

Oregon House Committee on Energy and Environment
Comments on Senate Bill 990 re: small modular nuclear reactors, May 24, 2017

Good Afternoon Chair Helm and Committee Members:

I am Dr. Theodora Tsongas, an environmental health scientist/epidemiologist with 40 years' experience evaluating the health effects of exposure to environmental contaminants. I have held teaching appointments in Environmental Science at Washington State University, in Environmental Health at the University of Colorado and in Community Health at Portland State University. I am a member of the Environmental Health Working Group of Oregon Physicians for Social Responsibility and a member of the Union of Concerned Scientists.

I am here today to express my concerns about the intent of Senate Bill 990 to make an exemption from existing State law for modular nuclear reactors. These reactors are unproven and are planned for siting within small communities, making the potential risks associated with them even greater. Not only would this go against the will of Oregon voters, but it does not act in the best interests of your constituents.

The health risks of exposure to radiation are well documented, in spite of the Nuclear Regulatory Commission's willingness to ignore these documented risks to the public, especially to women, young children and those still in the womb. Studies in Europe as well as the BEIR VII report of the US National Academy of Sciences have demonstrated the health risks of radiation exposure. BEIR VII (Biological Effects of Ionizing Radiation) has demonstrated that there is a linear dose-response relationship between exposure to radiation and cancer, meaning there is no safe level of exposure to radiation. The studies in Europe have found excesses of leukemia in children living near normally operating nuclear power plants, in spite of difficulties in designing a population based study of leukemia incidence rather than the less precise mortality studies. Concerns are increasing for exposures to the child in utero as well as young children due to their increased susceptibility; and for epigenetic effects leading to increased risks of cardiovascular disease and other chronic diseases. All the evidence leads to the necessity for precaution in a situation where we do not have perfect data, where we must depend on our best estimates of risk based on biological and epidemiological data. Precaution in this case is absolutely necessary, as we can only assume that exposures to radioactive materials released into the environment (air or water or soil) by operation, start-up and shut-down of these modular reactors, and the radioactive waste they will generate will continue to raise the cumulative adverse health risks to the public.

The high-level radioactive waste generated by the light-water reactors that are part of the NuScale/Fluor reactor systems is the same as waste generated by the current 99 nuclear power plants in the US for which there is no permanent disposal site. Thus, the risks of exposure to this high level radioactive waste will remain and increase.

I urge you to oppose SB990 and any other legislation with similar aims.
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