



October 16, 2018

Mr. Dean K. Moos
Reclamation Director
ND State Public Service Commission
600 East Boulevard, Dept. 408
Bismarck, ND 58505

RE: Technical Review Responses for Revision 38 to Permit NAFK-8705

Dear Mr. Moos:

Falkirk submits the following responses to the technical review of the application for Revision No. 38 to Surface Coal Mining Permit NAFK-8705 for The Falkirk Mine in your letter dated August 1, 2018.

Section 3.1 – Operations Plan - General

- 1. Please depict the location of pond P-W06-03 on the Pit Layout and Facilities Map, Section 3.1.5. (RLK)***

Pond P-W06-05 has been added to Section 3.1.5 Pit Layout and Facilities Map.

Section 4.1 – Post-Mining Land Use and Revegetation

- 2. Please consider revising the narrative pertaining to Section 26, T146N, R83W on pages 11 and 12 of the Post-Mining Land Use Narrative (Section 4.1.1) to briefly state that Revision No. 38 returned the fish and wildlife habitat and industrial land uses to cropland. This may be helpful to readers seeking information specific to land uses for Section 26, without having to scroll back through the narrative to realize the land use was changed back to cropland as part of Revision No. 38. (RLK)***

Please see the updated Post-Mining Land Use Narrative on page 12 in Section 4.1.1.

- 3. Please update the Revegetation Success Standards Map (Section 4.1.6a) to identify that post-mining cropland is now proposed for the land in the S1/2S1/2S1/2 of Section 23 and the N1/2 of Section 26. Also, please update the title for the Section 26 Unadjusted***

Cropland Yield Standard to indicate the standard is for the S1/2 of Section 26, or recalculate the standard for all of Section 26 as appropriate. (RLK)

Please see the updated Revegetation Success Standards Map in Section 4.1.6a and the updated title for the Section 26 Unadjusted Cropland Yield Standard.

Section 4.2 – Reclamation – General

4. ***The fourth bullet point provided in the Temporary Mining Cessation Plan narrative in Section 4.2.1b needs to be updated to explain why the pit bottom has been lined with a minimum of 24 inches of overburden material to prevent ground water contamination. Details regarding the presence, thickness, total volume and chemical stability/instability or inert nature of the bottom ash remaining in the pit needs to be addressed, in particular if this material comes into contact with ground water. In essence, the requested information, along with a technical assessment, will be your evaluation of the ground water Probable Hydrologic Consequences regarding the ash pit and the presence of the bottom ash placed in a potential saturated zone after pit cessation and final reclamation. The fact that you have stated the overburden liner was placed to prevent ground water contamination compels an explanation of the statement and subsequent PHC evaluation. (BEB/PJR)***

Please see the updated Temporary Mining Cessation Plan Narrative in Section 4.2.1b.

5. ***The fifth bullet point in Section 4.2.1b states that after the 5-year timeframe, Falkirk will measure water level elevations quarterly and water quality sampling will be done once per year. Please update this bullet point statement to indicate the Coal Creek Station monitoring wells will be incorporated into Falkirk's approved ground water monitoring plan and the collected data will be submitted to the Public Service Commission. (BEB)***

Please see the updated Temporary Mining Cessation Plan Narrative in Section 4.2.1b.

6. ***Please revise Section 4.2.1b, Temporary Mining Cessation Plan, to include narrative and a map that clarifies surface water management of the watershed(s) affected by the cessation pit in Section 26. Currently, it is not entirely clear how runoff from reclaimed lands south of the cessation pit will be affected or if runoff will be diverted around the pit and Variance Area T during the cessation period. Please also revise the Probable Hydrologic Consequences narrative on page 2 of Section 4.2.1b to include meaningful analysis of the probable hydrologic consequences of Variance Area T and the cessation pit. NDAC 69-05.2-16-01. (GAW)***

Surface water management and PHC data has been added to Section 4.2.1b Temporary Mining Cessation Plan. A map has also been added to this section which shows watershed breaks and surface water management features.

7. *A portion of the Section 26 Ash Pit Contingency Plan described in Section 4.2.1d appears to be a quasi-contradiction to the ash pit preparatory work that Falkirk conducted in February of this year regarding the remaining bottom ash in the pit. A minimum 2-foot thick layer of low permeability overburden/clay liner was placed over the bottom ash to prevent potential "ground water contamination"; however, the contingency plan entails the construction of proposed wetland R-26-02 directly on top of the ash disposal area. The presence of the contingency plan wetland will likely promote focused ground water recharge to the same area where your clay liner preparatory work was conducted with the specific intention of preventing ground water contamination. It would seem logical that a contingency plan would make every effort to construct a postmine landscape with positive drainage routed away from the ash pit similar to post-closure construction required for other waste disposal pits, particularly if ground water contamination is deemed a potential concern. If, after review and consideration your intention is to retain the wetland construction plan for the contingency pit, please provide a rational explanation for construction of the wetland at that location other than a lack of adequate material volume required to fill the pit. Any other information that you could provide to justify this plan, e.g. ND Department of Health corroboration regarding the inert nature of the bottom ash, or hydraulic conductivity assessment of the overburden to be placed below the wetland, etc. would be supportive of the contingency plan. We have been provided no evidence that power plant bottom ash is a ground water or surface water contaminant. However, if the ND Department of Health deems bottom ash to be a contaminant or potential contaminant, Falkirk may have to consider removing the material from the pit and providing a proper disposal plan of the ash prior to backfilling and final reclamation as part of the proposed contingency plan, or provide another viable option. (BEB)*

Please see the letter from the North Dakota Department of Health in Section 4.2.1b, stating bottom ash is an inert waste.

8. *The Contingency Plan Map in Section 4.2.1e depicts and labels a remaining SS/OB stockpile in the NW1/4 of Section 26. Since this map represents the contingent postmining environment and a return to agricultural land use, the material located within this pile should be incorporated into the postmine topography and removed from the map. Please review and update as necessary. (PJR)*

Please see the updated Contingency Plan Map in Section 4.2.1e and the updated Contingency Plan Narrative in Section 4.2.1d.

9. *Please include additional hydrologic consequences narrative in Section 4.2.1d to indicate why the contingency plan would be expected to be similar to the Probable Hydrologic Consequences (PHC) as described in Section 2.6.5 for the intended post-mining topography. The Section 26 Ash Pit Contingency Plan partly eludes to this point in the narrative by describing the 38-acre reduction in the contributing watershed for reclaimed wetland R-26-01. The contingency plan should also identify the drainage areas described in the Post-Mine PHC (Section 2.6.5) that will receive that corresponding increase in the contributing area. (RLK)*

PHC data and additional narrative has been added to Section 4.2.1d Section 26 Ash Pit Contingency Plan.

10. *Please show the watershed boundaries on the Section 26 Ash Pit Contingency Plan Map (Section 4.2.1e) for the area affected by the contingency topography proposed for Section 26. The watershed boundary line segments will help illustrate the difference between the contingency plan and the intended post-mine topography lines shown on the Post-Mine PHC Map (Section 2.6.5b). (RLK)*

Watershed boundaries and information has been added to Section 4.2.1e Ash Pit Contingency Plan Map

Section 5.2 – Post-Mining Wetlands

11. *The Contingency Plan Wetland Design for wetland R-26-02 was added to Section 4.2.1f. Please add a copy of this design to the Wetland Design Details in Section 5.2.2a. (PJR)*

Wetland R-26-02 has been added to Section 5.2.2a Wetland Design Details.

Sincerely,

THE FALKIRK MINING COMPANY



Jason Frye
Environmental Specialist

JF/tv
Enc.