



North Carolina Department of Health and Human Services
Division of Health Service Regulation

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Recommendation for Concentrations of Radon in Private Wells

The N.C. Radiation Protection Section advises homeowners with private wells to follow the recommendations set forth by the North Carolina Radon-in-Water Advisory Committee¹. These recommendations, found on page 5 of the final report, are as follows:

Private wells with radon concentrations at or above 10,000 pCi/L: Treatment of water should be considered in conjunction with the treatment of indoor air radon released from soil gas. .

Private wells with radon concentrations between 4,000 and 10,000 pCi/L: Treatment of water should be considered optional.

This recommendation is made recognizing that the radon concentration in water is used to help determine whether water is a significant contributor to existing indoor air radon levels. Inhalation of radon in air poses a greater health risk than ingestion of radon through water. The recommendation seeks to address the combined sources of radon from soil gas and radon released from water. The goal is to limit the combined radon exposure in the home to no more than the Environmental Protection Agency (EPA) recommended level of 4 pCi/L. As a general rule, 10,000 pCi/L radon in water will contribute 1 pCi/L radon to the air in the home. Given this ratio, mitigation of air and/or water supply is recommended when the radon in air and equivalent radon in water concentrations combine to exceed 4.0 pCi/L.

The risk of radon in drinking water has been estimated by the EPA to cause 168 cancer deaths per year in the United States. The majority of these deaths (about 89%) are caused by breathing in radon that has gassed out of the water while washing dishes or showering, which leads to lung cancer. Overall, lung cancer deaths from airborne radon are estimated to be about 20,000 per year in the U.S. For this reason, it is always recommended that homeowners test for airborne radon in their home, as this presents the greater risk.

Testing for radon in air or water is easy and affordable. There are a number of radon test kits available online or in your local home improvement store for \$20 or less. The NC Radon Program sells radon test kits at a subsidized cost to North Carolina citizens. Visit www.ncradon.org for more information.

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¹ "North Carolina Radon-in-Water Advisory Committee Report". Committee established by NCDENR, Div. of Environmental Health and Division of Water Quality and NCDHHS, Division of Public Health. Final report: March 9, 2011.

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