

# **BRITISH COLUMBIA LUNG ASSOCIATION**

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## **RADON: Rights and Liabilities in Construction Law**



**Legal Brief No. 2 Healthy Indoor Environments,  
British Columbia Lung Association**

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**January 13, 2020**

This project was made possible  
by funding from:



## **Executive Summary**

Radon gas is an invisible, odourless, and tasteless gas found throughout Canada. It is caused by the breakdown of uranium that occurs naturally in rock and soil. Radon can seep into people's homes and reach elevated concentrations, becoming a health risk. Radon gas is the number one cause of lung cancer in non-smokers. The positive news is that we have effective and inexpensive technologies to test for and reduce elevated radon. As well, if structures are built correctly, we can avoid high radon. Because we can build to avoid it, we also need to assign responsibility when high radon occurs. This legal brief compiles our research into the legal rights and obligations surrounding radon gas in construction law in British Columbia. We consider responsibilities in law and potential liabilities for builders, contractors, engineers, architects and municipal building inspectors. We examine New Home Warranty protection and potential avenues for redress for building occupants when they find high radon or contract lung cancer from radon gas exposure.

A number of guidelines, Codes and standards point to elevated radon as being a widely accepted problem which building professionals need to understand. Health Canada has set a National Radon Guideline of 200 Bq/m<sup>3</sup> for homes and other regularly occupied buildings. The Naturally Occurring Radioactive Materials (NORM) Guidelines set a national framework for workplaces. At the national level the Canadian National Radon Proficiency Program (C-NRPP) certifies radon testing and mitigation professionals and sets standards, as does the Canadian Standards Board. The National Building Code and British Columbia Building Code now require limited radon systems, colloquially called the 'radon rough-in', to be put into homes. The Real Estate Council of British Columbia now educates real estate licensees on radon, stating that it is a latent defect. This means that sellers, and their agents, need to disclose any known radon to buyers.

To date, there have been no cases in British Columbia concerning radon and construction law. However, our opinion is that builders, contractors, engineers, architects and municipal inspectors all have a duty of care to address radon. They face potential legal liability if they are negligent in that duty. For engineers and architects this stems from broad professional duties, and is supported by the standards of their professional bodies. When engineers and architects sign contracts to perform work, meeting these standards is part of their job. Legal liability for municipal inspectors stems from duties to be vigilant in carrying out inspections as the laws of negligence can apply to inspectors also.

There are measures that enable homeowners and occupants to make claims and/or complaints when high radon is found in their homes. In most cases, homeowners will discover high radon long before they contract lung cancer. High radon is already considered to be a latent defect by the Real Estate Council of BC, and our opinion is that high radon will also count as a defect under BC's Homeowner Protection Act. For most homeowners the New Home Warranty will be the easiest and most obvious route to redress. We know of no cases concerning claims made by homeowners regarding high radon in BC. However in Ontario, the sole home warranty insurance provider, Tarion, now readily acknowledges high radon and has a procedure in place for homeowners to make claims.

The prescriptive standards in BC's Building Code do not guarantee that a home will not have high radon. There remains a need for testing to determine radon levels. If levels are still high, the 'rough-in' needs to be upgraded to a full system (usually by putting in place a fan). Our opinion is that the duty of care and warranty coverage applies to elevated radon. It is not enough to simply follow the Building Code prescriptions. Building professionals need to ensure that spaces are tested. They need to take responsibility (pay) to ensure full systems that avoid elevated radon are in place.

Building professionals are in an excellent position to spread awareness of radon and ensure that steps are taken to avoid high radon environments. An important first step is education. We thus implore builders, contractors and municipalities to ensure that relevant staff understand high radon. We recommend that building professionals either take courses through C-NRPP and become certified or hire others who are certified to avoid or mitigate elevated radon.

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Additional editing for this report was provided by Rachel Barsky.

**About our program.** The BC Lung Association's Healthy Indoor Environments program is focused on providing education, resources, and policy options for addressing priority indoor air pollutants in British Columbia. Canadians spend 90% of their day indoors, with about 70% at home and 20% at work or school. The air we breathe indoor can contain particulates, gases, allergens and fumes that can significantly impact our health in both the short and long term. Knowing the main indoor air pollutants, their sources, and how to reduce them are key to reducing harm to our health. Radon has been identified as the leading environmental carcinogen in Canada. For more information visit our website at <https://bc.lung.ca/programs-initiatives/healthy-indoor-environments-program>

## 1. Introduction

Radon gas is a naturally occurring radioactive gas, emanating from the ground and often entering and remaining in buildings. Radon exposure is the leading cause of lung cancer after smoking, and accounts for an estimated 16 percent of lung cancer deaths in Canada.<sup>1</sup> Radon can be easily tested, with small “hockey puck” radon detectors available for \$30 to \$60. Once levels are found to be above Canada’s Radon Guideline of 200 Bq/m<sup>3</sup> radon mitigation professionals can retrofit homes in one to two days at an average cost of \$2,900. Building in radon mitigation systems at the time of construction is considerably cheaper.

British Columbia now has radon provisions in the provincial Building Code.<sup>2</sup> However, little attention has been given to the effectiveness of its implementation. It is likely that the Building Code is at times ignored or incorrectly applied, that at times there is no little or no meaningful inspection by municipalities, and that even in some homes there remains high radon even when the Building Code is correctly applied. As well, homes may have high radon outside of zones specified in the Building Code. Health Canada recommends that all homes be tested for radon regardless of geographic location.<sup>3</sup> The Building Code provides explicit notes to the section on Soil Gas Control stating that beyond the requirements for a rough-in for a radon system, it may be necessary to complete the system through adding a fan. This may be required to the radon concentration to a level below the guideline specified by Health Canada.<sup>4</sup>

This brief considers the potential liabilities of diverse parties engaged in the construction process for elevated radon, in cases where the Building Code is not followed correctly, and where, despite the Building Code being followed or not applying, high radon is still found.

Generally, construction litigation can involve complex legal cases, with engineers, architects, building contractors, strata corporations, and at times municipalities added as co-defendants who may cross-claim one another.<sup>5</sup> Typically, instances of high radon will be

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<sup>1</sup> Chen, J., Moir, D. and Whyte, J., 2012. Canadian population risk of radon induced lung cancer: a re-assessment based on the recent cross-Canada radon survey. *Radiation protection dosimetry*, 152(1-3), pp.9-13.

<sup>2</sup> BC Building Code, 2018. Division B Section 9.13.4 available at <https://www.bcpublications.ca/BCPublications/>

<sup>3</sup> Health Canada, 2013. Radon—Reduction Guide for Canadians, available at <https://www.canada.ca/en/health-canada/services/environmental-workplace-health/reports-publications/radiation/radon-reduction-guide-canadians-health-canada-2013.html> accessed January 12, 2021

<sup>4</sup> BC Building Code, 2018. Notes to Part 9, A-9.13.4.3.

