**Virginia Department of Health Discussion Meeting for Private Wells, Water Supplies, and Recreational Waters**

August 16, 2012, Rescue Squad Building, 210 Hospital Drive, Warrenton, Virginia

The Virginia Department of Health (VDH) sponsored two public meetings in Warrenton on August 15th and 16th to collect questions and comments from the public regarding private wells, public water supplies, and recreational waters as these relate to the potential for uranium mining and milling in Virginia. Notice of the meetings was provided via the Uranium Working Group (UWG) website (<http://www.uwg.vi.virginia.gov/index.shtml>), and the Commonwealth Calendar.

The second public comment meeting regarding private wells, water supply and recreational water use was held at The Barn, Lord Fairfax Community College, Warrenton on August 15, 2012, from 5:00 P.M until 8:00 P.M. All interested parties were invited to speak after signing up. Approximately 57 members of the public attended the meeting, and 19 individuals made public comments.

At the subsequent day-long meeting on August 16th, VDH invited interested parties to participate in a facilitated full-day discussion of concerns and comments identified during the evening meeting the previous day as well as any other concerns to be shared by the participants. The second meeting was held in the Rescue Squad Building, 310 Hospital Court, Warrenton. Those interested in participating in the day-long session on August 16th were required to register in advance. Participation was to be limited to 20 persons chosen at random from those who registered. However, only 18 persons registered to participate so all were invited to attend; 15 of those persons selected participated in the meeting. Three individuals did not present themselves for participation on the day of the meeting.

The objective of both public meetings was to gather questions and comments from the public on behalf of the UWG regarding potential impacts to private wells, public water supplies, and recreational waters from uranium mining and milling should the current moratorium on uranium mining and milling be lifted. Questions and comments identified through these meetings will be incorporated into the ongoing study being conducted by the UWG.

VDH asked participants to consider the following questions:

1. What are the public’s concerns related to the impact of uranium mining and milling on water quality and quantity of private wells?

 2. What are the public’s concerns related to the impact of uranium mining and milling on recreational use of surface water?

 3. What role should VDH play in assuring that public health is protected in regard to private wells and recreational water use in regard to uranium mining and milling?

 4. What safeguards should be in place to protect private wells and recreational water?

The following is a summary of the comments received during the public comment meeting on August 16, 2012. The order of the subjects does not indicate priority, but is the order in which concerns were expressed by the speakers in the public meeting on the 15th and were later grouped to facilitate discussions for this meeting.

Risk Comments, Concerns, and Questions

Many participants stated general comments about risk and whether the risk of lifting the moratorium and allowing uranium mining and milling was worth the risk to the economy and public health of the citizens of the Commonwealth. Speakers expressed concern about what constitutes acceptable risk. There was discussion on the current state and federal standards regarding what is an acceptable risk to the public and whether they are sufficient.

One participant stated that the health risks are complex and uncertain. He added that there are many contaminants in uranium. This commenter stressed that although the health effects of some of these contaminants are well documented, such as uranium and radon, for others such as thorium there is little known and existing literature is not applicable to uranium mining. The commenter also suggested that there are concerns about the combined and cumulative effects of contaminants. This speaker suggested VDH refer to a current University of New Mexico study, Uranium Exposure and Public Health in New Mexico and the Navajo Nation. This commenter believes that, once the study is completed it will provide the strongest evidence of the health effects experienced by individuals living in close proximity to a uranium mining and milling operation, specifically kidney disease and auto immune diseases. He stated further that some segments of the population are more impacted than others and the consequences of drinking contaminated water are uncertain. There was concern about the health risks to miners and workers and the cost of future health care. This commenter stressed much is known about radon and smoking have a cumulative effect in causing increased lung cancer risk.

