



December 2, 2015

Mr. James R. Deutsch  
Reclamation Director  
ND State Public Service Commission  
600 East Boulevard, Dept. 408  
Bismarck, North Dakota 58505

**RE: Revision 27, Renewal #4 Pre-Renewal Review Responses To Permit NAFK-9503**

Dear Mr. Deutsch:

Falkirk submits the following responses to the pre-renewal review items noted in your October 7, 2015 letter to existing Permit NAFK-9503.

**Section 1.1 Introductory, Legal, Financial, Compliance, and Related Information**

- 1. Please provide an updated Consolidated Legal Information Report covering Sections 1.3.1 – Names of Officers, Directors and Share Holders, and Organizational Structure; 1.3.3 - Current Permits and Permit Applications, and 1.1.6 - Schedule of Violations referenced in Permit NAFK-9503 if there are any changes to ownership and control information, the list of current or previous coal mining permits held during the past five years, or the schedule of violation notices in the past three years since the most recent consolidated report dated September 11, 2015. (ZAB/RLK)***

The most recent update of the Consolidated Legal Information Report of November 10, 2015 is on file at the Public Service Commission Office.

**Section 1.3.2 Names of Other Mines**

- 2. Please update Section 1.3.2, Names of Other Mines, if changes have occurred since the approval of Revision 26. (RLK/ZAB)***

Please see updated typographical error in Section 1.3.2, Names of Other Mines.

**Section 1.3.5 Other Licenses and Permits**

- 3. Please update Section 1.3.5, Other Licenses and Permits, if changes have occurred since the approval of Revision 26. (ZAB/RLK)**

No changes have occurred since the approval of Revision 26.

**Section 1.5 Identification of Interests and Rights of Entry**

- 4. Please update the permit surface and coal ownership interests listed in Section 1.5.1 and the adjacent surface and coal ownership interests listed in Section 1.5.2. Any changes to either of these sections should also be reflected on the Surface and Coal Ownership Map in Section 1.5.3. (ZAB/RLK)**

Please see updated Section 1.5.1, Permit Area Surface and Coal Interests; 1.5.2, Adjacent Surface and Coal Interests; 1.5.3 Surface and Coal Ownership Map.

- 5. Please review the leases in Section 1.5.1 to verify that the leases and Right of Entry documents that grant the right to mine the coal within the permit area remain valid and will continue in full force and effect for the next 5 year permit term or update as appropriate. (ZAB)**

The tract summary was updated and the following table identifies updated to individual Tracts.

Tract No.	Address change to surface and/or coal ownership	Corporate officers and/or registered agents change	Documentation added Leases, WD, AOE	Easement information updated	Leasehold status change	Note added	Ownership change to surface and/or coal	Tract added or tract description changed
1	X	X						
2	X	X						
3		X						X
4	X	X						
5	X	X						
6	X	X						
22	X							
24		X						
25		X						
26	X						X	
27	X	X						
28							X	
31	X	X						
32	X	X						
38	X							
41	X							
48			X				X	
51			X				X	
52	X	X					X	

Tract No.	Address change to surface and/or coal ownership	Corporate officers and/or registered agents change	Documentation added Leases, WD, AOE	Easement information updated	Leasehold status change	Note added	Ownership change to surface and/or coal	Tract added or tract description changed
53	X	X					X	
60		X						
61		X						
72	X						X	
73	X							
77	X							
78	X							
79			X				X	
80	X							
81	X							
82	X							
89	X							
103	X							
113		X						
114		X						
118		X						
121	X							
122		X						
123		X						
124		X						
125							X	
129	X							
130		X						
151	X							
170		X						
174							X	

**Section 2.1 – Cultural and Historic Resources**

6. *Please show the location of Cultural Resource Site 32ML1133 on the Cultural Resource Location Map, Section 2.1.2. This prehistoric site is apparently located in Section 25, T145N, R84W, and similar to sites 32ML1087 and 32MLX745 which are also located in Section 25 as described in the Summary of Cultural Sites, Section 2.1.3, are also located off-permit. Please depict the site location on the map and review the site summary details in Section 2.1.3 because the NRHP eligibility recommendation for 32ML1133 is listed as “Unknown” but the subsequent recommendation is to “Test” the site. Please map the site and clarify your intentions with regard to this site in the summary table. (BEB)*

Please see updated Section 2.1.3, Summary of Cultural Sites. The location of site 32ML1133 is in Section 25, T146N, R84W and is located on the Cultural Resources Location Map, Section 2.1.2.

