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Oct 01, 2012

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Jim Ruby, Executive Secretary  
Environmental Quality Council

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Subject: Public comment on the Strata Energy Ross ISL uranium project's draft permit.

Thank you for the opportunity to comment on the Strata Energy Ross project draft permit. I live close to the Ross site, and am extremely concerned about the potential negative impacts from in-situ leach (ISL) uranium mining and milling site that is proposed for our county. Over the past five years, I have studied and researched the ISL uranium mining process, both at past and current sites throughout Wyoming, Nebraska, and Texas. I have also reviewed many of the annual reports from the currently operating ISL sites in Wyoming, as well as the WDEQ reports of violations and other issues. As a result of this research, I have become concerned about Strata Energy's proposed ISL project and its probable impacts to our land, water, and other interests. I am very much opposed to this project, but fear that WDEQ will grant Strata's permit in spite of legitimate concerns. Therefore, I wish to express my concerns about this project and request specific details be included in Strata's permit, when mitigation is possible:

1. Strata's permit should address how they will deal with the fact that within the Ross project area there are over 5,000 old drill holes from decades ago, many of which are improperly plugged and abandoned. Strata Energy's application states that their process will be feasible and safe, as it will be in a "confined" aquifer. However, I feel that Strata Energy should include in their application, specific procedures on how they will locate and properly plug all of these abandoned drill holes. Further, there are hundreds of these drill holes outside the mining area and throughout our neighbors' private properties, and I feel they need to include a procedure for locating and properly plugging these also. Since these old drill holes can serve as a connection between the aquifers, the Fox Hills aquifer that Strata is proposing to use as an ore zone for its mining and milling operations may not be a "confined" aquifer at all. These connections between the aquifers could allow cross contamination from the Fox Hills aquifer to the aquifer in which our wells are located. Contamination of our domestic and stock water would cause our water to be unusable for drinking, washing, watering our garden, as well as for our livestock.
2. Another potential negative impact is that these ISL sites have a long history of spills, leaks, and excursions of the contaminated leach solutions. Once again, these problems could cause contamination of our well water, as well as the surface waters that run northeast from the mining area. Strata's permit should include specifics on how they will be able to contain these solutions when all other ISL sites have been unable to do so.
3. Another potential negative impact that I am concerned about is the threat of aquifer depletion. There is an extremely high consumptive use of water during the ISL processing and restoration phases, which has the potential to draw down the aquifers. Industry often states that during the processing phase, the waste water is only 3% of the water used. However, this amounts to millions of gallons of water per year for the planned duration of up to 20 years. At one meeting with Strata Energy, they stated that "the water consumption for the processing phase is minimal, compared to the restoration phase." This is something that I had already learned in my research; that the restoration phase is even more consumptive, as the initial phase uses a method termed "groundwater sweep" and then continues with another process called "reverse osmosis." As I understand it, significant amounts of water are used. I have

reviewed reports that show that one site currently is in its 9<sup>th</sup> year of attempting to restore the water for a site that was originally estimated to take less than 2 years in the restoration phase. I'm concerned because Strata Energy's process will be the same as these other companies. Therefore, I expect that the water waste for this phase can be in the billions of gallons and this is of great concern to me. Strata Energy states that "the pre-mining drawdown of the Fox Hills aquifer, since 1980, due to the presence of the oil field water supply wells is already 200 feet". The consumptive use of water during the ISL process and restoration has a potential to drop the Fox Hills aquifer even further, which in turn could deplete the aquifers above it. Again, the loss of water for domestic and stock use would cause us to have to haul water or to re-drill our well; either one would be an extremely expensive solution just to provide ourselves with drinking water, and would be infeasible for watering our garden, yard, trees, and livestock. I feel there is nothing they can do to mitigate this extremely serious concern.

4. Another potential negative impact, based on my research, is that groundwater restoration remains difficult if not impossible, and has taken longer than expected at operating mines in Wyoming. To date there is no example of an aquifer being returned to pre-mining conditions at a commercial-scale ISL uranium mining operation. I have reviewed documents that show that at one site in Wyoming a reported restoration value of uranium for one wellfield was 70 times the baseline value. Based on what I have seen, I believe that restoration of the water for all parameters has proven impossible. The elements that ISL operators have been unable to return to baseline are the ones that are of the most concern to me as a landowner who uses the local water supply, including a mix of radioactive and toxic heavy metals such as uranium, arsenic, and radium-226. Again, the inability to restore the aquifer to pre-mining conditions is a potential threat to our aquifers in the future, and to my knowledge, Strata Energy has not specified that they have any improved process to address this concern.

5. Another concern is I have reviewed documents that show that currently operating ISL uranium mining sites in Wyoming are having difficulties in stopping the leaching process. After extracting all the economically feasible uranium and attempting to restore the water, they are having problems with removing the excess oxygen from the solution and stopping the leaching process. In the 09-10 annual report, Cameco's Smith Ranch-Highland ISL site stated that they are still trying to come up with a way to do this. To my knowledge, Strata Energy has not proposed anything different for its restoration and decommissioning phase. Therefore, if this process can continue, then there is a possibility that the contamination of the aquifers could continue for decades, long after the uranium companies are gone, and may therefore threaten our wells in the years to come. Once again, I have seen no information in Strata Energy's draft permits that explains how they will address this issue.

6. Another potential negative impact from this site would be the increase in traffic on our road during the construction of the site and the operational phase. These roads are dirt and gravel, and any traffic results in a tremendous dust problem. The increased traffic would cause a health hazard to us and to all those with homes along these roads. To my knowledge, Strata Energy plans only to reduce dust in the near vicinity of the processing plant, but not in the outlying affected areas.

Sincerely  
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