Several participants expressed concern about abandoned and bankrupt facilities and the cost to the taxpayer for cleanup, remediation, and perpetual monitoring. There was also concern about the safety of abandoned facilities. One participant stated that mines and mills operate when it’s economically beneficial, but go on hiatus when it’s not. Some participants expressed concern regarding who would pay for monitoring during these periods of hiatus. Participants expressed concern that once the uranium is exposed, the risk of contamination is constant and can only be monitored, but cannot be prevented. One participant provided examples in the southwest, where the legacy of abandoned mines was not absorbed by the operating company(s) and has been transferred to the taxpayers, such as remediation efforts around the Navaho Nation’s lands. Participants asked will the Commonwealth ensure companies have all the costs covered?

One speaker commented on the nature of risk assessments, stating that they deal with both the consequences of an action and the probability of the risk. He stated that there is a large body of knowledge that the probability of risk is small, but what is lacking is the context of knowing the existing background levels. Another speaker stated that while the risk is low on an annual basis, over time the risk of a major contamination event is certain. He went on to say there is only a 20 to 30 year knowledge base for disposal cells that are designed for a 1,000-year lifetime. The regulations state 200 years. The question was asked about what happens after 200 years. Are the disposal cells rebuilt or moved?

The comment was made that the risk analysis is linear and driven by milestones. This presenter asked if the moratorium questions should be answered first and then the UWG could move to the regulatory questions and site specifics. Rick Weeks, Department of Environmental Quality (DEQ), stated that the regulations cannot be drafted nor can site-specific analyses be conducted until the moratorium is lifted.

One speaker expressed concern about occupational risk for mining. It was noted by some participants that the federal standards will apply at a minimum. One participant requested that the radon standards be reviewed, as he believes they should be stricter to be protective. The commenter cited a 1987 study by the National Institute of Occupational Health and Safety which recommended more stringent standards for occupational exposure to radon and stated these recommendations have not been implemented at the federal level.

Another concern was that of transporting ore from other locations to a mill. There was concern that ore movement could be overlooked in the regulations. Participants asked how dangerous is ore to transport? Is the finished product safe for transport? Is there a distance that becomes economically unviable to transport? If so, would more mills be required? One participant had some experience with modes of transport for radioactive material and explained that ore movement is simple and straightforward and accomplished by simply covering the ore and finished yellowcake would be transported in drums. He further explained that, while unprocessed ore would require more robust packaging, the transportation process for unprocessed ore was straightforward and the process for cleaning up a spill was also quite simple. However, others were unconvinced that containment of ore as described would prevent infiltration of the environment.

Other comments, concerns, and questions from participants on this topic included:

* Uranium mining and milling was done safely at a mine in Utah that opened in 1980. Tailing ponds are well contained; there are trout in the streams below the tailing ponds. The big difference is that the nearest home is 30 miles away.
* A well-defined regulatory structure will instill confidence in the general public and allow them to be comfortable with the associated risk.
* Why is Virginia choosing to bear the risks associated with underground mining when the benefits will only inure to oversees companies?
* Risk and economics are interchangeable. Mining companies must bear the risk by maintaining financial responsibility through the life-cycle of operations. Long-term management and decommissioning responsibility must rest with the companies, not the taxpayers.
* The effects of uranium exposure are analogous to cigarette smoking, in that exposure has different effects on different individuals.

Regulatory Comments, Concerns, and Questions

Several comments were raised about the relationship between federal, state, and local regulations. One commenter emphasized the importance of regulatory coordination and the importance of a clear demarcation of responsibility between state, federal and local entities. One speaker asked who would be in charge, who will regulate mining and milling? Dr. Maureen Dempsey, Chief Deputy Commissioner for Public Health clarified that the U.S. Nuclear Regulatory Commission (NRC) will regulate the milling process, but the Commonwealth of Virginia could assume that role should the Commonwealth seek status as an “agreement state”, with NRC oversight. Dr. Dempsey stated that this process would take approximately 2 ½ to 3 years and would require additional staff to handle the specific responsibilities for the Commonwealth. The regulations of an agreement state must be at least the same as the NRC, but can be more rigorous. One participant encouraged VDH to investigate the costs of becoming an agreement state or electing not to. The question was posed “Who would be responsible for off-site contamination?”

