one document and must be executed at or before the sale or rental agreement.\textsuperscript{281}

V. Application of Landlord-Tenant Theories to Radon

A tenant injured by radon exposure could assert a number of theories against his or her landlord. For example, a tenant could utilize a constructive eviction theory and argue that the presence of radon gas interfered with the use and enjoyment of the dwelling.\textsuperscript{282} To recover under a constructive eviction theory, tenants would have to prove that their occupancies were substantially disturbed. Such cases would hinge on whether this interference was substantial,\textsuperscript{283} which might be determined by the severity of the radon levels in the structure. Levels that necessitate vacating a dwelling certainly would be considered a substantial interference.\textsuperscript{284} Low to moderate

\textsuperscript{275} Id. § 26:2d-77 (1989).
\textsuperscript{276} 20 Env't Rep. (BNA) 1062 (Oct. 13, 1989).
\textsuperscript{277} Mass. Rep., supra note 3, at 69.
\textsuperscript{278} Fla. Stat. § 404.056 (1989).
\textsuperscript{279} Id.
\textsuperscript{280} Id.
\textsuperscript{281} Id. California has enacted a similar law that requires sellers to disclose their awareness of such toxins as radon, asbestos, lead paint, and formaldehyde. Cal. CIV. CODE § 1102.6 (Deering 1991).
\textsuperscript{282} See supra notes 95–123 and accompanying text.
\textsuperscript{283} Id.
\textsuperscript{284} See supra note 97 and accompanying text.
radon concentrations, while still dangerous, may not constitute substantial interference. These levels may not cause enough disturbance in the tenant's life.

Tenants might argue partial constructive eviction because the presence of radon kept them from using a basement, for example.\textsuperscript{285} Furthermore, they could argue that the presence of radon required them to compromise their safety and comfort because of their need to increase ventilation.\textsuperscript{286} The landlord likely would respond that the use and enjoyment of the dwelling was not disturbed substantially by the presence of this invisible threat.

It is difficult to ascertain a plaintiff's chances of success by proceeding under a constructive eviction theory. Because of the high standard of substantial disturbance,\textsuperscript{287} perhaps only tenants who were exposed to extraordinarily high radon levels and were forced to abandon the premises will be able to recover under this theory.

A tenant-plaintiff also could argue that a landlord breached the warranty of habitability.\textsuperscript{288} Clearly, the presence of radon affects the habitability of a home.\textsuperscript{289} Radon contamination transforms the home into a carcinogenic structure. Tenants subject themselves to recognized health risks just by using the premises for its intended purpose. Surely, such a dwelling is not reasonably fit for occupation. By showing that radon levels are above the EPA's suggested guideline,\textsuperscript{290} tenants could show that the premises are not safe, and thus are uninhabitable.\textsuperscript{291}

To impose liability under this theory, however, there is a general requirement that a landlord have notice of the defect.\textsuperscript{292} The notice requirement will make it difficult for a tenant to assert a warranty theory although various arguments are available. A tenant could assert a constructive notice theory and argue that the landlord should have known about the possibility of radon because of media coverage since late 1984\textsuperscript{293} and the introduction of legislation such as


\textsuperscript{286} See supra notes 37–40, 72–76 and accompanying text.

\textsuperscript{287} See supra notes 97–99 and accompanying text.

\textsuperscript{288} See supra notes 125–47 and accompanying text.

\textsuperscript{289} See supra notes 43–62 and accompanying text.

\textsuperscript{290} The EPA's suggested guideline or action level for indoor radon is 4 pCi/l or .02 WL. CITIZEN'S GUIDE, supra note 1, at 11.


\textsuperscript{292} See supra notes 136–38 and accompanying text.

\textsuperscript{293} See FEDERAL CONCERNS, supra note 63, at 3.
the Indoor Radon Abatement Act. Tenants also could argue that, because landlords are in the business of renting property and are the owners of the particular premises, they should be aware of all current issues affecting the property. To be successful, the tenant must show that radon is a problem that is known to the particular community. The presence of many neighboring structures with high radon levels, such as the homes in Reading Prong, may lend the tenant added credibility. Furthermore, the tenant could assert that there are inexpensive commercially available radon detectors that the landlord could have used in the inspection of the premises.

A landlord, however, can counter these arguments. Landlords may argue that there was no notice because the defect was "invisible." A landlord could argue that the notion of a reasonable inspection has never encompassed radon testing. Thus, radon could not be detected in a reasonable inspection of the premises. If a landlord shows a court that he or she neither knew nor should have known of the radon, the Restatement (Second) of Property disapproves of imposing liability for the defect.

