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March 4, 2016

Mr. Chris Yde
Coal & Uranium Program Supervisor
Department of Environmental Quality
P.O. Box 200901
Helena, MT 59620-0901

Permit ID: C1993017
Revision Type: Amendment
Permitting Action: Response
Subject**: AM3; Response to February 26, 2016 Sixth Round Acceptability Deficiency**

Dear Mr. Yde,

Signal Peak Energy is submitting the attached Comprehensive Evaluation of Probable Hydrologic Consequences (PHC) and below discussion in response to the Department's February 26, 2016, Sixth Round Acceptability Deficiency Letter.

(1) ARM 17.24.314(3): In Appendix 314-5, Attachment I, Table I-1, the values for sodium from both gob water samples are above the maximum baseline values; however, the final column states the gob values are within the baseline range. Please correct this error.
In its recent response (February 11, 2016), SPE states that the correction was made; however, DEQ could not locate a corrected table.

Response:

Replacement Table I-1 is now included in Appendix 314-5.

(2) ARM 17.24.314(3): In Appendix 314-5, please include the median values for the Mammoth coal and overburden baseline, Table I-1, Attachment I.
In its recent response (February 11, 2016), SPE states that the correction was made; however, DEQ could not locate a corrected table.

Response:

Replacement Table I-1 is now included in Appendix 314-5.

(3) ARM 17.24.314(3): In several places in the PHC, it is stated that the deep underburden is suitable in quality and quantity to supply any future mitigation needs. Five of six samples collected recently from deep underburden wells (BMP 128, BMP129)

showed exceedances of the arsenic human health standard. Presumably, high arsenic values may render these waters unsuitable (without treatment) for public and private water supply. SPE must clarify these statements further and/or address how high arsenic levels would be addressed in the mitigation for public and private water supplies.

In its recent response (February 11, 2016), SPE states that additional language was added; however, DEQ could not locate in the PHC where arsenic mitigation is discussed, specifically regarding the supply and maintenance of on-site treatment systems for public and private water supplies.

Response:

Note that language was added to Table 4C. The text language of Section 6.5.4 has been modified to include the following:

It is noted that two of the deep Underburden groundwater wells (BMP 128 and BMP 129) indicated the presence of arsenic concentrations above the drinking water standard of 0.01 mg/l. The existing public water supply well, BMP-121, does not exhibit any presence of arsenic in the groundwater. In the event deep Underburden groundwater is planned for mitigation purposes involving human drinking water consumption or culinary use, then that groundwater should be tested for trace metals, including arsenic. In the event that an exceedance of the arsenic standard is observed, then a point-of-use treatment system designed specifically for arsenic removal would be necessary. Any such treatment program, including long-term operation and maintenance arrangements, would be arranged by SPE and coordinated with DEQ.

(4) <u>ARM 17.24.314(3):</u> Section 3.4.2 of the PHC (pp 314-5-16, 314-5-17) describes subsidence effects associated with longwall mining from a theoretical standpoint. Longwall mining in the Bull Mountains has progressed since year 2010. Please describe the actual observed effects of longwall mining in the Bull Mountains. For example, surface cracking has occurred throughout the mine area, as is evidenced on aerial photographs and through field visits. This appears to be contrary to the statement that "The deformation zone does not fracture upon subsidence."
In its recent response (Feb 11, 2016), SPE states that "additional detail was added to the section to describe observed effects of longwall mining in the Bull Mountains"; however, DEQ could not locate areas of the PHC that discuss surface cracking, fracturing, or other surface expressions of longwall mining. Please discuss the surface effects observed, their impacts, and SPE's mitigation efforts to date.

Response:

In previous response (Feb 11, 2016), a sentence was added to the end of the second paragraph of page 314-5-17 to more accurately update the deformation zone description based upon observed surface effects. In this response, additional revisions have been made to the text at the top of page 314-5-17.

Based upon SPE's understanding per discussions with DEQ on March 2, 2016, the concern expressed in the above comment was specifically related to surface water drainage implications. Discussion has now been added to Section 5.1.6 (page 314-5-42) of the report to address this concern.

(5) ARM 17.24.314(3): In Section 3.5 of the PHC, please do not ascertain the class of groundwater using 'average' conditions. The majority of these references to average class were corrected in the latest response (February 11, 2016); however, one remains in Section 3.5.5. Please eliminate this last reference to average beneficial use classes.

Response:

The language of the paragraph discussing classifications now states the following:

Baseline data for spring water indicate a natural range from Class 1 through Class III. Springs 16355, 16365, 72115, 72125, 16135, 16255, 41215, 52525, 71115 and 81335 yield mainly Class I water. Springs exhibiting Class III groundwater all reside outside the permit boundary.

Please contact me if you have any questions or concerns with this submittal.

Sincerely,

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Cc: Brad Hanson, Joe Farinelli, Robert Ochsner, Sean Ellington, Michael Nicklin

Attachments:
Appendix 314-5_PHC_AM3_20160304.pdf

Gilbert, Sharona

From: File Transfer Service <TransferService@MT.gov>
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