Several commenters asked about the role of local governments and whose regulations would take precedence. Commenters also asked what would be the role of local governments to regulate land use. Is it possible that a county could deny a special use permit, only to have their decision overturned by a higher authority? One commenter noted Virginia has strong local zoning control and can use that authority to deny some projects. This commenter went on to ask will the regulations and legislation protect local authority. One participant stated that the authorizing legislation would need to explicitly state that it is protecting local authority to regulate in this area. This participant went on to ask will local governments have a role in timing and siting of a project. What about those affected parties who are at the borders between counties of potentially differing regulations? Will those issues be raised to the General Assembly?

Participants were concerned about the capacity of agency employees to handle the amount of work that would occur if the moratorium were lifted. One participant stated that this lack of capacity leads to mistrust of the Commonwealth to deal with the regulatory issues. It was stated that lifting the moratorium would require permitting, regulating, and enforcement across many agencies. Which led to the question, what will be the training to get regulators up to speed? Some commented the Commonwealth does not currently employ enough inspectors and enforcement staff. One participant stated that the Department of Mines Minerals and Energy (DMME) only has 9 inspectors for 5800 wells. There are concerns about continuing budget cuts and the current perception that regulations kill jobs. DEQ clarified that the inspector to permit ratio varies by program, but assured the participants that the agency’s enforcement staff has not been cut.

One participant believes that the Commonwealth lacks the political will to create a culture of safety. She went on to state, confidence in the project is based on a sound regulatory structure that has control and that defines exact responsibilities. Many examples were provided where participants felt that state agencies have not provided appropriate oversight, such as agricultural pollution in the Chesapeake Bay, DMME permitting fracking in a floodplain in the Shenandoah Valley, and not addressing the litter problem in the Beaver Dam Reservoir, which is a secondary drinking water source for Fairfax. One speaker noted that the National Academy of Sciences report stated there are hurdles for our culture to regulate in the long-term. One commenter suggested that specialized staff was needed in order to effectively regulate mining in the unique geological and hydrological climate of the Commonwealth.

There were general concerns about regulations or the potential lack of regulations and enforcement to undermine a reasonable plan for operations. One participant recounted the example of the Cotter (Canon City) site ponds in Colorado. The ponds reportedly leaked from the beginning and the operator was not forced to comply with regulations. This participant voiced the concern that an operator may be allowed to bypass the regulations by claiming economic hardship.

One participant asked if VDH has looked at the gaps in the regulations and at the cumulative effects of contaminants. Does VDH know the contaminants that will cause effects and have the regulations in place for protection?

Economic Comments, Concerns, and Questions

Many participants believed that there will be economic impacts and were concerned about reimbursement to those affected for their costs and losses. One speaker encouraged the Commonwealth to look at what happened to property values in communities with mining and milling operations. There were concerns that the perception of operations in the vicinity will hurt property values. Questions raised were

* What is the cost to local governments of providing water in event of contamination or dewatering of the water supply? And who will pay for it? The concern is that those whose water was contaminated will bear the cost.
* There is currently no requirement to test wells. Who will pay for the monitoring?
* What happens to affected properties?

One commenter wondered why the Commonwealth is considering exploiting uranium resources at this juncture when there is no shortage, the price is plummeting, and there is no articulated policy for exploitation. Another commenter rebutted this by stating that the price is not plummeting; he stated that the price has recently recovered significantly and stated that supply is not abundant.

One commenter suggested that uranium mining and milling will lead to losses in agriculture and tourism and that loss will be borne by the public. One speaker questioned whether the U.S. Department of Agriculture looked at the proximity of a farm to certain operations when determining if its product could be labeled “organic.” This speaker noted that some people will not purchase food without knowing the origin of the food and was concerned about the perception of agricultural products from a mining and milling area. There was concern that consumers would not know if or what level of contamination was in their purchases.

