COMMENTS ON
EPA PROPOSED RULEMAKING TO REVISE 40 CFR 141 AND 142,
"NATIONAL PRIMARY DRINKING WATER REGULATIONS; RADON-222."
U.S. NUCLEAR REGULATORY COMMISSION

1. The proposed rule, as written, does not appear to have a direct impact on the Nuclear Regulatory Commission's (NRC's) regulatory programs. The stated focus in the proposed rule is to reduce radon-222 exposure levels in indoor air by establishing specific limits for compliance by community water systems. The NRC does not typically have regulatory interactions with commercial suppliers of drinking water.

   However, EPA's historical position is that drinking water standards should also be applied to ground water in regulatory arenas other than those encompassed by the Safe Drinking Water Act. The Commission has informed EPA on numerous occasions over the years that the use of a separate radiological standard for a particular medium, such as ground water, is inappropriate and that the appropriate approach is to use an "all pathways" approach for determining radiological dose.

   In addition, the rulemaking analysis does not provide any describe or evaluate the potential impacts to other programs administered by EPA, if the proposed radon-222 limits are applied to programs beyond those directly linked to the Safe Drinking Water Act. As an example, will EPA modify existing regulatory requirements in 40 CFR 191, 40 CFR 192, or 40 CFR 264 to include radon limits for ground-water monitoring and cleanup? Changes in EPA's programs outside of the Safe Drinking Water Act would likely result in the need for NRC to modify some of its regulatory requirements in order to remain "effectively equivalent," as mandated by Congress. Any associated regulatory burden is unlikely to be of any benefit in reducing doses, but would impose an additional burden on licensees. EPA should clearly state its intentions to modify other EPA programs as a result of this proposed rule.

2. EPA should be commended for its attempt to use a multi-pathway approach, described in the proposed rule as multi-media mitigation (MMM) systems, for controlling radon in indoor air. However, this rule would impose the burden of promoting multi-media indoor air radon mitigation programs on commercial providers of drinking water, even though EPA acknowledges that radon in drinking water is an insignificant contributor to the overall dose to members of the public from radon in indoor air.

   The proposed maximum contaminant level (MCL) of 300 pCi/L (11 Bq/L) and the alternate maximum contaminant level (AMCL) of 4,000 pCi/L (150 Bq/L) are based on the indoor air radon concentration that would result from all household uses of drinking water, including washing dishes, washing clothes, bathing, cooking, etc. The predominant pathway for exposure from radon in drinking water is inhalation of radon gas that has escaped from drinking water into indoor air. This represents about 1 percent of the total radon gas in indoor air, the balance coming mainly from the soil upon which the structure was built.

Enclosure

Rather than imposing a disproportional burden on commercial suppliers of drinking water, it would be more appropriate to implement a better targeted rule, through the Clean Air Act, that would require states to implement multi-media indoor air radon mitigation programs.

3. The application of the 4 mrem (0.04 mSv) drinking water limit proposed as the basis for the radon MCL is inconsistent with the previous EPA practices. The proposed radon MCL is based on the lifetime risk from both ingesting radon in the water (10 percent of the calculated risk) and breathing radon that escapes from the water into the house (90 percent of the calculated risk). EPA has previously used a 15 mrem (0.15 mSv) annual limit for all-pathway analyses and notwithstanding previous NRC objections to the 15 mrem (0.15 mSv) limit, it appears that it would be more appropriate to derive the radon MCL using this limit.

4. In the EPA proposal, comparisons of risk are made between the Federal Guidance Report (FGR) 13 and the 4 mrem drinking water MCL without adjusting for the different assumptions used in the two methods. For example, the 4 mrem MCL uses 2 liters of drinking water per day to derive the appropriate radionuclide concentrations in drinking water while the FGR 13 approach assumes 1.3 liters.