<sup>5</sup> *Kayne v. The Owners, Strata Plan LMS 2374*, 2013 BCSC 51; *The Owners, Strata Plan KAS 3575 v. Renascence Enterprises (Shannon Lake) Corp.*, 2017 BCSC 1336.

quite easy to fix, with mitigation taking one to two days and costing an average of \$2,900 for single family dwellings. As a result, complex legal battles will normally be imprudent. An individual homeowner, however, might easily apply to a New Home Warranty Provider or make use of the online Civil Resolution Tribunal (for small claims up to \$5,000). It is possible that in some cases, systematic problems might emerge from large developments with multiple homes or complex commercial buildings for which class actions or civil litigation in the BC Supreme Court might be warranted.

Typically, someone who buys a new home will have a direct contractual relationship with the builder or contractor. Any claims would likely fall under the statutory regime for the New Home Warranty and Homeowners Protection. This is likely to be the most common, easiest and most successful route. As well, a developer (e.g. builder and/or contractor) has tort liabilities to both the original and subsequent owners for deficiencies which pose a real and substantial danger to the occupants of the building. Local governments have broad common law duties around how they conduct inspections. Engineers and architects will have contractual relationships with the builder/contractor, but also have a duty of care to homeowners who rely on their judgement. Homeowners who believe they have been wronged might pursue claims against builders under the New Home Warranty, who in turn may make claims against engineers or architects, or alternatively, directly sue engineers, architects and municipal inspectors. There is also the possibility that parties could lodge complaints with professional bodies leading to discipline decisions.

## **2. Radon in the Building Code**

The BC Building Code now includes radon requirements for Part 9 buildings (residences and small buildings) in listed municipalities—typically east of Coast Mountains, but Sechelt, Whistler, Hope, and Abbotsford are also included. The Code requires a “radon rough-in” which includes a hole in the building foundation slab and a vent pipe that travels through the building and exits outside.<sup>6</sup> As well, the Building Code provides that local governments can also take steps to be included in the list of municipalities if they have evidence of elevated radon.<sup>7</sup>

Radon professionals consider this a partial solution, and more robust measures include adding a fan and radon testing of a building before occupancy.<sup>8</sup> The BC Building Code includes notes to this effect.<sup>9</sup> It is possible that a new home that complies with the

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<sup>6</sup> See BC Building Code, 2018 article 9.13.4.2 and Division B, Appendix C, Table C-4 Locations in British Columbia Requiring Radon Rough-Ins. Communities in the Coast Mountains or Lower Mainland include Abbotsford, Hope, Sechelt and Whistler.

<sup>7</sup> BC Building Code, s. 1.1.3.3 (2).

<sup>8</sup> Canadian Standard Board’s 2019 Radon control options for new construction in low-rise residential buildings. CAN/CGSB-149.11-2019

<sup>9</sup> BC Building Code, 2018. Notes to Part 9, A-9.13.4.3.

BC Building Code's prescriptive solution could still have high radon levels. The Building Code does not specify radon requirements for complex buildings, where reductions to below Canada's Radon Guideline may require a site-specific solution that can include sub-slab depressurization and/or procedures for running the ventilation system. As well, the Building Standards Branch attempts to track where radon is an issue and include municipalities that are radon-prone in the Code, but it is likely that high radon will be found in places not included in the Code. Given the structure of the Building Code provisions, there is a clear possibility that a building might have high radon because the Code provisions do not apply to it, or because the radon provisions prove insufficient on their own to eliminate high radon.

### 3. Radon as a Defect

There is significant precedent for the idea that high radon is a defect in a building, regardless of whether the Building Code provisions apply or whether the Building Code has been correctly followed.

- In the context of real estate transactions, a material latent defect refers to a defect that cannot be detected on reasonable inspection and for which sellers must notify buyers, if known. Examples where Canadian courts have found latent defects include: Unstable slopes,<sup>10</sup> defective subfloors,<sup>11</sup> leaky skylights,<sup>12</sup> radioactivity,<sup>13</sup> radioactive material on property in the immediate area,<sup>14</sup> mold,<sup>15</sup> and water damage.<sup>16</sup> Quebec has *Civil Code* provisions on latent defects<sup>17</sup> which courts have found could be applied to radon.<sup>18</sup> Real estate councils in Alberta<sup>19</sup> and (as of July, 2020) British Columbia consider radon levels above

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<sup>10</sup> *McCluskie v. Reynolds* (1998), 1998 CanLII 5384 (BC SC), 65 B.C.L.R. (3d) 191 (S.C.)

<sup>11</sup> *Cardwell et al v. Perthen et al*, 2006 BCSC 333, *aff'd* 2007 BCCA 313.

<sup>12</sup> *Cardwell* *ibid.* at para 131 and 132.

<sup>13</sup> Provided as a hypothetical example in *McGrath v. MacLean*, 1979 CanLII 1691 (ON CA) at para. 16: but found in *Heighington et al. v. The Queen in Right of Ontario et al.*, *Alejandria et al. v. The Queen in Right of Ontario et al.*, 1987 CanLII 4425.

<sup>14</sup> *Sevidal v. Chopra*, 1987 CanLII 4262 (ON SC).

<sup>15</sup> *Gibb v. Sprague*, 2008 ABQB 298 (CanLII).

<sup>16</sup> *Stone v. Stewart* (2009), 83 R.P.R. (4<sup>th</sup>) 309 (Ont. S.C.J.).

<sup>17</sup> *Civil Code of Quebec*, art. 1726.

<sup>18</sup> *Pouliot c. Leblanc*, 2011 QCCQ 7882.

<sup>19</sup> Real Estate Council of Alberta, 2019. Radon Information Bulletin. available at <https://www.reca.ca/industry/legislation/information-bulletins/radon.html> accessed January 12, 2021

Health Canada Guidelines to be a latent defect, and issue guidance to licensees.<sup>20</sup>

- For rental properties, BC's *Residential Tenancy Act* specifies that a landlord must provide housing that is safe and in good repair.<sup>21</sup> In Ontario and Quebec tribunals have followed similar provisions to find that elevated radon is unacceptable.<sup>22</sup> As well, the guidance of the Real Estate Council of British Columbia concerning radon as a material latent defect extends to Real Estate Licensees that work as Rental Property Managers, who are instructed to disclose any known elevated radon levels to tenants.
- In the workplace context, the *Occupational Health and Safety Regulation, BC Reg 296/97* ("OHS"), provides four distinct routes for finding high radon to be a problem. First, radon is a form of ionizing radiation and is covered by Part 7 of the OHS dealing with radiation exposure. By widely recognized conventions, a worker who is exposed to radon concentrations of 200 Bq/m<sup>3</sup> for a year will receive a similar amount of radiation as the limit for workplace radiation exposure for normal workers.<sup>23</sup> Second, there are broad provisions requiring ventilation to remove indoor air contaminants.<sup>24</sup> Third, there is a framework for limits for a worker's exposure to hazardous chemical substances. This references limits prescribed by the American College of Government Industrial Hygienists (ACGIH), which in turn has limits for radon.<sup>25</sup> Fourth, there are 'general duty' clauses which are catch-all provisions ensuring workplaces are safe.<sup>26</sup> Here, the *Naturally Occurring Radioactive Materials (NORM) Guidelines* are relevant. These Guidelines were created by a federal-provincial committee and recommend strict limits for how much radiation exposure a normal worker (e.g. one not in a job specifically designed to handle radiation) might face. Ontario has set an example and issued guidelines for how NORM Guidelines

