

---

# HSWMR

---

## Hazardous Substance & Waste Management Research, Inc.

2976 Wellington Circle West  
Tallahassee, Florida 32309  
Phone: (850) 681-6894  
Fax: (850) 906-9777  
www.hswmr.com

**FROM:** Dr. Christopher M. Teaf  
President & Director of Toxicology

**TO:** Laymon Gray  
Associate Director  
Environmental Health & Safety  
Florida State University

**DATE:** 11 October 2023

**SUBJECT:** FSU Warren Building - Radon Evaluation

The Warren Building (Warren) at Florida State University (FSU) has been evaluated for radon content due to indoor air quality questions that have been raised regarding other buildings on the FSU campus. From May 30 to June 1, 2023, radon measurements were collected at five (5) locations at Warren. The 48-hour charcoal canister measurements were conducted by a state-certified radon contractor, in accordance with standard protocols of the United States Environmental Protection Agency (USEPA) and the Florida Department of Health (FDOH). One of the radon values was greater than the 4 picoCurie/liter (pCi/L) USEPA Action Level (6.6 pCi/L), while the remaining results ranged from 0.8 to 3.9 pCi/L. Results for the May 2023 sampling event and three subsequent retests are summarized in the attached table.

Detectable radon levels are ubiquitous throughout the state, with most areas of Florida exhibiting low radon. Outdoor levels typically are in the 0.4 to 0.5 pCi/L range, and indoor levels regularly range from 1 to 2 pCi/L. Radon comes from decay of natural radium, and elevated indoor radon is related to local geology. Radon often is present in clays, phosphate rock, and igneous rocks, like granite, and can originate from bedrock far below land surface. Because it is a naturally occurring substance, exposure is common and unavoidable.

The data summarized herein reflected a condition that is consistent with many buildings in Florida and throughout the United States, and the radon conditions at Warren did not represent a health concern. However, due to the detection at slightly greater than the 4 pCi/L USEPA Action Level, Warren was resampled later in June 2023 and twice more in August 2023. Per the *FSU Radon Data Interpretation and Mitigation Protocol* from December 2022, the late June resampling included testing the area exceeding the Action Level, as well as the space on the floor above that area. The June 2023 result for the location that initially exceeded the Action Level was less than half the original result, triggering a third

test per the protocol. The third test also was below the Action Level, but the average of the three tests slightly exceeded the Action Level (4.1 pCi/L). Due to the slight exceedance, a longer term (7-day) CRM test was initiated. The results of the 7-day sampling were below the USEPA Action Level (3.6 pCi/L). Based on the results of the longer term sampling, further investigation, or other action regarding radon at the Warren Building is not deemed to be necessary at this time.

**RADON MEASUREMENTS - Warren Building, Florida State University**

Location	Sampling Dates	Number of Samples	Min pCi/L	Max pCi/L	Notes
Basement	30 May to 01 Jun 2023	5	0.8	6.6	One result > Action Level 4.0 pCi/L
Basement (CRM retest)	28 to 30 Jun 2023	One result < 4 pCi/L, but less than half the original results, so third test required per protocol			
1st Floor (CRM test)	28 to 30 Jun 2023	One sample collected; < 4 pCi/L - 1st floor cleared			
Basement (CRM retest)	31 Jul to 02 Aug 2023	One results < 4 pCi/L, but average of three tests > 4 pCi/L (4.1 pCi/L) - longer term 7-day test indicated			
Basement (7-day CRM retest)	22 to 29 Aug 2023	7-day result < 4 pCi/L - basement cleared			

pCi/L = picocuries per liter

Shading indicates clearance testing results.