THE NATIONAL ACADEMIES
Advisers to the Nation on Science, Engineering, and Medicine

Division on Earth and Life Studies
Board on Earth Sciences and Resources

500 Fifth Street, NW
Washington, DC 20001
Phone: 202 334 2744
Fax: 202 334 1377

November 23, 2009

Dr. Michael E. Karmis
Director, Virginia Center for Coal and Energy Research
Virginia Polytechnic Institute and State University
460 Turner Street, Suite 304
Blacksburg, VA 24060

Dear Dr. Karmis,

The Governing Board Executive Committee of the National Research Council (NRC), which is the operating arm of the National Academy of Sciences and the National Academy of Engineering, has indicated its approval for the NRC to conduct the proposed study on Uranium Mining in Virginia, contingent upon clarification of several issues. These issues, described in more detail below, relate to the funding source for the study, the requirement for independence of the NRC in carrying out the study, full transparency regarding funding, and a minor revision of the proposed statement of task (see Appendix).

The Governing Board Executive Committee considered that the study request was made by a statutorily established legislative body of the Commonwealth of Virginia—the Coal and Energy Commission—which would be considered the study sponsor, notwithstanding that funding for the study likely would be provided by a for-profit entity, Virginia Uranium, Inc. The Governing Board Executive Committee understands that the funds would be transferred from Virginia Uranium, Inc. to the Virginia Center for Coal and Energy Research at Virginia Polytechnic Institute and State University (Virginia Tech), and that the contractual arrangements for the study would be made solely between Virginia Tech and the National Research Council with you serving as the sponsor representative. The Governing Board Executive Committee wished to confirm that it is your intention to remain as the point of contact for the NRC throughout the study, with Virginia Tech acting as an agent of the Commonwealth of Virginia.

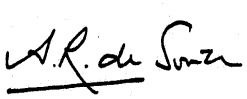
The Governing Board Executive Committee expressed concern with the proposal by Virginia Uranium, Inc. to provide incremental funding for the project. The National Research Council would expect adequate assurance from Virginia Tech that sufficient funding for carrying out the study is guaranteed regardless of the source of funds. The contract should include terms ensuring the independence of the NRC in carrying out the agreed-upon task and providing a commitment that this work is fully funded as specified in the budget with no contingencies except for the contracted deliverables from the NRC. The Governing Board Executive Committee reiterated the National Research Council's commitment to provide a completely objective, high quality scientific assessment of the issues in the statement of task. In accordance with National Research Council

rules and procedures, the committee formed to undertake the study would seek information from all interested parties, but would operate with complete independence from Virginia Uranium, Inc., and from the study's sponsor, the Commonwealth of Virginia.

The Governing Board Executive Committee also wished either to drop point 12 in the statement of task or to modify it to explicitly refer to provision of a non-technical summary of the study committee's report, suitable for broad public distribution.

Please contact me if you have any questions related to these points, and we look forward to your response.

Sincerely,



Anthony R. de Souza
Director

cc: The Honorable Terry G. Kilgore, Chair, Virginia Coal and Energy Commission
The Honorable R. Lee Ware, Chair, Uranium Study Committee of the Virginia Coal and Energy Commission
Dr. E. William Colglazier, Executive Officer and Chief Operating Officer, National Research Council
Dr. Warren Muir, Executive Director, Division on Earth and Life Studies
Dr. Gregory Symmes, Deputy Executive Director, Division on Earth and Life Studies
Dr. David Feary, Senior Program Officer, Board on Earth Sciences and Resources
Dr. Elizabeth Eide, Senior Program Officer, Board on Earth Sciences and Resources

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.

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

(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.

(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").

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

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

(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.

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

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

(12) Provide a non-technical summary of the report for public education and outreach purposes (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.