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<sup>20</sup> Real Estate Council of British Columbia, 2020. Radon Precautions for Real Estate Professionals, available at <https://www.recbc.ca/professionals/knowledge-base/guidelines/radon-precautions-real-estate-professionals> accessed January 12, 2021

<sup>21</sup> *British Columbia, Residential Tenancy Act* S.B.C. 2002, c. 7 s. 32(1)

<sup>22</sup> CET-67599-17 (Re) 2017 CanLII 60362 (ON LTB); *Vanderwerf v. Dolan*, 2019 QCRDL 37417

<sup>23</sup> This is treated in more detail in Government of Canada, 2013. Canadian Guidelines for the Management of Naturally Occurring Radioactive Materials (NORM). ISBN: 978-1-100-23019-1, Cat. No.: H129-34/2013E-PDF. 130465 available at <https://www.canada.ca/en/health-canada/services/publications/health-risks-safety/canadian-guidelines-management-naturally-occurring-radioactive-materials.html>

<sup>24</sup> OHS. s. 4.72

<sup>25</sup> OHS s. 5.48, see also American Conference of Governmental Industrial Hygienists. ACGIH 2018 TLVs and BEIs ACGIH Tables are only available for purchase, but references to the radon levels can be found at CAREX Canada, 2020. Radon Profile. At <https://www.carexcanada.ca/profile/radon/> accessed January 12, 2021 note 19; and Daniels, R. D., & Schubauer-Berigan, M. K. 2107. Radon in US Workplaces: A Review. *Radiation protection dosimetry*, 176(3), 278–286.

<sup>26</sup> OHS s. 2.2



work together with general duty clauses to require radon reduction in workplaces to below 200 Bq/m<sup>3</sup> where possible.<sup>27</sup> This should also apply in BC.

On this basis, there are strong grounds for holding that high radon is a defect that poses significant risk of harm to persons. Below, this memo will discuss different areas of law that take such defects seriously.

## 4. Builders And Contractors Liability

### a. Contract and Tort

Traditionally at common law, once a building is complete the rule has been “caveat emptor”, or buyer beware. This differs from other consumer products for which there is an implied warrant of being suitable for the purposes for which they are made. Many commentators and judges have remarked on the mismatch between the law for personal property and the law for real property.<sup>28</sup> The courts have been prepared to imply a warranty of quality in special circumstances. This includes a case of a purchase of an incomplete house from a builder.<sup>29</sup> For incomplete buildings intended for habitation, and in relation to latent defects, there is an implied warranty that the work will be finished in manner that renders the building suitable for its intended purpose.<sup>30</sup> The warranty does not apply to work already completed before execution of the contract of purchase and sale and visible on inspection about which the purchaser does not complain at the time of inspection.<sup>31</sup> Notwithstanding available common law remedies, most contract claims in homes built in BC since 1999 will be covered under the *Homeowners Protection Act*, the details of which will be discussed further below.

The law of negligence is also relevant. A contractor or any other person responsible for the design and construction of a building will owe a duty of care to the occupants of that building if it is foreseeable that failure to take reasonable care could give rise to defects

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<sup>27</sup> Ontario Ministry of Labour, Training and Skills Development, 2016. Radon in the workplace available at [https://www.labour.gov.on.ca/english/hs/pubs/gl\\_radon.php](https://www.labour.gov.on.ca/english/hs/pubs/gl_radon.php) accessed January 12, 2021

<sup>28</sup> Laskin, "Defects of Title and Quality: Caveat Emptor and The Vendor's Duty of Disclosure" (1960), L.S.U.C. Special Lectures 389, and Haskell, "The Case for an Implied Warranty of Quality in Sale of Real Property" (1965), Georgetown L. Rev. 633 cited in *Heighington et al. v. The Queen in right of Ontario et al. Alejandria et al. v. The Queen in right of Ontario et al.*, 1987 CanLII 4425 (ONSC.)

<sup>29</sup> *Fraser-Reid et al. v. Droumtsekas et al.* (1979), 1979 CanLII 55 (SCC), 103 D.L.R. (3d) 385, [1980] 1 S.C.R. 720, 9 R.P.R. 121).

<sup>30</sup> *The Owners, Strata Plan NW 2294 v. Oak Tree Construction Inc.*, 1994 CanLII 1236 (BC CA). *Mann v. Bains et al.*, 2006 BCSC 837.

<sup>31</sup> *Cardwell et al v. Perthen et al*, 2006 BCSC 333 at para 150.

that pose a real and substantial danger to the health and safety of those occupants.<sup>32</sup> One of the key advantages of a claim in negligence is that a builder owes a duty to subsequent owners, not only those with a contractual relationship with the builder.<sup>33</sup> While negligence law usually revolves around bodily injury, contractors can be held liable to pay economic loss damages. These involve the cost of remedying dangerous defects in a building, to proactively repair buildings that might otherwise lead to physical injury, for instance. Damages are recoverable for the reasonable cost of remedying the defect and restoring the building to a non-dangerous state.<sup>34</sup> Exclusions in a contract will not limit tortious liability for negligent construction.<sup>35</sup> Where a contractor has negligently failed to comply with the Building Code's radon provisions, there is thus a potential action to recover any costs of repairing the system.

It appears likely that a court would find high radon indicative of a breach of the standard of care despite the prescriptive solutions in the Code being properly followed or for geographical locations outside of proscribed areas in the Code for radon systems. The courts hold that the Building Code may provide guidance on the standard of care, but does not determine it. As such courts impose an objective standard distinct from mere breach of the Code.<sup>36</sup> As noted above, there is ample literature which makes clear that high radon is not safe, including guidance in the Building Code to the effect that testing and upgrades are needed before occupancy to ensure radon levels are low. Health Canada is clear that every home should be tested.<sup>37</sup> This suggests builders should be careful to conduct radon testing after a home is completed and to remedy any outstanding radon issues before occupancy. If that is not possible builders should help new occupants test and if high radon is found builders should take responsibility for fixing any high radon.

In many cases involving radon, subsequent owners will likely be able to make use of the warranty and insurance system provided by the *Homeowners Protection Act* (see

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<sup>32</sup> *Winnipeg Condominium Corporation No. 36 v. Bird Construction Co.*, 1995 CanLII 146 (SCC), [1995] 1 SCR 85; *Swift v. Eleven Eleven Architecture Inc.*, 2012 ABQB 764 at paras. 71-72.

