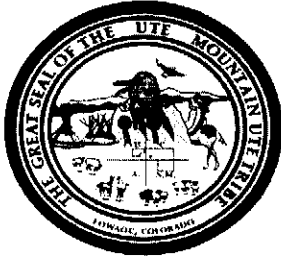


Exhibit M



UTE MOUNTAIN UTE TRIBE
ENVIRONMENTAL PROGRAMS DEPARTMENT

Exhibit M to December 16, 2011 Comments on DUSA RML Renewal

Re: Bioavailability, Bioaccumulation and Food Chain Transfer of Airborne Radionuclides

The Ute Mountain Ute (UMU) Tribe is concerned that the airborne deposition of Radioactive Material from the Denison USA's White Mesa Mill has resulted in the contamination of surface water, soils, and vegetation, and it may be indirectly contaminating livestock, wildlife resources, and other indirect pathways that impact human health.

Significant research has been conducted in the field of bioavailability, bioaccumulation and food chain transfer of radionuclides. Selected studies that demonstrate the transfer and bioassimilation of radionuclides, both direct and indirect pathways, are summarized in this document to exhibit the Tribe's concerns.

The existence of direct and indirect pathways of radionuclides to living organisms including humans is not debated in scientific communities; the debate is about the models that predict the transfer mechanism accounting for a large list of variables. A series of handbooks published by the International Atomic Energy Agency, including the Handbook of Parameter Values for the Prediction of Radionuclide Transfer in Terrestrial and Freshwater Environments, compiles the studies and the prediction models from the world's scientific community in an attempt to "... provide IAEA Member States with data for use in the radiological assessment of routine discharges of radionuclides to the environment," and "covers radionuclide transfer in the terrestrial and freshwater environments. The data collected here are relevant to the transfer of radionuclides through food chains to humans..." (IAEA, 2010).

While the IAEA's handbook widely covers the world's radioactive releases of many isotopes, studies on uranium decay series conducted near the uranium mines and processing facilities give more detailed pictures applicable to the Tribe's concerns for the White Mesa Community. In Northern Saskatchewan, Canada, where agricultural harvests are not very promising and wild food hunting and foraging are frequent, uranium decay series have been studied in terms of their distribution in the food chain.

"Principal factors governing the transport and biotic uptake of radionuclides in the terrestrial environment are their persistence in the environment, their solubility, their capacity to compete with nutrients as analogs (compounds behaving similarly to nutrients), and the location and trophic level of biota within the ecosystem. Knowledge of these principles helps in the selection of radionuclides, organisms and site locations for study designs and monitoring programs (p. 9, Thomas, 1995)"

The connection between the caribou and/or reindeer meat and bioaccumulation of the radionuclides in human bodies was established in 1966. Polonium-210 concentration “in human placentas collected in Northern Canada ranged up to 27.8 picocuries per 100 grams, or 80 times the average United Kingdom value. High levels are related to the inclusion of reindeer or caribou meat in the diet” (Hill 1966). The radionuclides that accumulated in wildlife traditionally hunted by the tribal members in Northern Saskatchewan have also been studied extensively. Airborne Uranium-series (Uranium-238, Radium-226, Lead-210 and Polonium-210) in terrestrial ecosystems were surveyed and analyzed for: (1) plants-small mammals food chain in prairie environment (Thomas 1995); (2) ecological distribution and bioavailability in terrestrial food chain (Thomas, 1997); and (3) dose assessment of caribou tissues (Thomas 1999). Those studies presented that these Uranium-series radioisotopes were present in environment, and consequently in many species of wild plants, grains, birds, small mammals (such as voles, deer mice and house mice) and large mammals (such as caribou).

These studies show the cascading effect of radionuclide transfer from the soil and plant litters, and then from one organism to the other by establishing and calculating the transfer coefficients for each species and each location sampled. These research projects illuminate the fact that most radionuclides accumulate in the soil, and the concentration of radionuclides in plants or animals have a linear relationship with that of soil in most cases. This supports their data that the ground resuspension of radionuclides is much higher than direct depositions.

The researchers’ success in catching airborne materials dispersed in the atmosphere comes from collecting wind-blown samples at the ground level. Therefore air samples that are taken high above the ground may not be taking the representative dust in the ambient air. They also discuss pronounced fugitive dust dispersion in late spring from tailings and storages piles as freeze-dry cycles increase the surface area and reduce cohesion of particles, thereby rendering them erodible in wind.

The four radionuclides discussed in the studies are likely present in the environment surrounding the White Mesa Mill, and the tribal members traditionally harvest wildlife and plants for consumption and ceremonial purposes. Diversity of other radionuclides that were sampled for and speciated in these studies also could be present in the environment surround the White Mesa Mill. In order for the Tribe to protect the health of the tribal members and the environment of the tribal lands, rigorous monitoring, regular radiochemical speciation analysis, and strict regulation of the Radioactive Materials are necessary.

References:

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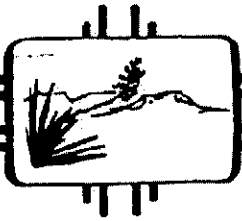
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EID NEWS



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SANTA FE, NEW MEXICO -- Elevated radionuclide levels have been found in cattle that grazed in the vicinity of uranium mines and mills, according to results of a study recently completed by the New Mexico Environmental Improvement Division.

The 1982 New Mexico Legislature appropriated \$90,000 for EID to study potential livestock contamination and to assess the potential health risk to humans from eating cattle raised near uranium mines and mills. EID conducted the study in conjunction with the New Mexico Tumor Registry.

Cattle chosen for the study were from Ambrosia Lake and Churchrock. Extensive underground uranium mining has occurred at Ambrosia Lake which is also the site of two large uranium mill tailings piles. At Churchrock, an accidental tailings spill occurred in 1979. Crownpoint, a site northwest of Ambrosia Lake, which does not have uranium mining or milling development, was used as a control site in the study.

EID Director Denise Fort said the study demonstrates that levels of radionuclides increased in cattle groups that consumed vegetation and soil contaminated by uranium mine dewatering effluent and wind blown tailings. "The report documents

(more)

Under current federal and state standards, lead-210 and polonium-210 are not included in calculating annual radiation doses to an individual, although findings of the study identify them as the major dose contributors to an individual, Fort said. "These longer lived radionuclides should be included in the federal regulations because the study shows that under existing regulations they could contribute to an unacceptable annual radiation dose to an individual," Fort said. "The problem also could be more effectively controlled if lower effluent limits for the radionuclides were adopted," she added. The agency also recommends that federal agencies establish a lower limit for uranium based on radiological toxicity, she noted.

Fort also said EID will ask the Nuclear Regulatory Commission to enforce their regulation requiring cleanup of all soils contaminated by uranium mill tailings as part of a long term reclamation and stabilization plan. "For areas affected by uranium dewatering effluent, too little scientific data exists on the long-term environmental effects to make a policy recommendation," Fort said. "More research needs to be conducted to determine the degree of the problem and the possible need, ultimately, for controls on land use or clean-up of the soils."