

## GSA ORDER

SUBJECT: Radon

1. Purpose. To establish GSA's radon policy in GSA Federal and leased facilities.
2. Background. Radon is a naturally occurring radioactive gas that is produced by the breakdown, or decay, of uranium in soil and rock. It is a health risk, and exposure to radon increases the risk of lung cancer. Radon may be found in both outdoor and indoor environments across the United States.

Radon may accumulate in basements and crawl spaces by migrating up from beneath the building (soil and rock), through the foundation, and into the building. Radon is odorless, tasteless, and invisible. Testing is required to detect radon in the indoor air of a building. The amount of radon gas in air is typically measured in picocuries per liter of air (pCi/L).

The U.S. Environmental Protection Agency (EPA) published guidance for reducing airborne radon exposure in private residences and schools. EPA recommends reducing radon levels to the greatest extent feasible. For schools and residences, EPA recommends taking response action when radon equals or exceeds 4 pCi/L. GSA adopted this guidance for Federal and leased space in the 1980s, but recognizes that this is not representative of occupational or workplace safety.

The U.S. Department of Labor's Occupational Safety and Health Administration (OSHA) workplace standards (1971), established a radon occupational exposure limit of 100 pCi/L. However, GSA considers this limit too high to protect workers in Federally-owned and leased space.

The U.S. Nuclear Regulatory Commission (NRC) and the American Council of Governmental Industrial Hygienists (ACGIH) issued a more protective occupational limit of 30 pCi/L. Areas exceeding 25 pCi/L require posting under OSHA regulations.

Radon can be a concern in drinking water, particularly from groundwater sources, if vapor or off-gas enters the indoor air. GSA's water is supplied by municipalities, which are required to meet drinking water standards. Accordingly, water supplied in GSA controlled facilities is not considered to be an exposure risk for radon and it is not included in this policy.

3. Cancellation. Radon in Air Technical Guide, E802.0401, dated November 26, 2001; and Radon in Water Technical Guide, E802.0401, dated October 11, 2001.
4. Policy. This directive establishes the policy to maintain acceptable levels of airborne radon

in GSA-controlled space.

- a) GSA action levels. Federal and leased facilities are considered acceptable for occupancy when radon levels are maintained below GSA action levels.
1. The action level for childcare centers is 4 pCi/L or more.
  2. The action level for residential buildings is 4 pCi/L or more.
  3. The action level for all other occupancies in Federal and leased facilities is 25 pCi/L or higher. This level is based on the OSHA regulatory requirement to post workplace areas that exceed this value. It is also more protective than the occupational limit of 30 pCi/L issued by NRC and ACGIH.
  4. For locations that are 4 pCi/L or higher in childcare centers or residential buildings, or are 25 pCi/L or higher for all other occupancies, GSA or the responsible delegated agency (for buildings that have been delegated to other Federal agencies by the Administrator of General Services), will provide notice and mitigate radon, in accordance with OSHA and EPA guidance, until radon levels are successfully reduced to the levels set forth above.

b) Testing. GSA will test for radon only under the following circumstances:

1. Childcare Centers. All GSA managed childcare centers will be tested by GSA for radon in air. Testing will be performed in accordance with this policy and of a frequency, method and duration necessary to achieve and maintain National Association for the Education of Young Children (NAEYC) certification and state licensing.
2. New building construction. All new GSA Federal facilities will be tested by GSA for radon in air, in the lowest occupied floor, after construction and before occupancy. Otherwise, testing will be performed immediately after occupancy.
3. Leased Facilities. For new leases with occupancy below or at grade level, lessors will test for radon in accordance with this policy. Lessors must certify that radon is below the respective action levels for childcare and other occupancies, based on the use of the space.
4. Existing Buildings. For all existing Federal buildings, baseline radon testing will be conducted by GSA if a prior, "representative" radon report is unavailable. A representative report is one where the information represents current facility conditions and, at a minimum, the worst-case radon levels in the facility. Baseline radon testing must be performed in the lowest occupied floor; typically at or below grade.

Any new renovation or repair projects that can lead to radon gas introduction into a Federal or leased facility must undergo radon testing in air. Work involving the building foundation, sub-surface plumbing, basement structure or negative changes to building air pressure can all lead to increased radon levels for a facility. Testing is required to ensure the facility is acceptable for occupancy

following such repair or renovation work.

- c) Mitigation. Facilities with radon in air test results above specified GSA action levels will undergo radon mitigation. Mitigation must follow EPA-recommended methods. To ensure that radon levels are reduced below established action levels and mitigation steps remain effective, either GSA or lessors as outlined above, shall retest at the conclusion of mitigation and develop and implement a management plan.

5. Authority.

- a) GSA's Federal Management Regulation, 41 CFR 102-80 (Safety and Environmental Management).
- b) OSHA's Occupational Safety and Health Standards, 29 CFR 1910.1096.

6. Frequently Asked Questions.

- a) Are facilities retested on a regular or periodic basis? Radon testing is required for new occupancies, childcare centers, and when building conditions could give rise to unacceptable radon gas levels.

Radon gas levels are expected to reach and maintain relative homeostasis (i.e., radon levels within structures remain stable and are relatively constant relative to external radon conditions) absent any changes in building air pressure or structural integrity. After initial radon tests are performed in space other than childcare centers, there is no need for further radon testing unless renovation or repair projects occur that can lead to radon gas introduction (see section 4.b.iv above).

- b) Do facilities that rely on public well water require radon in water testing by GSA? EPA does not have a Federally-enforced drinking water standard specifically for radon and, until such a standard is finalized, testing for radon in drinking water is not required by GSA. The EPA's National Primary Drinking Water Regulations do include testing for radionuclides, which encompass a broad range of radioactive elements such as radon.

7. Signature.

\_\_\_\_\_  
NORMAN DONG  
Commissioner  
Public Buildings Service

\_\_\_\_\_  
Date