<sup>33</sup> Canadian courts have not differentiated between present and former property owners when awarding damages for the costs of repair: *Sedco v. William Kelly Holdings Ltd*, 1990 CanLII 7822 (SK CA), [1990] 4 W.W.R. 134 (Sask. C.A.), at paras. 66-68; *Genra Canada Investments Inc. v. Lipson*, 2010 ONSC 1417 at para. 77 ; *Globalnet Management Solutions Inc. v. Aviva Insurance Company*, 2017 BCSC 1580 para. 302)

<sup>34</sup> *Winnipeg Condominium Corporation No. 36 v. Bird Construction*, 1995 CanLII 146 (SCC), [1995] 1 S.C.R. 85

<sup>35</sup> *Coglon v. Ergas*, 2009 BCSC 1170 ; *Nieman v. Kroeker*, 2017 BCSC 368

<sup>36</sup> *Canada v. Saskatchewan Wheat Pool*, 1983 CanLII 21 (SCC), [1983] 1 S.C.R. 205 at 225-226 ; *Kayne v. The Owners, Strata Plan LMS 2374*, 2013 BCSC 51 para. 157, see also *Waldick v. Malcolm*, 1991 CanLII 71 (SCC), [1991] 2 S.C.R. 456 at p. 474. *Musselman et al v. 875667 Ontario Inc. et al* 2010 ONSC 3177, aff'd in: *Musselman et al v. 875667 Ontario Inc. et al* 2012 ONCA 41

<sup>37</sup> As the 2018 BC Building Code states in Notes to Part 9, A-9.13.4.3, the completion of a subfloor depressurization system may be necessary to reduce the radon concentration to a level below the guideline specified by Health Canada. In this case, to complete the system, the radon vent pipe is mechanically assisted to enable effective depressurization of the space between the air barrier system and the ground. An electrically powered fan is typically installed somewhere along the radon vent pipe. The Code references Health Canada Publications, including *Radon: A Guide for Canadian Homeowners* (CMHC/HC), and the *Guide for Radon Measurements in Residential Dwellings (Homes)*.

below). In principle, damages for negligence can extend beyond the economic loss of repairing buildings (to reduce radon levels) to claims for physical harm and death arising from chronic exposure to elevated radon—and be discovered in time far after the Home Warranty runs out. As the prevalence of smoking recedes, and awareness of radon grows, it will become clearer to many people with lung cancer that the likely cause is high radon in their homes and workplaces. Plaintiffs will not need to show that a negligent builder is the only cause of the problem, but can make use of principles of contributory negligence. For example, damage awards can be divided between multiple defendants each of which is apportioned a share of responsibility.<sup>38</sup> As well, a builder need only to have “materially contributed” to the occurrence of injury in the sense of contributing to the risk that the injury would occur.<sup>39</sup>

## **b. Introduction of Home Warranty Legislation**

Under the *Homeowner Protection Act*, SBC 1998, c. 31, every new home offered for sale or built under a construction contract in BC must be constructed by licensed residential builders, who are regulated by the Homeowner Protection Office. The cost of the warranty insurance is included in the purchase price and protects from construction defects for designated periods of time. The *Act* provides general language to the effect that it is a required term of the contract of sale (e.g. it cannot be excluded) that builders and vendors agree that a new home be free from defects in materials and labour (for two years), defects in the building envelope (for five years), and structural defects (for 10 years).<sup>40</sup> The builder must also carry warranty insurance covering these items and periods.<sup>41</sup> The warranty is attached to the home, not to the owner of the home, and remains in effect upon the re-sale of the home until the coverage expires. There are some exceptions, notably for homes built by owner-builders who do not need insurance coverage. However, an owner-builder will still be subject to the contractual warranty requirements covering defects in materials and labour, building envelope, and structural defects. Unlike in Ontario and Quebec where there is a single, non-profit (or governmental) warranty provider, warranty providers in BC are third-party, typically for-profit businesses.

The *Homeowner Protection Act* and *Regulations* also sets up a specialized dispute resolution system.<sup>42</sup> Complainants should start by notifying both the builder and warranty

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<sup>38</sup> *Resurface Corp. v. Hanke* 2007 SCC 7 (CanLII), [2007] 1 S.C.R. 333 at para 21, see also, e.g. *Negligence Act*, R.S.B.C. 1996, c. 333, section 1.

<sup>39</sup> *Clements v. Clements* 2012 SCC 32 (CanLII), [2012] 2 S.C.R. 181 at para 15. For UK precedent see *Fairchild v. Glenhaven Funeral Services Ltd.*, [2002] UKHL 22, [2002] 3 All E.R. 305; and *Barker v. Corus UK Ltd.*, [2006] UKHL 20, [2006] 2 A.C. 572. *Sienkiewicz v. Greif (UK) Ltd.*, [2011] UKSC 10, [2011] 2 All E.R. 857.

<sup>40</sup> *Homeowner Protection Act* s. 22(2), *Homeowner Protection Act Regulation*, BC Reg 29/99, s. 7 and Schedule 3.

<sup>41</sup> *Homeowner Protection Act* s. 22.

<sup>42</sup> *Homeowner Protection Act*, s. 29, *Homeowner Protection Act Regulation*, BC Reg 29/99, s. 7, 16 and Schedule 2, Mandatory Warranty Conditions.

provider concerning an alleged defect. After receiving the claim letter, the warranty provider arranges an evaluation. If the provider accepts the claim, they arrange for repairs to be done in a timely manner, and provide a written description of the work done, when it was completed, and any new warranty insurance expiry dates established as a result of the repair. The warranty provider makes the decision on whether the original builder or another contractor will correct defects. If they reject the claim they need to provide a written justification. In the case of disputes there is a mandatory mediation process.

### **c. Radon As a Defect under Home Warranty in BC**

There should be no controversy that a builder would be responsible—and a warranty provider cover repairs—when the Building Code provisions have not been met, or have been done so insufficiently. Beyond that, a key issue will be whether radon levels above Canada’s Guideline of 200 Bq/m<sup>3</sup> would count as a defect, and what kind of defect in the cases where (a) there are no Building Code provisions, and (b) in homes for which the Building Code has been correctly applied, but radon levels remain elevated.

Ontario’s *New Home Warranties Plan Act*, RSO 1990, c O.31 provides that a vendor of a home warrants to the new owner that the home is constructed in a workmanlike manner and is free from defects in material, is fit for habitation, meets the Ontario Building Code and is free of major structural defects. Regulations to the *Act* further define major structural defects to include, inter alia, issues that materially and adversely affects the use of a significant portion of the building for usual and ordinary purposes of a residential dwelling.<sup>43</sup> Tarion, the government agency that administers the *Act* and serves as the sole warranty insurance provider, recognizes that structural defects need not be restricted to load-bearing issues. For example, severe mould or water penetration could materially and adversely affect use and meet this test.<sup>44</sup> Tarion explicitly warrants construction against levels of radon exceeding 200 Bq/m<sup>3</sup> for seven years, indicating it is treated as a major structural defect.<sup>45</sup>

Radon is not mentioned in BC’s *Homeowners Protection Act* or its regulations and no significant case law was found on the meaning of the term ‘defects’ pursuant to the *Act*. This is likely due to provisions in the *Act* and *Regulations* that provide for the mediation of disputes. There are, however, a number of good reasons that suggest elevated radon should count as a defect in a home, in cases where the BC Building Code has no radon provisions or where high radon is found in the home despite compliance with the BC Building Code.