One participant stated that uranium mining and milling does not represent a permanent economic sector, so it creates a boom when operating and bust when operations cease. Examples such as the Navajo and Cree Nation experiences were cited. This participant noted these serve as examples of what can go wrong and how expensive it is to clean up. One speaker noted that companies do conduct cost/benefit analyses that develop numerous scenarios and severance taxes are figured into the cost picture. One participant stated that long-term costs were figured into the Chmura Economic Study. He stated that in the best case scenario Chmura estimated a positive economic impact of 3 to 5.5 billion dollars. In a worst case scenario Chmura estimated a negative economic cost of 6 to 11 billion dollars.

Further, one participant pointed out, uranium mining and milling may not be economically compatible with the area and used the example of the potential decline in ecotourism which may more than offset the profits reaped from mining and milling. One speaker encouraged the notion of an economic study that would encompass the entire Route 29 corridor and statewide impacts.

There was a discussion of economic development. One participant stated that she had not seen any mention of uranium mining and milling in any discussion of new or expanding businesses. Questions arose about the number and types of jobs mining and milling would produce. Are the area workers qualified for the jobs? Will the number of jobs provided by uranium mining and milling at Coles Hill be offset by the potential loss to the area if Hargrave Military Academy and Chatham Hall (private schools) close? One participant shared his experience of attending a boarding school in the vicinity of Three Mile Island after the release. His parents maintained his attendance at the school. There was concern that mining and milling would shift to a non-sustainable sector of society.

One general economic comment was that all the benefits would go to one company at the expense of all other economic factors. Another participant countered that the Commonwealth has provided $600 million of assistance to local governments for public water supplies. Another asked if the Commonwealth had another $600 million to spend on water quality issues. Several participants expressed concern about a company not fulfilling its financial obligations for cleanup and restoration of the land. Some fear a foreign company would set up escrow accounts that either are shielded or cannot be accessed because they are foreign.

Many comments and questions were expressed about how financial assurance would be secured. One commenter stated that many states impose severance taxes on mines that are intended to cover decommissioning cost. One participant asked about the mechanisms available to ensure there is enough money to take care of any issues. One participant offered the Sequoyah Fuels site in Oklahoma as an example of what can go wrong. As that participant explained, the site experienced a catastrophic event in the 1980s. The company chose the least expensive option for remediation. The corporate structure shielded the company from liability. One participant shared that the NRC requires bonding for a project. Another participant suggested that those funds were for reclamation, but what about the costs after that? Would bonding cover a catastrophic event or failure during operations? Another commenter suggested that long-term maintenance may necessitate an expensive relocation inland if the mill is adjacent to a water body; and noted there have been instances of this relocation occurring in Colorado at the taxpayer’s expense.

Geology and Hydrology Comments, Concerns, and Questions

One participant stated that the geology of the entire Route 29 corridor should be fully evaluated. Another participant stated that Virginia Uranium Incorporated (VUI) intends to put the uranium mill tailings back in the mine and that may not be feasible with the water table. One speaker noted the fractured rock geology and questioned how far away wells would be impacted. Another speaker stated that in the 1970s he asked a hydrologist for Marline how far away wells could be impacted and the hydrologist said ½ mile, however a few months later the same hydrologist said 2 miles. The participant stated that wells were impacted at a distance of up to 10 miles in Texas.

Several participants looked at the summary from the Chatham meetings and noted that a previous participant suggested that approximately 5 billion gallons of water would be used for operations (clarified to be over the life of the project). One speaker explained that recharge to the aquifer depends primarily on winters when there is less foliage to catch the moisture. He stated that with increased climate change, there will be warmer temperatures, trees will hold their foliage longer, and aquifer recharge may be less. This same speaker asked that all meteorological scenarios be evaluated, such as severe droughts and storm events. Rick Weeks, DEQ, noted that DEQ has received all of the regional water supply plans.  The plans were due November of 2011.  DEQ is currently reviewing the regional plans and developing a statewide water supply plan.

