

2-23-2010

Robert E. Moran, Ph.D.
Michael-Moran Assoc., LLC
Water Quality/Hydrogeology/Geochemistry
Golden, Colorado, U.S.A.
remwater@gmail.com

To: Grace Dugan
Gonzalez Law Firm
522 7th Street, Suite 202
Rapid City, SD 57701

Subject: Need for 60-Day Extension, Dewey-Burdock License Application
Expert Review

Dear Ms. Dugan,

I am a hydrogeologist / geochemist with more than 38 years of applied experience related to natural resource development, including consulting related to uranium mining, processing, and environmental impacts. In addition, I have been contracted to supply comments to Powertech (USA) Inc.'s Dewey-Burdock In Situ Recovery NRC License Application for the express purpose of aiding the Oglala Sioux Tribe, and others, in the drafting of contentions to be submitted to the NRC. My CV is attached.

After reviewing a large portion of the approximately 6000 pages of relevant documents [Technical Report is 3103 pg.; Environmental Report is 2615 pg.; Supplement is 66 pg.], I find it is not possible to provide a meaningful expert review and technical comment on the adequacy of the documents within the time provided because they are quite disorganized, often with little consistency between the various documents, and frequently presenting information and interpretations in a technically inadequate manner. More importantly, the reports fail to provide the most important information necessary to commenting intelligently on these matters. Further details are presented below.

As such, in my professional judgment, in order for a qualified expert to have a meaningful opportunity to fully review, assess, and provide technical comment on the submitted Application, a minimum of an additional 60 days past the current contention submission deadline of March 8, 2010 is required. Failure to provide such an extension of the submittal date for contentions would effectively deprive the public of the required opportunity for review.

With respect to details as to the difficulty in review caused by the manner in which the application materials have been prepared, Tables 2.7-27, 28 and 29 of TR (pg. 2-198-199) serve as representative examples of the poorly-written, confusing nature of these documents. Because their titles are so inadequate, [i.e., Table 2.7-27: Quarterly Sampled Groundwater Quality Well Data; Table 2.7-

29: Additional Well Data] the reader has no way of knowing what sampling dates are represented. The total depths and screened intervals for many of the wells listed in Table 2.7-27 are not known. Hence, how can the reader reasonably interpret their usefulness?

Frequently the text will refer to a specific table or figure, but when the reader goes to that table or figure, it is not the one referred to. A typical example can be found on pg. 2-199 of the TR, where the text refers to Table 2.7-29, when in fact it is discussing Table 2.7-30. Such mistakes are common in these Application documents and are quite confusing to the reader.

No coordinated, statistically-sound data set for **all** Baseline Water Quality (both surface and ground water) is presented in these documents—as is required in NURGEG--1569. For example, on pg. 2-14 and 2-15 of the Technical Report (TR), Sect. 2.2.3.2.2., Powertech states: “At the project site, baseline groundwater sampling was conducted in general (sic) accordance with NRC Regulatory Guide 4.14 (NRC, 1980). ... A summary of the results and methods for the groundwater quality monitoring program, as well as the historical TVA data, is presented in Section 2.7.” However, when the reader goes to Section 2.7, there are no tables that actually summarize, statistically, complete baseline field and lab water quality data for the complete data sets—both historic and recent. Instead, for ground waters, Powertech presents statistics for field data from individual wells or selected aquifers, but fails to statistically-summarize the laboratory data and leaves out the historic TVA data. Powertech then states (TR, pg. 2-203): “Complete groundwater quality data results are available in Appendix 2.7-G.” However, on pg. 2-205 (Sect. 2.7.3.2.2.2, Results for Laboratory Parameters) Powertech then states: “Summary statistics for baseline monitoring program laboratory samples are contained in Appendices 2.7-H and 2.7-I. Appendix 2.7-H **gives statistics for all groundwater constituents detected at or above PQL by constituent.**” Thus, it appears that Powertech has not included “qualified values,” that is data reported as “less than” some concentration. By deleting the “less than” values, Powertech has severely biased the data set, rendering it useless as a reliable source for evaluating baseline conditions.

Furthermore, Powertech states (TR, pg. 2-217-218) that they have arbitrarily selected some analyses from the voluminous, historic TVA data, but the reviewer is never allowed to see a statistical summary of the total original data set. Portions of the relevant data are scattered throughout the Appendices of the various documents, and disingenuously organized to leave out all baseline data that had concentrations reported below the detection limits (i.e. “less than” values). Obviously, this approach biases the data. Powertech must statistically summarize all historic water quality data and all recently collected data in separate tables, including all “less than values.” Both historic and recent baseline data should be segregated by water-bearing unit.

2-23-2010

To further confuse the baseline issues, Powertech's Supplement to the Application (August 2009) states on pg. 3-3: "A minimum of eight baseline water quality wells will be installed in the ore zone in the planned well field area." Thus the massive amounts of water quality data (historic and recent) presented in both the TR and ER (Environmental Report) will not actually be used to determine baseline. More importantly, it is unclear whether Powertech has baseline (pre-operational) ground water quality data that describes the **non-ore zone regions of the relevant aquifers.**

Overall, the presentation of the information and technical data is in such a state that a comprehensive review of the materials for use in the preparation of any contentions will require a minimum of 60 days additional time beyond the current deadline.

Thank you for considering these comments. I can be contacted at the following coordinates if you have further questions:

Work: 303.526.1405;

Cell: 303.358.8720—functions only when away from home/office;

remwater@gmail.com

Best regards,

Robert E. Moran