It is unlikely that tenants will prevail under a warranty theory. Because radon is a naturally occurring invisible gas that was discovered only recently, the notice requirement will bar recovery under that theory. The notice requirement implicitly creates a fault analysis that can shield a landlord from liability for this natural hazard. It becomes a fault analysis because the landlord generally is liable only when he or she has knowledge of the defect and fails to act, rather than being liable for the mere existence of the hidden defect.

A radon-exposed tenant, however, could assert other theories. The tenant may try to utilize negligence theory against a landlord who did not test for radon. It may be difficult, however, to establish a duty on which a court could base a finding of negligence. While a plaintiff could argue that the landlord owed a duty of care based on statutory or implied warranties of habitability, no court has imposed specific duties regarding radon testing. The tenant could

294 See supra notes 251–58 and accompanying text.
295 See supra notes 222–28 and accompanying text.
296 See supra notes 1–2 and accompanying text.
297 See supra notes 148–202 and accompanying text.
298 See supra notes 125–47.
argue that the landlord should have tested for the presence of radon using a constructive notice argument based on the presence of legislation and the media coverage of the radon threat. In addition, the tenant could argue that the landlord has expertise about the dwelling and that the presence of this deadly gas is easily detectable using inexpensive commercially available devices. Landlords could counter that their behavior represented the reasonable conduct of a landlord. In addition, like arguments by landlords in early lead paint cases regarding the ingestion of paint flakes, a landlord can argue that the presence of radon is an extraordinary circumstance that was not foreseeable.

Even if a tenant is able to prove that a landlord acted unreasonably, or violated a duty, thus establishing one of the elements of a warranty or negligence claim, there are further difficulties proving proximate causation of the harm. Tenants suing landlords for radon exposure will attempt to recover for lung cancer that either has developed or merely is anticipated. If the disease already has manifested itself, the long latency period may make it difficult to prove that indoor radon exposure rather than other factors, such as genetics, smoking, diet, age, and other chemical exposures, proximately caused the tenant's injury. A tenant also might seek to recover for cancerphobia, the fear of developing cancer, the increased risk of cancer, and the costs of medical surveillance.

Plaintiffs attempting to recover for future cancer risk, under negligence or warranty theory, face even greater difficulties, particularly establishing damages. Like the plaintiff in Nobel v. Kanze, tenants may be denied recovery when no present physical harm is established. It is well established that speculative injuries are not compensable, but a court may adopt the rationale of the district court in Brafford v. Susquehanna, Inc. and hold that subcellular

303 See supra notes 150–51 and accompanying text.
304 See supra note 170 and accompanying text.
305 Id.
306 See supra notes 43, 149, 171–202 and accompanying text.
307 Cross & Murray, supra note 4, at 724.
308 Shuko, supra note 10, at 253.
309 Id. Cancerphobia and fear of cancer can be considered two separate disorders. The former is considered an exaggerated and perhaps irrational fear. Id. at 251 n.77.
310 Id. at 251.
312 See id.
313 See Cross & Murray, supra note 4, at 725.
damage is a present injury.\textsuperscript{315} Under such a theory, most tenants in indoor radon cases will be able to sue for future cancer risk because they should be able to establish some cellular change.\textsuperscript{316} The future risk of cancer can be attacked, however, by the application of a stringent standard requiring a substantial probability of cancer.\textsuperscript{317} Substantial probability could arise only from extreme radon levels.\textsuperscript{318} In response, a landlord could assert that indoor radon exposure typically results in a one-percent increase in the risk of cancer.\textsuperscript{319} Finally, plaintiffs relying on cellular damage face the same proximate cause burdens in seeking to impose liability that they face when suing for radon-induced cancer. They have the difficult burden of proving that it is the radon exposure, rather than other factors, that has caused the cellular damage.