One participant stated the western United States, where uranium mines and mills are currently located; receive about 10 to 15 inches of rain a year from 3 or 4 major rain events. The participant commented that the east coast receives a much larger quantity of rain, and that 3 of the 4 most intense rain events have occurred in Virginia. This commenter wondered how these drastic rainfall events will affect mining activities and the storage of tailings. Another participant suggested that Virginia’s propensity for drastic rainfall events presents unique mining challenges that mining operations in the southwest and in Canada do not have to contend with. This commenter was concerned that there is no model out there to explain what would happen if a fractured geological climate if there is a containment breach.

Several participants discussed a deluge in Madison County in 1995 which consisted of 27 to 33 inches of rainfall in one night; this storm destroyed houses and farmland. One participant suggested that the earthquake that struck Louisa in 2011 has caused experts to reevaluate the structural geology of the Commonwealth. One commenter mentioned that the Route 29 corridor and Coles Hill are areas with active faults and was concerned about how this may impact the storage of tailings.

Baseline Testing and Monitoring Comments, Concerns, and Questions

Many of the concerns and questions expressed had to do with the obligations and cost of monitoring. Questions posed were:

* Testing of private wells at the time of a home sale is expensive (beyond biological testing). Will the buyer or seller be responsible for the cost? If neither, who will pay?
* Will the permit fees cover the cost of all the monitoring?
* How far from the operations will monitoring be required?
* If monitoring is required, will the public help define it?
* If wells are contaminated, what are the next steps?

One participant referenced Jim Cassidy, a professor from William and Mary College, who suggests monitoring should be conducted as a baseline, should be ongoing, and as frequent as possible. The same participant commented that the standards are not health based, but were a compromise due to the high cost of cleanup to a stricter standard. He believes that standards should be more stringent.

One participant was concerned with how to remediate a private well that tested positive for the contaminants associated with uranium mining. Options discussed included using bottled water or the construction of a cistern, although this participant stated that her county prohibited the use of cisterns.

One participant asked who would bear the cost of perpetual monitoring. Would permitting fees cover this cost or would the homeowner have to bear this cost? Rick Weeks of DEQ responded by stating that companies are responsible for providing site specific, baseline studies prior to mining and the company would bear the associated costs.

Multiple participants wondered what the baseline data would be compared to. Multiple participants wondered about the radius of influence of the mining activity and how far away testing, sampling and monitoring would need to occur.

Many participants emphasized the need for ongoing monitoring. To illustrate this point, one participant provided an anecdote of an individual in Colorado who consumed water from her private well for seven years before the state informed her that she was living next to a Superfund site contaminated by uranium mining.

Water issues can be viewed as macro, as with public water systems and micro, as with landowners and their private wells. One participant noted that there is a low response level for the landowners to monitor their own wells and submit annual bacteriological samples. Even when provided with free kits with which to conduct the testing only 5 percent of private well owners collected samples.

Several participants discussed uranium in the water. It was noted by several participants that uranium will occur in the water where it occurs naturally in the environment. Participants suggested testing should accommodate for naturally occurring uranium and technically enhanced uranium, that which has been oxygenated. Participants contended that the industrial extraction oxidizes the uranium, which makes it soluble in water; this oxidation process can cause deleterious contaminants to concentrate in water supplies. One participant commented that testing should include not only uranium, but all chemicals used in the process and the daughter products of uranium. This participant noted chemicals such as radon and thorium that are added as part of the industrial process could have adverse impacts on water supplies.

One participant provided an anecdote in New Mexico where drinking water wells ran dry because of water table drawdown from mining activities and the town became dependent upon the mining company to import safe water.

