Nancy Hilding President Prairie Hills Audubon Society P.O. Box 788 Black Hawk, SD 57718 August 13, 2013

Rapid City Council City/School Administration Building 300 6th Street, Rapid City, SD 57701

Dear Council,

## RE: RESOLUTION ON POWERTECH DEWEY BURDOCK SITE:

We write today to thank the Rapid City Council for considering a Rapid City resolution to object to Powertech's proposed Dewey-Burdock in-situ leach uranium mine. We thank you for this pending action, to help protect South Dakota's ground and surface waters from direct pollution from this facility.

Prairie Hills Audubon Society is the west-river chapter of the National Audubon Society. We are a SD non-profit corporation whose mission is to "educate about, protect and restore our environment and natural heritage". We have 131 members with an address of Rapid City and 270 members total.

We however believe the local issues with any uranium development are just the "tip of the iceberg". Extraction of uranium has a much broader scope. Uranium can be used in the development of nuclear weapons, which could bring about nuclear war and nuclear winter -- perhaps the ultimate environmental threat humans face. With nuclear winter survivors must deal with combined effects of loss of sunlight due to dust, cold climate, crop failures, UV radiation and radioactivity.

Barring nuclear war/winter, the development of uranium brings about radioactive waste (radwaste) disposal issues. Various poisonous elements created by use of uranium, have extremely long half-lives. In short no one really knows what to do with high-level rad-waste, as we have no experience with geological formations or human civilizations that are stable enough to handle it. So when humans dig it up, use it and create rad-waste, we create very long term environmental risks and financial costs. We behave in a totally irresponsible way towards our descendants and the other species that use our planet. We hope you will look at broader issues than just our region's water and pass a resolution in opposition to Powertech's proposed in-situ leach uranium mine.

Thanks,

Nancy Hilding President

Prairie Hills Audubon Society

Web links provided below

For more info visit the below web sites below:

## We include some wikipedia quotes below on nuclear winter

http://en.wikipedia.org/wiki/Nuclear\_winter

## On rad-waste disposal

http://en.wikipedia.org/wiki/Nuclear\_Waste\_Policy\_Act

Below are quotes from the above referenced Wikipedia site on high level radioactive waste disposal:

"Hannes Alfvén, Nobel laureate in physics, described the as yet unresolved dilemma of permanent radioactive waste disposal:

"The problem is how to keep radioactive waste in storage until it decays after hundreds of thousands of years. The [geologic] deposit must be absolutely reliable as the quantities of poison are tremendous. It is very difficult to satisfy these requirements for the simple reason that we have had no practical experience with such a long term project. Moreover permanently guarded storage requires a society with unprecedented stability."[19]

Thus, Alfvén identified two fundamental prerequisites for effective management of high-level radioactive waste: (1) stable geological formations, and (2) stable human institutions over hundreds of thousands of years. However, no known human civilization has ever endured for so long. Moreover, no geologic formation of adequate size for a permanent radioactive waste repository has yet been discovered that has been stable for so long a period.

Because some radioactive species have half-lives longer than one million years, even very low container leakage and radionuclide migration rates must be taken into account [20] Moreover, it may require more than one half-life until some nuclear waste loses enough radioactivity so that it is no longer lethal to humans. Waste containers have a modeled lifetime of 12,000 to over 100,000 years[21] and it is assumed they will fail in about two million years. A 1983 review of the Swedish radioactive waste disposal program by the National Academy of Sciences found that country's estimate of about one million years being necessary for waste isolation "fully justified." [22]

The Nuclear Waste Policy Act did not require anything approaching this standard for permanent deep-geologic disposal of high-level radioactive waste in the United States. U.S. Department of Energy guidelines for selecting locations for permanent deep-geologic high-level radioactive waste repositories required containment of waste within waste packages for only 300 years. [23] A site would be disqualified from further consideration only if groundwater travel time from the "disturbed zone" of the underground facility to the "accessible environment" (atmosphere, land surface, surface water, oceans or lithosphere extending no more than 10 kilometers from the underground facility) was expected to be less than 1,000 years along any pathway of radionuclide travel. [24] Sites with groundwater travel time greater than 1,000 years from the original location to the human environment were considered potentially acceptable, even if the waste would be highly radioactive for 200,000 years or more."