Recovery under a negligence theory is problematic. The lack of a duty to test, the unforeseeability of the risk, and the difficulty in establishing causation will present roadblocks to recovery. Therefore, a tenant may try to convince a court that radon represents an extraordinary situation that requires the imposition of strict liability.\textsuperscript{320}

Tenants could base a strict liability argument on the rationale provided in \textit{Kaplan v. Coulston}\textsuperscript{321} and its analogy to product liability cases.\textsuperscript{322} A tenant could assert that the landlord has superior knowledge about the premises and is in a better position to know if the premises have a radon problem.\textsuperscript{323} Like the manufacturer's knowledge of the product placed on the market, the landlord should be aware of the building's structure, its insulation source, ventilation rate, component parts, and foundation type. In addition, the landlord can take out liability insurance and spread the costs through rents.\textsuperscript{324} Furthermore, the tenant could argue that a court should impose strict liability because the burden of proof under a fault-based theory would make recovery for radon exposure impossible.\textsuperscript{325} They could

\textsuperscript{315} \textit{Id.} at 17-18.
\textsuperscript{316} See \textit{id}.
\textsuperscript{317} See \textit{supra} notes 193-94 and accompanying text. A stringent standard is not appropriate. Even the slightest increased risk of this onerous disease mandates recovery. Cancer is a painful illness for which there is no cure. Tenants should not go uncompensated for being subjected unknowingly to increased risks of such a serious disease.
\textsuperscript{318} See Cross & Murray, \textit{supra} note 4, at 727.
\textsuperscript{319} See \textit{id.} at 730.
\textsuperscript{320} See \textit{supra} notes 203-47 and accompanying text.
\textsuperscript{322} See \textit{supra} notes 215-38 and accompanying text.
\textsuperscript{323} See \textit{id}.
\textsuperscript{324} See \textit{id}.
\textsuperscript{325} See \textit{id}.
argue that the goal of tort law is to compensate injured parties, and that this would be served only by imposition of strict liability. 326

Currently, the majority view is strongly against holding landlords strictly liable for injuries to tenants caused by defects in the premises. 327 Courts generally hold landlords liable only under a negligence standard. 328 In response to strict liability claims, landlords will use the arguments presented in Dwyer v. Skyline Apartments, Inc., 329 distinguishing landlords from manufacturers for purposes of strict liability. 330 The most persuasive of the arguments is that radon is naturally occurring and is not a defect that the landlord produced. 331 Furthermore, landlords do not have the scientific expertise to know that testing should be conducted for an unobservable gas that only recently has been discussed in the media. 332

Radon-exposed tenants have a slim chance of recovering from landlords. The traditional landlord-tenant theories probably will not provide relief. There are significant problems involved with proving fault for a naturally occurring gas for which there is no duty to inspect, and it will be difficult to prove that radon proximately caused the tenant’s cancer. Furthermore, the imposition of a strict liability standard for this invisible hazard is an extraordinary judicial remedy.

One ray of hope remains for tenants injured by radon exposure. The existence of legislation addressing the radon issue is evidence of the strong public concern for the radon threat. 333 The existence of this public concern may encourage courts to find a method to impose liability. This method may take the form of finding a breach of the warranty of habitability or finding a duty upon which negligence can be established. 334 Alternatively, the court may exercise a greater degree of judicial activism and impose strict liability based on the public concern addressed in the legislation. 335 The majority of states, however, have not yet passed comprehensive radon legislation. 336 Moreover, the existing statutes do not impose liability regardless of fault, as do statutes addressing lead paint and asbestos. 337

326 See id.
327 See supra notes 209, 232–42 and accompanying text.
328 See id.
330 See supra note 235 and accompanying text.
331 See id.
332 See id.
333 See supra notes 249–81 and accompanying text.
334 See Truglia, supra note 144, at 32.
335 See supra note 249–81 and accompanying text.
336 See supra notes 270–71 and accompanying text.
337 See, e.g., MASS. GEN. LAWS ANN. ch. 111, § 199 (West 1983 & Supp. 1990)); Truglia, supra note 144, at 32 (citing ADMIN. CODE OF CITY OF N.Y. § 755(2)-6.3 (1986)).
VI. A LEGISLATIVE SOLUTION

Reliance on common law suits will not compensate injured tenants adequately and will not achieve the broader social goal of radon reduction. Litigation is slow, expensive, and uncertain. Victim compensation and reductions in radon exposure may be achieved at far lower societal costs by focusing on legislative action rather than awaiting judicial activism. A more effective primary method of addressing radon would come from greater legislative action that could provide the backdrop for subsequent litigation. Legislatures should take further steps and create a duty to test for and to abate radon contamination in the rental housing market.