Water Quality Comments, Concerns, and Questions

Many of the participants voiced concern over the potential impacts that a uranium mine and mill would have on quality and quantity of both surface water and ground water. One participant felt that water quality should be regulated within 5 miles of the site. Another participant asked who would be responsible for offsite water quality issues. Another stated that the business community has expressed concerned about groundwater quality and quantity. The participant asked what recourse would the public have if contamination of groundwater from the mining and milling operation affected a business, such as a farmer’s well going dry. One participant asked if studies have been conducted on the health effects of undisturbed uranium deposits.

Concern was raised about the immediate impact that uranium mining and milling would have on groundwater and surface water levels. One participant asked what will happen once dewatering of the mine begins, and who would be responsible for the negative effects. One participant voiced concern that contamination from a uranium mill would seep into local waterways. Another participant expressed concern over the prolonged effects that heavy rain events could have; specifically that these events could stir up contaminated sediment in the waterways during every rain event. One participant stated that sediment is always an issue regardless of the source and that treatment could be added to protect public water supplies.

One participant asked what the monitoring and mitigation plans would be in the event that seepage contaminated a public drinking water supply. In response, one participant stated that VDH could make the standards for public water supplies more stringent. Another participant stated they would like a more detailed explanation of VDH’s rules and regulations in regards to public water supplies.

Participants also expressed concern that private wells in the area of a uranium mining and milling operation would not be safe. One participant asked if homeowners would be required to test their well and who would conduct those tests. Another participant commented that homeowners are not currently testing their private wells for contaminants such as arsenic and radon, and asked if water testing laboratories are prepared for increased testing. One participant stated that near Canyon City 13 wells were contaminated by a uranium mining and milling operation. Another voiced concern about the risk that exploratory drilling poses to private wells. The participant stated that Virginia has a loose permitting process for exploratory drilling and that if the moratorium is lifted there will be a sharp increase in the amount of exploratory drilling. One participant, a former member of the Orange County Planning Commission, stated that local ordinances have been amended to stipulate the requirement of a special use permit for exploratory drilling to reduce risk on a local level.

Other comments, concerns, and questions from participants on this topic included:

* Potential damage to water sources in Virginia and North Carolina that are used for public water, agriculture, and recreational areas.
* Useful to understand what federal and state water quality standards are and how they compare.
* We can monitor uranium contamination in ground water but we don’t know how to contain it.
* Have seen that a uranium mining and milling operations would use several hundred thousand gallons per day.

Operational Comments, Concerns, and Questions

Several concerns were expressed about general operations for a uranium mine and/or mill. One participant stated that in the past uranium mills were located near the water due to the amount of water needed for operations and it was later costly to move the tailings and other debris to other locations. One speaker stated that there are currently 5 licensed mills, three of which are active. One participant wondered if the safety regulations are the same at a mill that is not collocated with a mine.

Steve Harrison, VDH, provided an explanation of alpha, beta, and gamma particles of radiation and described how each type of particle behaves.

One participant speculated that all radioactive mining and milling waste will remain onsite and will have to be contained. Concerns were expressed that all types of containment, including concrete, rubber, and plastic have been used in other applications and fail frequently. One person stated that the largest tailings pond in the world leaked from the first day of operation, stating that the pond failed to meet NRC recommendations; he went on to say that this showed the lack of concern the industry had/has about NRC recommendations. While many admitted that current practices are better than in the past and engineering is better, the history from previous sites is well known and includes several failures. It is likely designs will be similar. One person pointed out that the NRC has stated that some sites from the 1950s have no liners at all. The question of whether enough improvement has occurred was proposed as an unanswered question. The comment was made that even in the best case there will be contamination from the operations and yet, we all keep looking for another answer.

