City of Virginia Beach

VBgov.com

DEPARTMENT OF PUBLIC UTILITIES
OFFICE OF THE DIRECTOR
(757) 385-4171
FAX (757) 427-3183
TDD (757) 385-4305

MUNICIPAL CENTER
BUILDING 2
2405 COURTHOUSE DRIVE
VIRGINIA BEACH, VA 23456-9041

December 24, 2008

The Honorable R. Lee Ware, Jr.
Chairman, Uranium Mining Sub-Committee
Virginia Coal and Energy Commission
c/o Ellen Porter
Division of Legislative Services
910 Capitol Street
Richmond, Virginia 23219

Subject: City of Virginia Beach Scoping Comments, Uranium Mining Impact Study

Dear Delegate Ware:

Please accept these scoping comments on behalf of the City of Virginia Beach and nearly one million people in southeast Virginia who obtain drinking water from Lake Gaston. These comments are in addition to a resolution passed unanimously by the Virginia Beach City Council which has already been entered into the record. That resolution included six criteria that in the opinion of the City Council should be included as part of any state sanctioned study. Additional scoping comments are listed below:

The Study Must Include a Credible and Detailed Mining Plan

Virginia Uranium must be required to produce a credible and detailed mining plan based upon the most likely operating scenario. This mining proposal is not new – it is nearly three decades old and many of the same individuals who participated thirty years ago are involved today. This should not be a difficult task for Virginia Uranium. The lack of a detailed plan makes complete evaluation of the proposal difficult, particularly for the public and individuals without a technical background. Virginia Uranium is aware that groundwater conditions do not support in-situ mining and that the deposits are relatively shallow, making open-pit mining the likely candidate. They also know how much total uranium they intend to mine, the approximate quality of the ore, and the rate at which they intend to mine it. Therefore, they can easily approximate the total mill tailings in terms of millions of tons/millions of cubic yards that would be produced each year, the number and rough dimensions of the confinement cells, the number of cells that would be under construction, in the process of being filled, and in the process of being capped at any one time. They would also be able to describe the volume and nature of interim stockpiles and storage,

which would be more susceptible to air and water transport. The State and the public should not have to make blind assumptions of what is involved in this process.

The Study Must Include a Sediment Transport and Water Quality Model

The study must include a sediment transport model that can accept as input various precipitation events ranging from the severe hurricanes and nor'easters that strike Virginia relatively frequently to a probable maximum precipitation (PMP) event, such as the Nelson County Storm in August 1969. This model must be capable of simulating a catastrophic failure of one or more confining cells, any interim tailing storage, and any cells in the process of being filled or capped. The model must be able to predict the downstream transport and fate of the mill tailings into Kerr Reservoir and Lake Gaston in terms of location and quantity. The model must also have a water quality component that can predict the increased radioactivity and other contamination that will result in the downstream waters for any given amount of mill tailings released.

Dr. Karmis has suggested that a study would require approximately 18 months, however, it seems unlikely that a sediment transport and water quality model could be constructed, calibrated, and tested in that time frame. The City's resolution specifically noted that adequate time and resources must be devoted to any study effort, if it is to be useful.

The Study Must Evaluate the Criteria in the 1985 VCEC US/UAG Report

The 1985 VCEC Uranium Subcommittee/Uranium Administrative Group (US/UAG) Report recommended that the state move forward with uranium mining subject to a number of unequivocal and essential conditions. The US/UAG recommended moving forward only *"if essential specific recommendations derived from the work of the task force are enacted into law. Should any of these basic prerequisites fail to be included in legislation, we as a group can no longer support the [recommendation to lift the moratorium on uranium mining]."* Senate Document No. 15, Appendix B, 1985, emphasis in the original. The study must identify all of the conditions in the US/UAG Report and determine if the Virginia Uranium Mining Plan would, or could, satisfy those conditions, particularly during severe precipitation events.

Two essential conditions in the 1985 US/UAG Report were that Virginia's non-degradation standard with respect to water quality would apply and that there would be no discharge to surface waters. Although Virginia Uranium frequently cites the 1985 Report (and its recommendations) in its public relations and lobbying campaign, it appears that Virginia Uranium does not intend to meet some or all of the Report's essential conditions, particularly the no discharge and non-degradation criteria. Instead, Virginia Uranium has asked that the study evaluate whether the mining could proceed pursuant to the discharge and emission standards established in the Clean Air and Water Acts, and the Safe Drinking Water Act. This would be a dramatic departure from the non-degradation and no discharge standard.