Because radon is an invisible threat, testing must be required to solve the radon crisis. To facilitate the mandatory testing, funding from the State Indoor Grant Program (SIRG) could be used to assist landlords in areas potentially containing high levels of radon to test for radon in their rental units.\textsuperscript{338} Tax credits also should be available to encourage landlords to conduct testing.\textsuperscript{339} Furthermore, states should enact laws similar to the law existing in Florida\textsuperscript{340} and require that a general warning provision about the hazards of radon be included in every real estate transaction. Every sale or rental agreement also should provide a provision discussing the abatement requirements of landlords. Buyers and renters should be made aware of compliance letters issued concerning the abatement of the radon. The Massachusetts lead paint laws contain such provisions.\textsuperscript{341}

In addition to a statutory duty to test, state legislatures should create a duty upon landlords to abate radon contamination. A statutory duty upon landlords to abate an indoor toxin is not a novel idea. States such as Massachusetts,\textsuperscript{342} Maine,\textsuperscript{343} New York,\textsuperscript{344} and New Jersey\textsuperscript{345} require landlords to abate lead paint when it poses a danger to tenants. The health hazards of radon are severe enough to require abatement. The availability and inexpensiveness of many radon reduction methods makes abatement a relatively simple process. Landlords could abate many radon contamination problems by merely increasing ventilation and installing basement fans.\textsuperscript{346}

\textsuperscript{338} See supra notes 259–66 and accompanying text.
\textsuperscript{339} See supra notes 267–69 and accompanying text.
\textsuperscript{340} See supra note 281 and accompanying text.
\textsuperscript{342} Id. § 197.
\textsuperscript{346} See supra notes 70–87 and accompanying text.
The statutory duties of testing and abating radon would provide a solution to the fault and notice problems of common law litigation. A landlord's negligence could be established by proof that he or she violated an applicable statute. For example, breach of minimum ventilation controls could establish evidence of negligence or could mean that a landlord has breached an implied warranty of habitability. The burden of proving proximate cause, however, would remain.

In addition to imposing a duty to test for and abate radon contamination, legislatures must also work toward enforcing these duties by providing liability provisions making landlords liable for their failure to test for and abate radon. Such statutory liability would negate the tenant's causation problem because the landlord could be found liable merely for the presence of elevated radon levels. The legislative forum would allow interested parties to lobby and effect a compromise regarding which radon levels would subject a landlord to what penalty. A legislative solution would guarantee the use of democratic principles to solve a widespread national problem.

Statutory liability is necessary because of the severity of the health risks from radon exposure. Like the statutory liability imposed for violation of handling toxic substances and the improper disposal of solid and hazardous waste, the health risks of radon exposure represent a serious cancer risk, warranting the imposition of statutory liability for breach of the imposed duties. Other indoor toxin problems have required stringent liability provisions as well. The Massachusetts lead paint statute, for example, provides for punitive damages of three times actual harm when landlords fail to abate lead paint.

State and federal governments should continue to encourage radon abatement and prevention. Tax credits should be provided for radon abatement costs and for the utilization of radon reduction techniques. In addition, states should follow the lead of New Jersey and Pennsylvania and provide low-interest loans for radon abatement. State governments also could utilize other preventive measures. Following the lead of New Jersey and Florida, other states could require building codes to provide for construction techniques

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See supra notes 132–35 and accompanying text.


See supra notes 249–81 and accompanying text.

See supra notes 267–69 and accompanying text.

See supra note 277 and accompanying text.
that limit radon entry and insure ventilation rates that dispel radon progeny. In addition, state sanitary codes should be modified to include ventilation provisions designed to reduce radon effects. Properly designed and maintained ventilation systems represent an important means for controlling indoor air pollutant levels.

VII. CONCLUSION

Indoor radon exposure represents a serious health risk to apartment tenants and private homeowners. The technology is available both to test and to control radon levels. Furthermore, the costs of detection and control are extremely inexpensive compared to the health consequences of the hazard.

A tenant injured by radon exposure will look to their landlord for compensation. The traditional theories asserted against landlords, however, are fault-based. They will be ineffective when applied to this invisible hazard. It is nearly impossible to find fault for a naturally occurring gas for which there is no duty to detect. Moreover, the imposition of strict liability upon landlords is an extraordinary remedy for this natural hazard. Reliance on common law litigation will not compensate injured tenants and achieve the broader social goal of radon reduction. Litigation is too uncertain, expensive, and inefficient for society to await accomplishment of these goals through judicial activism.

State legislatures are the appropriate means to begin to solve the national health problem of radon. State and federal legislatures already have displayed the public concern for this hazard. They should now take further steps to address the radon dilemma. The legislatures should establish statutory requirements to test and reduce radon contamination in the rental housing market. The legislatures should impose liability on landlords for breach of these duties. Landlord liability would reduce indoor radon contamination and compensate the injured victims.

354 See supra notes 276, 279 and accompanying text.