- Defect is defined as “any design or construction that is contrary to the building code or that requires repair or replacement due to the negligence of a residential

<sup>43</sup> *Ontario New Home Warranties Plan Act*, R.R.O. 1990 Regulation 892, Administration of the Plan, s. 1.

<sup>44</sup> Tarion, 2020. Major Structural Defect Warranty Interpretation Guideline. June 17, 2020 available at [https://www.tarion.com/sites/default/files/2020-06/MSDInterpretationGuideline\\_FINAL\\_1\\_0.pdf](https://www.tarion.com/sites/default/files/2020-06/MSDInterpretationGuideline_FINAL_1_0.pdf) accessed August 21, 2020.

<sup>45</sup> Tarion: Radon and Your Warranty. <https://www.tarion.com/homeowners/your-warranty-coverage/radon-and-your-warranty> accessed August 21, 2020.

builder or person for whom the residential builder is responsible at law.”<sup>46</sup> Emphasis can be placed on the second clause—“requiring repair or replacement due to negligence”—to suggest elevated radon can be considered a defect quite independently of what the Code provides for. The word ‘negligence’ can point to principles of builder’s negligence law, which imposes a standard of care to not create risks of bodily harm (such as from radon which is known to cause lung cancer)—and this standard, as we saw above, is not the same as mere compliance with the Building Code.

- Builders are being educated about radon—suggesting that attention to this issue is within the standards of their profession. Applicants for a new residential builder licence as a general contractor need to successfully show proficiency in seven core competencies, as outlined in Schedule 6 of the *Homeowner Protection Act Regulation*. A detailed reading of documents that explain the core competencies do show these include identifying problematic soil conditions, including radon areas and mitigation strategies.<sup>47</sup>
- Findings of radon being a latent defect in the real estate transaction context are also relevant. Here we can also recall that, prior to the *Homeowners Protection Act*, the common law had evolved to recognize an implied warranty of fitness in some new buildings. What counts as a defect for a real estate transaction should also count as a defect under the *Homeowners Protection Act*.
- As discussed above, there is ample guidance from Health Canada and in the BC Building Code that a mere rough-in on its own is not sufficient but testing is necessary and if high radon levels found, upgrades need to be made to the system.

The next question is what type of defect. The *Act* and *Regulations* call for two-year coverage for defects in materials and labour which render the new home unfit to live in, and this should cover radon given the above discussion of defects. Unlike Ontario, BC’s definition of ‘structural defect’ does not easily accommodate radon, given it specifies “failures of a load-bearing part of the new home” and “structural damage.” However, BC’s framework has specific provisions for five-year coverage for building envelopes that radon would seem to fit into:

“building envelope” means the assemblies, components and materials of a new home which are intended to separate and protect the interior space of the new home from the adverse affects of any exterior climatic conditions;

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<sup>46</sup> *Homeowner Protection Act Regulation*, BC. Reg. 29/99, s. 1(1).

<sup>47</sup> BC Housing, 2018. The Core Competency Requirements at <http://www.bchousing.org/licensing-consumer-services/education-training/core-competency-requirements>

“defects in the building envelope” means defects that result in the failure of the building envelope to perform its intended function.

The BC Building Code sections on radon (at 9.13.4.3) fall more generally into a set of provisions designed to control ingress of water, moisture and soil gas (as stated at s. 9.13.1.1.(1)). This suggests the framers of the Building Code see radon as a building envelope issue, and meant to separate and protect the interior space from the outside. For these reasons it is our view that courts would likely determine that elevated radon is covered by both general defects in materials and labour and building envelope defects.

## **5. Municipal Liabilities**

Part of the construction process involves construction and occupancy permits by municipalities. As this section will discuss, municipalities can in part rely on engineers and architects through Letters of Assurance. However, it is likely that municipalities will also inspect new homes to ensure compliance with the Building Code. Once a municipal undertakes inspection, they are under a duty of care and potentially liable for negligent inspection.

### **b. Common Law Liability for Negligent Inspection**

High level court decisions through the 1980s and 1990s found local governments liable when municipal inspectors failed to find design and construction flaws.<sup>48</sup> A local government, once it makes a policy decision to inspect building plans and construction, owes a duty of care to all who it is reasonable to conclude might be injured by the negligent exercise of those powers.<sup>49</sup> A local government is not expected to act as an insurer for compliance with building standards, nor is it required to discover every latent defect in a project. However, it should show reasonable care in the exercise of its powers of inspection. Liability arises with respect to such defects as the municipality could reasonably be expected to have detected and to have ordered the defects remedied.<sup>50</sup> To avoid liability, the government agency must exercise the standard of care in its inspection that would be expected of an ordinary, reasonable and prudent person in the same circumstances. The standard of care that is required depends on a variety of circumstances that local governments may face, such as a limited budget to handle thousands of houses. As such, regard must be had to the nature and quantity of the risk involved, as well as the government’s budgetary limits, and the personnel and equipment available.<sup>51</sup>

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<sup>48</sup> *Rothfield v. Manolagos* [1989] 2 S.C.R. 1259; *Just v. British Columbia*, 1989 CanLII 16 (SCC), [1989] 2 SCR 1228; *Ingles v. Tutkaluk Construction Ltd.*, 2000 SCC 12 (CanLII), [2000] 1 S.C.R. 298

<sup>49</sup> 1989 CanLII 17 (SCC), [1989] 2 S.C.R. 1259.

<sup>50</sup> [1989] 2 S.C.R. 1259 at pp. 1268-1269.

<sup>51</sup> *Just v. British Columbia*, 1989 CanLII 16 (SCC), [1989] 2 SCR 1228.

Generally the inspection scheme derives from the Building Code and its enabling legislation, and a municipal inspector will rarely be expected to go beyond Building Code provisions.<sup>52</sup> As such a municipality will only be liable for defects that would reasonably have been detected by the exercise of reasonable care in the inspection process that was in place at the relevant time.<sup>53</sup>

Provisions in the *Negligence Act* on joint and severable liability mean that local governments may also be added as parties where the liability of inspectors worked together with wrongdoing by developers. The result is that municipalities in BC have shown extensive concern about being left ‘holding the bag’ for large claims, especially given the extensive ‘leaking condo crisis’ whereby poor construction resulted in hundreds of millions of dollars’ worth of needed repairs to BC buildings.<sup>54</sup> The older *Municipal Act* section 755.2 (now s. 742 of the *Local Government Act*) sought to exempt municipalities, their councils, regional districts and their boards from liability, but it applies only for failures to enforce a bylaw by civil proceeding or prosecution. A 1991 court decision ruled that a similar provision in the older *Municipal Act* did not apply to immunize a municipality against negligent building inspection on the basis that a (negligent) approval was not an civil proceeding or enforcement.<sup>55</sup> As we discuss below, a mixture of newer bylaws and legislative change have gone some distance to immunize municipalities. That said, municipalities may still inspect, and when they do so they will continue to face potential liability for negligent inspection.