Virginia's non-degradation standard is an environmental policy which prohibits any lowering of naturally occurring water quality regardless of pre-established health standards. Currently, the radioactivity of the surface waters in the Roanoke Basin is about 5 to 10 percent of the Clean Water and Safe Drinking Water Act limits. The populations downstream and the populations

that depend upon this system for drinking water need to know if existing levels of radioactivity will be increased, and by how much, whether it is the result of normal mining operations or some catastrophic event.

The Study Must Consider Safe Drinking Water Act Goals

The study must consider not only legal regulatory limits, but health and environmental goals as well. EPA long ago concluded that exposure to radiation by ingesting or inhaling drinking water had significantly more health consequences than external exposure to the same level of radiation. The Safe Drinking Water Act establishes maximum contaminant levels (MCL's) for a number of radiological parameters (alpha and beta activity, radium, radon, and uranium). The MCL is a legal limit, which considers the cost of treatment and other trade offs. Long-term exposure to a contaminant at the MCL will result in a small but measurable increase in the risk of illness, which in this case is cancer. Certain at risk or sensitive populations, which in this case would be pregnant women, fetuses and infants, would be disproportionately impacted from drinking water with radiological contaminants at the MCL.

However, EPA also promulgates water quality goals known as MCLG's – maximum contaminant level goals. The MCLG is the limit that EPA believes will result in no known or anticipated adverse health effects based upon any exposure to drinking water. MCLG's are determined using a safety factor to protect sensitive subpopulations. There are many compounds for which the MCLG is not zero. However, for every radiological contaminant, the MCLG is zero. As discussed above, the radioactivity of the existing drinking water is about 5 to 10 percent of the MCL. Not zero, but much closer to zero than to the MCL. The question is not whether the mining operation can be conducted without causing radioactivity levels to rise above legal standards, it is whether there is any reasonable possibility that the mining operation would significantly increase the existing low (and safe) levels.

The Study Must Assess the Feasibility of Environmental Cleanup Following a Catastrophic PMP Event and Failure of One or More Confining Cells

Assuming a PMP event similar to that which struck Nelson County in 1969 was to fragment one or more confinement cells or other tailings storage structures and distribute mill tailings through the lower watershed, the study must assess the cost and feasibility of cleanup and restoration of the impacted watershed. If cleanup is not likely to be feasible, the study must clearly identify that fact, so that those living downstream or using the water resources of the lower watershed have a clear understanding that a catastrophic PMP event might produce irreversible increases in the radiation levels of the water.

The Study Must Involve the US Army Corps of Engineers and the State of North Carolina

The City has extensive experience with environmental impact studies, regulatory processes, and the legal and institutional entanglements that can arise from controversial projects. The scoping process for this study appears to be less extensive than what was incorporated into all six of the federal environmental impact studies that were conducted for the Lake Gaston project, a project with infinitely less public health and environmental consequences than this uranium mining proposal. The scoping efforts for the studies of the pipeline project included more public

notification, multiple public meetings in the areas that could be impacted by the proposal, and more participation by state and federal environmental agencies.

It does not appear that North Carolina or the Corps of Engineers have been solicited for their input or participation. The Corp of Engineers coordinates and manages the extensive series of hydroelectric and flood control impoundments in the Roanoke River Basin. It also owns and operates the largest impoundment in the basin, which happens to be immediately downstream of the mining proposal, and provides about 93% of the inflow to Lake Gaston. The Corps is the acknowledged federal expert in hydrology, flooding, flood damage, and sediment transport, all of which are key issues in this study.

As the downstream state, North Carolina will have a keen interest in the impact of the mining operation on its population. Like Virginia, North Carolina has communities that obtain drinking water from Kerr Reservoir, which is even more susceptible to impact from the mining operation than is Lake Gaston, because Kerr is the first reservoir downstream of the proposed operation. The best way to avoid the legal and regulatory nightmare that Virginia Beach experienced over the Lake Gaston pipeline would be to include North Carolina, early on.

* * *

In closing, I would emphasize the criteria in the City Council's resolution, especially the recommendation to establish an independent peer review committee that includes representation from environmental, public health, water supply and water resource agencies.

Thank you for the opportunity to provide scoping comments for this study. If you or your staff have any questions, please do not hesitate to contact me at the above address or at tleahy@vbgov.com.

Sincerely,

Thomas M. Leahy, P.E.
Director

TML/mc

Copy (via e-mail): James K. Spore, City Manager
David L. Hansen, Deputy City Manager
Robert Matthias, Assistant to the City Manager