A participant stated that VUI projects round the clock operations, and commented that it will be just as necessary to perform inspections and monitoring at night and on weekends and holidays as it would be during normal working hours. One speaker stated that VUI would have water treatment capabilities on site. One speaker asked if the water would be released from the site after treatment. VUI anticipates exceeding water capacity during construction and will be just under capacity during operations. DEQ will be responsible for permitting and inspecting any wastewater and/or stormwater discharges from the operation.

. Many concerns were expressed about the ability to maintain the integrity of the ponds and cells. One participant used the example of the frequency of leaking landfills.

Catastrophic Events and Operational Failure Comments, Concerns, and Questions

Many of the participants voiced concern that public and environmental health could not be protected from a catastrophic event or operational failure. Concern was expressed that an operator might use a catastrophic event as an excuse for non-compliance. Questions posed about catastrophic events and failures include

* Would VUI cover the cost of repair to structures, such as dams, etc. from failures or catastrophic events?
* If contamination is carried offsite, will the waste be transported back to the original site or will a new site be created?
* Will downstream residents need an insurance rider?
* With regard to offsite contamination, will there be provisions to follow the populace to determine health effects?
* How will the new hazards and hazardous areas be monitored and communicated in the long term?

One commenter noted a history of volatile weather events in the area and referenced the effects of various hurricanes, tropical storms and 1,000-year rain events. One person stated that during his 75 years of life, he has seen three “100-year floods” and one “500-year flood” on the Rappahannock River. Another participant provided an example of a rain event in the 1990s that dropped 27” of rain on her property in a matter of hours, which washed away all the topsoil and left a “moonscape.” One speaker suggested that the operations will have at least 10 acres of tailings exposed at any one time and questioned how this would be managed during the extreme rain events. One speaker told of a former gold mine that was closed in 1952, where the tailings pond overflows into Contrary Creek, which runs into Lake Anna. The participant stated the banks of the creek are void of vegetation for about 10-20’ due to the pH levels caused by acid mine drainage, stating that the tailing ponds overflow during every rain event..

A comment was made that after a spill at the United Nuclear operation in New Mexico, where 100,000 gallons of radioactive waste entered a river, the initial assessment was that there would be “no effect”, but later high levels of radium and other contaminants were in the river and in private wells downstream from the spill site. It was pointed out that, although contaminated water could be treated, there are questions about disposal of the waste from that process and who would be ultimately responsible for that waste.

One participant commented on a study that was conducted for the Virginia Beach area where impacts on the Bannister and Roanoke Rivers from uranium mining and milling at Coles Hill were modeled. The study concluded that if a breach in a tailings pond were to occur Virginia Beach could not withdraw water from Lake Gaston for 2 years. The participant added that the cost to install treatment to remove contaminants would be $300 million, and that the city would still have to dispose of the radioactive material.

One participant had knowledge of leases in Fauquier County which is considered by some to be in a tornado alley.

Other General Comments, Concerns, and Questions

Several comments did not fall within the previous groupings and may need to be forwarded to other members of the UWG for evaluation. Other general comments, concerns, and questions included:

* During the course of the day, several participants posed the question of the national need for the uranium resource. One commenter stated that there is no national policy for uranium exploration and noted concern that the need for this resource may be greater in the future, so why exploit it now? She added that she does not see where uranium mining and milling fits into the national energy policy.
* During the course of the day, there were several concerns regarding public drinking water and a concern that VDH is not looking at public drinking water. Dr. Dempsey clarified that VDH does currently regulate public drinking water.  The federal Safe Drinking Water Act establishes requirements that are monitored by the state. VDH is attempting to discover through this study if there are other things the agency needs to consider regarding what happens during the processes and procedures of mining and milling that create a downward or external effect that will require additional safeguards. VDH has the ability to adopt more stringent regulations and requirements and that is an aspect of the study.
* Uranium mined and milled in Virginia will not be used in Virginia or in the United States, but will be used in China. The operations (Coles Hill) and associated profits would be gained by a Canadian company, “What’s in it for Virginia?”
* There is plenty of uranium supply in the world.
* There are about 60 nuclear power plants being built around the world and the market for uranium is increasing.
* The price of uranium is low and there is no need for a supply.
* The market has recovered from the lows in the last decades.
* Average ore is .5 percent uranium in Virginia; Canada is producing ore at 4 to 5 percent. What is the long term viability of mining such low yield deposits as the price of the commodity goes down. The price of uranium in 2012 is below $50 per pound for yellow cake and going down.
* How is uranium mining and milling different from shale gas drilling?
* Uranium will be mined and milled eventually and the public should provide strict scrutiny while there is time. The Commonwealth could go from asking for input to telling the public that mining and milling will happen. While supporting uranium development as a component of energy independence, safety trumps energy independence.
* Caution enacting ‘zero tolerance’ in regulations with regard to agricultural products. At parts per billion or parts per trillion level contaminants may have no negative health effects, but a ‘zero tolerance’ regulation could stigmatize products that do not meet that standard.
* Not afraid of mining, but that uranium mining is more complicated and brings different considerations.
* The future picture for nuclear energy is unclear. The demand will likely go up in China, while Germany is phasing out their nuclear plants. There is currently no sense of growth in the U.S. and waste disposal remains a huge issue. The U.S. supply comes from various sources, some of which are unreliable.
* The price of uranium has varied over the decades with boom and bust cycles. Domestic uranium production would be used for nuclear plants, not for nuclear proliferation. The long-term viability in the marketplace is uncertain.
* The safeguards are already in place in the form of the moratorium.
* The primary objective is to answer the questions about lifting the moratorium. That would be the pathway to addressing other questions and then defining the regulations. Before anything else can be done, the legislature must be convinced that uranium mining and milling can be done safely.
* Some felt that uranium mining and milling can be done safely, but were unsure if the Commonwealth is prepared to do it and if the risk can be assigned in the right place.
* The Commonwealth must ensure that the uranium industry is not able to hide processes from public scrutiny by claiming “trade secrecy.” The industry must be required to identify all chemicals and potential contaminants associated with mining and milling..
* Would subcontracting create distance from liability?
* The original purpose of the moratorium was to establish a baseline in real time using real data, but that never happened.
* Comments and questions on the process
* Go above and beyond in advertising the meetings, notify local governments
* The 2-minute comment period was inadequate to address 4 very important issues
* Allow more time for speakers at the Virginia Beach meeting
* Meetings should have been planned during the day and evening
* Mid-August was bad timing as more people would have liked to participate
* State staff were present and could have participated in discussions
* Would have liked to have had a work plan to discuss
* How will all the questions posed be addressed? VDH was encouraged to provide information as soon as possible in language readily understandable to the general public.

Written Comments

One member of the public passed out four written comments. These comments were visual schematics which explain the mining and milling process. However the group chose not to discuss these comments. .

Conclusion and Next Steps

At the conclusion of the discussion session, the facilitator and Dr. Dempsey thanked the participants for their comments and participation in the session. Dr. Dempsey emphasized that the input and detail was important not only to answer questions of what might need to be regulated, but is it safe. The answers will be important for the legislative process, but for the public as well. Dr. Dempsey stated that the audio and video, participant’s names and a written summary of the day’s discussion would be posted on the UWG website an soon as technically feasible. She also noted that the day’s discussion would be used to facilitate the upcoming meetings in Virginia Beach. Dr. Dempsey stated that VDH is working on setting up another meeting in the Chatham area due to the interest in participation. Details will be announced when they are finalized. Dr. Dempsey also stated that the information gathered from the public meetings and discussion sessions in Chatham and Warrenton would be included in the overall efforts of the UWG. She stated that the list of studies reviewed by the UWG and those referenced during the day’s discussion would also be included on the UWG website. Participants were encouraged to continue to provide comments at future public meetings and through the UWG website.