### c. Letters of Assurance

Since the 1990s there has developed a process whereby municipalities in BC request Letters of Assurance from the owner and registered design professionals (engineers and architects) that a building complied with all regulations (including the BC Building Code). This has worked to significantly limit municipal liability. BC courts have found that relying on Letters of Assurance is a valid “policy decision” that meets the required standard of care for a local government.<sup>56</sup>

- In 1990, the *Municipal Act* was amended to protect municipal authorities from negligence claims where building plans were certified by a Registered Professional (architect or engineer) with whom responsibility was placed by the municipal

<sup>52</sup> *Ingles v. Tutkaluk Construction Ltd.*, 2000 SCC 12 (CanLII), [2000] 1 S.C.R. 298 at para. 41.

<sup>53</sup> *Flynn v. HRM et al.*, 2003 NSSC 253 (CanLII), <<http://canlii.ca/t/1g87j>>, retrieved on 2018-02-09 at para 118. affirmed on this point. *Flynn v. Halifax Regional Municipality*, 2005 NSCA 81 (CanLII), <<http://canlii.ca/t/1knrm>>, retrieved on 2018-02-09.

<sup>54</sup> See *City of Kelowna*, 2009. Local Liability in Building Regulation. File No 0550-01; Provincial Response to the Resolutions of the 2013 Union of British Columbia Municipalities Convention. p. 18 to 19.

<sup>55</sup> *Wilson v. Robertson*, 1991 CanLII 757 (BCSC).

<sup>56</sup> *Parsons v. Finch and City of Richmond et al.*, 2005 BCSC 1733 upheld *Parsons v. Finch*, 2006 BCCA 513.

building authority.<sup>57</sup> This is continued in the current *Local Government Act*—and allows building inspectors to inspect plans and not actual structures. If an inspector relied on the work of certified engineers or architects they would not be held liable for faults in the eventual structure.<sup>58</sup> Courts have held that this provision effectively immunizes local governments that rely on Letters of Assurance as part of policy decisions.<sup>59</sup>

- Many BC municipalities have passed bylaws formalizing use of the certified professionals' process and have accompanying guidelines and manuals, including Abbotsford,<sup>60</sup> Surrey,<sup>61</sup> and Vancouver.<sup>62</sup>
- The governing bodies for engineers and architects (Engineers and Geoscientists of BC and the Architectural Institute of British Columbia) have a Certified Professional (CP) Program and accompanying manual to help their members provide professional assurance to local governments on Building Code compliance.<sup>63</sup>
- From 1992 onwards Letters of Assurance were incorporated into the BC Building Code. In addition to attempting to clarify questions of legal liability, this was seen as a way to simplify and expedite a permit application process that can become very complex and lengthy, especially in larger jurisdictions.<sup>64</sup> The Building Standards Branch also issues a Guide to the Letters of Assurance, which provides an overview of the roles and responsibilities of individuals involved, and when and how the Letters of Assurance should be completed.<sup>65</sup>

In some cases there is further immunization. In 1987, the *Vancouver Charter* was amended to immunize the City of Vancouver from actions for negligent plan checking and

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<sup>57</sup> Brindle, D. Building Envelope Failures-Litigation and Insurance Industry Responses. Jenkin Marzban Logan, Lawyers, available at <https://www.jml.ca/wp-content/uploads/publications/BuildingEnvelopeFailures-Litigation.pdf> accessed January 13, 2021

<sup>58</sup> *Local Government Act*, RSBC 2015, c 1 ss. 742 and 743.

<sup>59</sup> *Parsons v. Finch*, 2006 BCCA 513.

<sup>60</sup> City of Abbotsford, 2020. Abbotsford Certified Professional Manual.

<sup>61</sup> City of Surrey, 2019. Certified Professional Program, Municipal Insert.

<sup>62</sup> City of Vancouver, 2015. Certified Professional Program. Practice and Procedure Manual, available at <https://vancouver.ca/files/cov/cp-practice-and-procedure-manual.pdf> accessed January 12, 2021

<sup>63</sup> Engineers and Geoscientists of BC, 2020. Certified Professional Program, available at <https://www.egbc.ca/Resources/Programs/Certified-Professional-Program>, accessed January 12, 2021; Engineers and Geoscientists of BC, 2018. British Columbia Certified Professional Program Practice and Procedure Manual, available at <https://www.egbc.ca/getmedia/a3750a0a-7e68-497a-8edc-900ed6025e37/CP-Practice-and-Procedure-Manual-BC-Edition-2-November-2018.pdf.aspx> accessed January 12, 2021

<sup>64</sup> Bish, R. and Clemens, E. 2008. Local Government in British Columbia. Union of BC Municipalities. At p. 154 see also see also BC Building Code, 2018 section A-2.2.7. Professional Design and Review. And Schedules A, B, C-A and C-B and located at the end of Division C.

<sup>65</sup> British Columbia Building Standards Branch, 2010. Guide to the Letters of Assurance in the B.C. Building Code 2006, available at <https://www2.gov.bc.ca/gov/content/industry/construction-industry/building-codes-standards/bc-codes/letters-of-assurance> accessed January 12, 2021.



inspection.<sup>66</sup> Some cases however, hold that the City may still be liable for failing to warn.<sup>67</sup> Other local governments have also taken steps to protect themselves from liability through exemption clauses in their bylaws.<sup>68</sup>

In negligent inspection cases, there is typically also a negligent developer, builder or contractor. A core concern of municipalities has been that they were included in multi-party litigation as the player with reliable deep pockets, which could be relied to pay (under joint and several liability) if the other parties disappear or become insolvent. This problem was largely addressed through the Home Warranty system which attaches to the residential builder, including the developer and general contractor, and the vendor of a new home. The warranty cannot be waived, excluded, limited or qualified by any contract. In turn, the builder is required to have third party insurance coverage, allowing a wronged home owner a clear path to redress. This mitigates the risk of claims to professionals and local governments.<sup>69</sup> A homeowner facing an incorrectly installed radon system is more likely to find redress through the Homeowner Protection and insurance process.

## 6. Liabilities of Engineers and Architects

Engineers and architects play a significant role in the construction process, through design of buildings and involvement in Letters of Assurance. They should be on guard to ensure the buildings they design and help build do not have radon problems.

### a. Contractual Duties

Architects and engineers should be on guard for potential contractual claims by builders or owners when Building Code provisions on radon are not applied or incorrectly applied, or when there is otherwise high radon.

The express contractual duties of an engineer or architect are defined by the terms of the contract of engagement, typically with the builder. These duties will vary depending on the nature of the project and the extent of expected involvement of the design professional. However, contracts typically specify that engineers or architects participate in the design and planning of the building, and offer a degree of site supervision to ensure that the construction of the building is in accordance with the plans. In many contracts, the architect or engineer will have an ongoing supervisory duty to ensure that construction is carried out in accordance with the plans. The Letters of Assurance system means that architects and engineers will often have explicitly agreed as part of the contract with the

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<sup>66</sup> *Vancouver Charter*, R.S.B.C. 1987, c. 52, s. 294(8).

<sup>67</sup> *Vancouver Charter*, c. 52; See also, *Strata Plan LMS1400 v. Objekt Properties Corp.* [2002] B.C.J. No. 2305 (S.C.); *Wilson v. Robertson* [1991] B.C.J. No. 1351; and *Kaiser v. Bufton's Flowers Ltd.* [1994] B.C.J. No. 1976 app dismissed [1995] B.C.J. No. 309.

