Uranium Mining in Virginia

Statement of Task

Uranium mining in the Commonwealth of Virginia has been prohibited since 1982 by a state moratorium, although approval for restricted uranium exploration in the state was granted in 2007. A National Research Council study will examine the scientific, technical, environmental, human health and safety, and regulatory aspects of uranium mining, milling, and processing as they relate to the Commonwealth of Virginia for the purpose of assisting the Commonwealth to determine whether uranium mining, milling, and processing can be undertaken in a manner that safeguards the environment, natural and historic resources, agricultural lands, and the health and well-being of its citizens. In particular, the study will:

1) Assess the potential short- and long-term occupational and public health and safety considerations from uranium mining, milling, processing, and reclamation, including the potential human health risks from exposure to "daughter" products of radioactive decay of uranium.

2) Review global and national uranium market trends.

~~2)~~3) Identify and briefly describe the main types of uranium deposits worldwide including, for example, geologic characteristics, mining operations, and best practices.

~~3)~~4) Analyze the impact of uranium mining, milling, processing, and reclamation operations on public health, safety, and the environment at sites with comparable geologic, hydrologic, climatic, and population characteristics to those found in the Commonwealth. Such analysis shall describe any available mitigating measures to reduce or eliminate the negative impacts from uranium operations.

5. Review the geologic, environmental, geographic, climatic, and cultural settings and exploration status of uranium resources in the Commonwealth of Virginia.

~~4)~~6) Review the primary technical options and best practices approaches for uranium mining, milling, processing, and reclamation that might be applicable within the Commonwealth of Virginia, including discussion of improvements made since 1980 in the design, construction, and monitoring of tailings impoundments ("cells").

~~5)~~7) Review the state and federal regulatory framework for uranium mining, milling, processing, and reclamation.

~~6)~~8) Review federal requirements for secure handling of uranium materials, including personnel, transportation, site security, and material control and accountability.

~~7) Assess the potential short- and long-term occupational and public health and safety considerations from uranium mining, milling, processing, and reclamation, including the potential human health effects from exposure to "daughter" products of radioactive decay of uranium.~~

~~8~~9) Identify the issues that may need to be considered regarding the quality and quantity of groundwater and surface water, and the quality of soil and air from uranium mining, milling, processing, and reclamation. As relevant, water and waste management and severe weather effects or other stochastic events may also be considered.

~~9~~10) Assess the potential ecosystem issues for uranium mining, milling, processing, and reclamation.

~~10~~11) Identify baseline data and approaches necessary to monitor environmental and human impacts associated with uranium mining, milling, processing, and reclamation.

~~11~~12) Briefly characterize a potential public education and outreach program in the Commonwealth of Virginia for a uranium mining operation (for example, health and safety issues, inspection and enforcement, community right-to-know, emergency planning).

By addressing these questions, the study will provide independent, expert advice that can be used to inform decisions about the future of uranium mining in the Commonwealth of Virginia; however, the study will not make recommendations about whether or not uranium mining should be permitted nor will the study include site-specific assessments.