

To: Regional and Corporate Services Committee  
From: Elias Ross, Environmental Services Coordinator

Date: 2024-09-12

Subject: Community Radon Testing – Results and Next Steps

Reviewed by: Lance Lilley, Manager of Environmental Services  
David Urban, Deputy Director of Regional Services  
Stacey Barker, Deputy CAO/Director of Regional Services  
Jennifer Kinneman, Chief Administrative Officer

---

## RECOMMENDATION

THAT the Fraser Valley Regional District Board provide up to \$10,000 for radon test kits for the upcoming winter radon-testing season.

## BACKGROUND

Radon, a colourless and odourless gas, is linked with over three thousand deaths each year in Canada. It is the leading cause of lung cancer in Canada in non-smokers. Radon is naturally released from decaying radioactive materials in the earth. Radon gas can enter homes through cracks in the foundation, piping, and other openings. Radon concentrations typically peak in basements and on the ground floor during winter months and can be made worse with home energy upgrades that make the home more energy efficient but also help to trap and concentrate radon emissions within the building envelope.

Awareness about radon appears to be increasing. New programs, such as the radon test kit lending program through local libraries, have recently been added to help raise awareness. Additionally, starting in 2024, lung cancer screening has been made available for residents who have lived in a home with high levels of radon<sup>1</sup>. This new screening program is only available to residents who have tested their homes using an approved 90-day test kit.

As awareness increases, so does demand for increased home testing. In late 2023, approximately 500 90-day test kits were purchased and distributed by the Fraser Valley Regional District (FVRD) and its regional partners to help raise awareness about radon and to inform residents about their health risks. The results of these radon test kits have now been summarized and released.

## DISCUSSION

---

<sup>1</sup> BC Cancer Lung Health Check program: [https://mcusercontent.com/a16bf8802bbc1338903e866a5/files/45a684de-e82f-0559-e343-b0d4084dcb02/Lung\\_Health\\_Check\\_program.pdf](https://mcusercontent.com/a16bf8802bbc1338903e866a5/files/45a684de-e82f-0559-e343-b0d4084dcb02/Lung_Health_Check_program.pdf)

Radon testing results were distributed across multiple municipalities and electoral areas, in locations identified by health authorities that did not yet have adequate testing results to demonstrate a representative sample size for their community. Due to media attention and community interest, all 500 test kits were distributed quickly to residents. Of these, 264 were collected and returned for analysis earlier this spring.

The radon results demonstrated that 11% of homes that were tested within the region, on average, measured over 200 bq/m<sup>3</sup>. Health authorities recommend residents who have more than 200 bq/m<sup>3</sup> measured in their homes to install a radon venting system within the next two years. Despite the guidelines, there is no “safe” level of radon.

Table 1 outlines the results in each community tested during last winter’s radon test period. The results indicate that elevated levels of radon are present in most FVRD communities, but rates appeared particularly high in houses tested within Hope, Electoral Area B, and Electoral Area H. Some of these communities had quite limited participation however, so general conclusions cannot be drawn about the broader community until further testing is conducted.

Table 1. Radon testing results from radon test kits distributed last year within the FVRD.

| Community    | # of homes tested | % > 200 bq/m <sup>3</sup> | Average (bq/m <sup>3</sup> ) |
|--------------|-------------------|---------------------------|------------------------------|
| Chilliwack   | 153               | 4%                        | 83                           |
| Harrison     | 11                | 9%                        | 63                           |
| Hope         | 14                | 29%                       | 144                          |
| Kent         | 2                 | 0%                        | 151                          |
| Mission      | 26                | 0%                        | 45                           |
| EA A         | 5                 | 0%                        | 76                           |
| EA B         | 3                 | 67%                       | 420                          |
| EA D         | 8                 | 13%                       | 105                          |
| EA H         | 42                | 38%                       | 183                          |
| <b>Total</b> | <b>264</b>        | <b>11%</b>                | <b>102</b>                   |

The provision of radon test kits has shown to be an effective way to raise awareness about radon within the region. Given the still-limited statistical data available within many communities of the region and the elevated radon levels seen with limited testing, staff recommend the provision of additional radon test kits for this winter. By having radon test kits available to residents, it provides the FVRD with an opportunity to continue raising awareness about radon, offers residents the ability to test and address health concerns in their homes, and enables health authorities to better understand radon distributions and community risks within the region.

Radon impacts many communities throughout the province. Take Action on Radon has estimated that over 70% of homeowners would be likely or very likely to pursue mitigative measures (i.e., venting systems) if elevated radon was found in their homes. Reducing the levels of radon in a home can be prohibitively expensive, however. The FVRD has put forward a resolution earlier this year to the Union of British Columbia Municipalities (UBCM) seeking the Province to establish a funding program to help residents with the cost of installing radon mitigation systems.

## **COST**

It is estimated that approximately 500 radon test kits can be purchased for \$10,000, based on bulk pricing provided by Take Action on Radon in 2023. Unused or unallocated test kits can be returned for a full refund. If approved, funds will be allocated to the Regional Air Quality (401) 2025 budget as part of the annual financial planning process.

## **CONCLUSION**

Radon testing continues to be an effective way of raising awareness and promoting action within the Fraser Valley Regional District. While radon levels appear to vary throughout the region, there do appear to be communities within the region where radon abundance is more elevated. Continued testing, particularly in those communities, is encouraged.