<sup>68</sup> C.f. Regional District of Central Kootenay Building Bylaw, No. 2200, 2010, s. 3 City of Courtenay, Building Bylaw, No. 3001, 2020, s. 3.

<sup>69</sup> Weslowski, K. 2016. Gone but Not Forgotten – Water Ingress Claims in British Columbia: Will Rainscreens and Building Envelope Professionals Prevent Another “Leaky Condo Crisis”? Miller Thompson.

contractor or builder to ensure that building plans and construction comply with relevant by-laws and regulations. To a significant extent, the extent of the design professional's responsibilities will depend upon the terms of the contract with the owner.<sup>70</sup>

Courts also read in implied terms to these agreements. Court decisions now hold that an implied term of an architect's agreement with the contractor is to provide plans which conform to the Building Code and the functional requirements of the contractor.<sup>71</sup> As well, engineers or architects are expected to exercise the skill, care and diligence which may reasonably be expected of a person of ordinary competence in the profession, measured by the professional standards of the time.<sup>72</sup>

In cases where the Building Code has not been followed, where, for instance, radon rough-ins are not installed or are incorrectly installed, there is a high likelihood that this will relate to problematic building plans or negligent inspection, and so represent a breach of contractual terms for engineers or architects. Beyond that, there are good reasons to think that a building with high radon—regardless of whether the Building Code applies—can be linked back to engineers or architects design, supervision or inspection. A building with high radon is not fit as a space to be lived in or worked in, and this will ultimately be the core of the functional needs of the contractor. Especially given Health Canada's Guidelines, available radon maps, and the relative ease of testing and fixing the problem, courts are likely to see this as within the normal competence and standards of the profession.

## **b. Negligence**

In principle, homeowners with high radon might raise claims against engineers or architects in negligence in:

- The design and preparation of the drawings and specifications;
- In failing to see that the contractor was not using defective or inappropriate material or methods during construction;
- Failing to inspect the progress of the work throughout; and
- Issuing Letters of Assurance stating compliance with the building bylaw.<sup>73</sup>

Engineers and architects who participate in the design or construction of a building owe a duty of care to the occupants of that building if it is foreseeable that failure to take reasonable care could give rise to defects that pose a real and substantial danger to the

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<sup>70</sup> Mendes, J. and Duff, S. 2013. *Builder Beware: The Growth in Liability for Construction Deficiencies*. Lesperance Mendes, available at [https://lmlaw.ca/wp-content/uploads/2013/12/builder\\_beware.pdf](https://lmlaw.ca/wp-content/uploads/2013/12/builder_beware.pdf) accessed January 12, 2021

<sup>71</sup> *Swift v. Eleven Eleven Architecture Inc.*, 2012 ABQB 764.

<sup>72</sup> *Dha v. Ozdoba*, 1990 CanLII 202, see also The Hon. Madama Justice McLachlin, W. Wallace and A. Grant, *The Canadian Law of Architecture and Engineering*, 2nd ed. (Markham: Butterworths, 1994) p. 101.

<sup>73</sup> *Coast Hotels Ltd. v. Bruskiwich*, 2001 BCSC 1499.

health and safety of those occupants.<sup>74</sup> One of the key advantages of a claim in negligence is that engineer or architect owes a duty to subsequent owners, not only those with a contractual relationship with the builder.<sup>75</sup> Architects and engineers need to meet the standard of care appropriate to members of the profession they have undertaken.<sup>76</sup>

Elevated radon will typically be addressed as a “pure economic loss” in that homeowners (or contractors) will be seeking damages to repair the construction deficiency long before anyone becomes sick or dies from radon exposure. For a cause of action to exist in respect of economic loss resulting from a defective product or building, there must be a degree of damages that poses a substantial danger to the health and safety of the occupants or other property.<sup>77</sup> The risk of physical harm does not need to be imminent but only to pose a reasonable likelihood of physical harm.<sup>78</sup> The plaintiff need not have suffered physical harm. They can sue only for the economic loss undertaken to fix the problem.<sup>79</sup> Where a design involves an element of risk, or where one design involves a greater risk compared to another, the engineer, in exercising reasonable skill and care, may be required to inform his client of that risk and/or to advise on the superior safety of the alternate design.<sup>80</sup>

Engineers and architects should also be on guard that with radon, damages for negligence can extend beyond the economic loss of repairing buildings (to reduce radon levels) to claims for physical harm and death arising from chronic exposure to elevated radon. As the prevalence of smoking recedes, and awareness of radon grows, it will become clearer to many people with lung cancer that the likely cause is high radon in their homes and workplaces. Plaintiffs will not need to show that a negligent engineer or architect is the only cause of the problem, but can make use of principles of contributory negligence (for instance, damage awards can be divided between multiple defendants,

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<sup>74</sup> *Winnipeg Condominium Corporation No. 36 v. Bird Construction Co.*, 1995 CanLII 146 (SCC), [1995] 1 SCR 85; *Swift v. Eleven Eleven Architecture Inc.*, 2012 ABQB 764 at paras. 71-72.

<sup>75</sup> Canadian courts have not differentiated between present and former property owners when awarding damages for the costs of repair: *Sedco v. William Kelly Holdings Ltd.*, 1990 CanLII 7822 (SK CA), [1990] 4 W.W.R. 134 (Sask. C.A.), at paras. 66-68; *Genra Canada Investments Inc. v. Lipson*, 2010 ONSC 1417 at para. 77; *Globalnet Management Solutions Inc. v Aviva Insurance Company*, 2017 BCSC 1580, para. 302).

<sup>76</sup> *Trizec Equities v. Ellis-Don Management Services Ltd.*, 1998 ABQB 1133 at para. 420. *Dinevski v. Snowdon*, 2010 ONSC 2715 at para. 65.

<sup>77</sup> *M. Hasegawa & Co. Ltd. v. Pepsi Bottling (Canada)*, 2002 BCCA 324, at para. 37; *Clare v. I.J. Manufacturing Ltd.*, 2003 BCSC 856 at para. 151; *Kayne v. Strata Plan LMS 2374*, 2013 BCSC 51, at para. 167; *The Owners, Strata Plan KAS 3575 v Renaissance Enterprises (Shannon Lake) Corp.*, 2017 BCSC 1336 at paras. 30-32).

<sup>78</sup> *Vargo v. Hughes*, 2013 ABCA 96.

<sup>79</sup> *Wu v Vancouver (City)*, 2017 BCSC 2072.

<sup>80</sup> *Swift v. Eleven Eleven Architecture Inc.*, 2012 ABQB 764 at para. 73.

each of which is apportioned a share of responsibility).<sup>81</sup> As well, an engineer or architect need only to have “materially contributed” to the occurrence of injury in the sense of contributing to the risk that the injury would occur.<sup>82</sup> Even if courts hold that other parties, including defendants, should have taken steps to test and mitigate radon, it is likely that courts will look to the higher standard of care that engineers and architects owe—given their professional training and awareness of building design.

