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TEMPORAL VARIATION IN INDOOR AIR AND SOIL-GAS RADON CONCENTRATIONS

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Abstract

Airborne indoor radon activity ranged from 0.0 to 67.10 Bq/m^3 with an average value of 20.71 Bq/m^3 over a period of 48 hours, which was very less compared to the respective action level values of 148 and 100 Bq/m^3 prescribed by EPA (1991) and WHO (2009). The radon progeny (PAEC) concentration varied from 0.0 to 7.25 mWL (average: 2.24 ± 2.11 mWL) while their resultant lifetime fatality risk varied from 0.0 x 10^{-4} to 0.90 x 10^{-4} (average: 0.28 x 10^{-4}). The study area is categorized as low radon risk area (<10 kBq/m^3) as the soil gas radon concentration varied from 7130 to 9590 Bq/m^3 (viz., 7.13 to 9.59 KBq/m^3).

Keywords: Radon, Indoor, Becquerel per cubic meter (Bq/m^3), working level month (WLM), Lifetime fatality risk