### **c. Professional Standards and Discipline—Architects**

Under the provincial *Architects Act*, only people registered with and certified to practice by the Architectural Institute of B.C. are authorized to practice architecture in B.C. As a self-governing professional organization, the AIBC is authorized by the provincial government to establish, monitor and enforce standards of conduct and ethics for its member architects, firms, associates and temporary licensees. The core standards are documented in the *AIBC Code of Ethics and Professional Conduct*.<sup>83</sup>

A number of bylaws of the *AIBC Code of Ethics and Professional Conduct* might be relevant in the event that an architect designed, or approved, a building that violated the Building Code, or otherwise had high radon:

Bylaw 30.1. In practising architecture, an architect shall act with reasonable care and competence, and shall apply the knowledge, skill and judgement which are ordinarily applied by architects currently practising in the province of British Columbia.

Bylaw 33.4: In practicing architecture, an architect shall take into account all applicable federal, provincial and municipal building laws and regulations and an architect may rely on the advice of other professionals and other qualified persons as to the intent and meaning of such regulations.

Bylaw 34.5: An architect shall conduct the architect's affairs in a professional manner and refrain from any act which would reflect unfavourably on the profession as a whole.

Members of the public can make complaints to the AIBC, concerning architects, architectural firms, associates, or temporary licensees. The AIBC will investigate and if necessary hold disciplinary hearings concerning allegations of unprofessional behaviour, contraventions of the *Architects Act* or bylaws, or for incompetence or being unfit to practice. Penalties can extend to reprimands, imposition of conditions on Certificate of

<sup>81</sup> *Resurface Corp. v. Hanke*, 2007 SCC 7 (CanLII), [2007] 1 S.C.R. 333 at para 21, see also, *Negligence Act*, R.S.B.C. 1996, c. 333, section 1.

<sup>82</sup> *Clements v. Clements* 2012 SCC 32 (CanLII), [2012] 2 S.C.R. 181 at para 15. For UK precedent see *Fairchild v. Glenhaven Funeral Services Ltd.*, [2002] UKHL 22, [2002] 3 All E.R. 305; and *Barker v. Corus UK Ltd.*, [2006] UKHL 20, [2006] 2 A.C. 572. *Sienkiewicz v. Greif (UK) Ltd.*, [2011] UKSC 10, [2011] 2 All E.R. 857.

<sup>83</sup> See Architectural Institute of British Columbia, 2015. Code of Ethics and Professional Conduct available at <https://aibc.ca/wp-content/uploads/files/2019/10/2015-04-17-Code-of-Ethics-April-17-2015-Edition-FINAL.pdf> Also see Architectural Institute of British Columbia, 2019. Bylaws. available <https://aibc.ca/wp-content/uploads/files/2019/10/2019-10-08-AIBC-Bylaws.pdf>

Practice, fines, suspensions or removal from the Registrar of Architects.<sup>84</sup> Disciplinary decisions are not publicly available.

## **d. Professional Standards – Engineers**

Engineers and Geoscientists British Columbia (APEGBC) regulates the practice of professional engineering and professional geoscience in British Columbia by authority of the *Engineers and Geoscientists Act* R.S.B.C. 1996, c. 1116. The association's *Code of Ethics* establishes the general principles and specific duties for licensees and the *Code of Ethics Guidelines* provide further interpretation.

The following principles are relevant:

Principle 1: hold paramount the safety, health and welfare of the public, the protection of the environment and promote health and safety within the workplace. The Guidelines note that Members should not complete, sign or seal plans or other documents that, in their professional opinion, would result in conditions detrimental to human welfare, would have significant adverse effects on the environment or would not conform to current engineering or geoscience standards.

Principle 2: undertake and accept responsibility for professional assignments only when qualified by training or experience. The Guidelines note that Members should not sign or seal plans, specifications, reports or parts thereof unless actually prepared by them or prepared under their direct supervision.

A review of disciplinary notices shows engineers being disciplined for incorrectly writing Letters of Assurance for Building Code compliance. One engineer agreed to relinquish his membership after he had not prepared the design and had not conducted field reviews.<sup>85</sup> Others faced a two-month suspension.<sup>86</sup>

## **7. Conclusions**

### **a. Builders and Contractors**

Radon is increasingly recognized as a health problem and latent defect in buildings. When radon provisions in the Building Code apply, failures in building rough-in systems will clearly create liability in contract for builders and contractors if purchase occurs before project completion, and if they cannot easily be found on inspection. Builders and contractors may also be liable to subsequent owners in negligence for the costs of building

<sup>84</sup> Architects Institute of British Columbia, 2020. Professional Conduct. Available at <https://aibc.ca/protecting-the-public/professional-conduct/> accessed August 8, 2020

<sup>85</sup> (APEGBC, 2017. Disciplinary Notice: Pershing Jardenico Balayo, May 11, 2017 available at <https://www.egbc.ca/News/Articles/Disciplinary-Notice-Pershing-Jardenico-Balayo,-P> accessed January 12, 2021.

<sup>86</sup> . APEGBC, 2017. Discipline Notice: Daniel Lu Chin Wu, March 31, 2017, available at <https://www.egbc.ca/News/Articles/Disciplinary-Notice-Daniel-Lu-Chin-Wu,-P-Eng,-B>; accessed January 12, 2021; APEGBC, 2017. Disciplinary Notice, Victor Proctor, May 11, 2017. Available at <https://www.egbc.ca/News/Articles/Disciplinary-Notice-Victor-Proctor,-P-Eng,-Victo> accessed January 12, 2021

function radon mitigation systems –and, potentially the costs of impairment and death from lung cancer—if it can be shown they failed to exercise the appropriate standard of care.

The most likely avenue for redress is under the *Homeowners Protection Act* where faulty radon systems will be classified as defects in labour and materials and possible building envelope. Wronged homeowners will need to apply to the warranty provider for redress and follow the dispute resolution procedures outside of court. It is highly likely that a court would find radon levels above Canada's Guideline of 200 Bq/m<sup>3</sup> to count as a defect, regardless of whether the mitigation system is correctly installed or whether the Building Code does not apply. A failure to properly follow the Building Code will clearly be a defect in labour and materials, and it is plausible that high radon in any context would count as a failure of the building envelope. Builders should conduct testing after project completion to ensure radon is not a problem, and be available to fix it.

#### **d. Municipal Inspectors**

Municipalities face risks of liability for negligent inspection. In many cases homeowners will likely pursue action through New Home Warranty. However, it remains important for municipalities to ensure their inspectors understand radon and take steps to look out for proper installation of radon systems.

#### **e. Engineers and Architects**

Engineers and architects have obligations to ensure the building projects they participate in do not have high radon, stemming from contract, negligence law, and duties to the profession. This is clear in the case of violations of the Building Code. There are strong grounds to believe that this applies to any cases of high radon simpliciter, especially in regions where elevated radon is known to be widely occurring phenomena. There is now well-known evidence concerning radon's health effects, including in the Government of Canada's Radon Guideline, and there are established standards in many legal areas showing radon to be a defect.