7. ***Prehistoric cultural resources site 32ML1064 is located within the permit area in the S1/2 of Section 32, T146N, R83W and the cultural resources summary listing for this site in Section 2.1.3 states that the site has been determined NRHP Eligible (Criterion C) and this eligibility designation was determined by testing and the listing states that data recovery will be delayed until "Federal Coal leasing." If updating of any information to the cultural resources summary is required, please do so at this time because Prehistoric Site 32ML1073 is located within the same federal coal tract in the same quarter section and this NRHP Eligible site has reportedly already been tested and mitigation was completed in 2009. If updates are required to Section 2.1.3 regarding 32ML1064, please do so at this time. (BEB)***

No updating was necessary to this deficiency.

#### **Section 2.2 – Description of Ground Water Hydrology**

8. ***Please update the several maps in this section to depict progression of mining within the permit area. Having this information on the maps is important when reviewing drawdown and potentiometric surface data provided by the wells in your ground water monitoring plan. The last time pit progression was updated on these maps was in 2009. Also, pit progression in the General Reference Map located in the Preface to Section 2.2 has not been updated since 1999 and may be updated if you choose. (BEB)***

Please see updated maps in Section 2.2, Description of Ground Water Hydrology and the Preface map.

9. ***If any new or additional water supply wells or developed springs have been certified, or if any previously certified wells and springs have been re-certified, please update the various sections of the permit to provide that information, including the well and spring location maps, if required. (BEB)***

There have not been any new wells certified or wells re-certified since the last revision. Re-certifications are planned for 2016.

10. ***Pages 4-7 of Section 2.2.6 represent the Monitoring Schedule in the Ground Water Monitoring Plan, and these pages are footnoted that changes made to the table were associated with Revision No. 35 and Renewal No. 5, which is representative of the Revision and Renewal to Permit NAFK-8705 in the Underwood Coal Field, not Riverdale, and the footnotes are obviously a typographical error. The same footnote typos are located in the Monitoring Well Information table of Section 2.2.16 and in Sections 2.2.20a and 2.2.20b. Please review and update these sections as appropriate. (BEB)***

Please see updated footnotes in the following section, Section 2.2.6, Ground Water Monitoring Plan; Section 2.2.16, Monitoring Well Information; Section 2.2.20a, Location of Monitoring Wells; Section 2.2.20b, Construction Details of Monitoring Wells.

- 11. If any ground water monitoring wells have been recently installed; or any ground water monitoring wells have been plugged, abandoned or mined through; please make the appropriate updates to the relevant portions of Section 2.2 in the permit, including applicable maps. (BEB)***

Please see updated Section 2.2, Description of Ground Water Hydrology.

**Section 2.4.2 – Fish and Wildlife Management Plan**

- 12. Please review the Fish and Wildlife Management Plan discussion and revise as necessary to address recently listed threatened, endangered, proposed or candidate species to the Endangered Species Act. Discussion should be commensurate with the probability of occurrence in the permit and adjacent area. (GAW)***

Please see updated Section 2.4.2, Fish and Wildlife Management Plan.

**Section 2.4.3 – Wildlife Monitoring Plan**

- 13. Please review the Wildlife Monitoring Plan and revise Table 1, Federal Threatened, Endangered, and Candidate Species found in North Dakota, to include all currently listed species. Please also review the monitoring plan and update if any monitoring is necessary for recently listed threatened, endangered, proposed or candidate species. Please also review North Dakota's draft 2015 Wildlife Action Plan, which includes species of concern, and revise the monitoring plan if warranted. (GAW)***

Please see updated Section 2.4.3, Wildlife Monitoring Plan.

**Section 2.6 – Surface Water Information and Monitoring Plan**

- 14. The last paragraph on page 2 of Section 2.6.3 – Surface Water Quality and Flow Data, indicates that pre-mining water quality data was collected from various surface water features including stockponds and dams. The narrative goes on to state that the data for the stockponds and dams is located in Section 2.6.3a, Stockpond Water Quality Data, but stockpond water quality sample results or results summary is not found in that section or elsewhere in the permit. Please update as appropriate. (RLK)***

Please see updated bookmarks in Section 2.6.3a, Stockpond Water Quality Data.

- 15. Please provide information in the permit showing that reestablished ephemeral stream channels have a longitudinal profile and cross section that approximate the pre-mining channel characteristics as required by NDAC 69-05.2-16-06(5). In addition to the modeled flow information provided in PHC, the permit should include the stream profile and length comparisons for some ephemeral drainages with larger watersheds or are steeply sloping such as those identified on the Post-Mine Probable Hydrologic Consequences Map, as contributing to control points R2 and R14. (RLK)***

Section 2.6.9, Post-Mine Drainage Stability Analysis has been added to the permit. This section includes maps of the post-mining drainages, watersheds, and profiles. It also includes the results of the drainages' cross-sectional analysis and a data summary table. The pre-mining drainages used for comparison were added to Section 2.6.5a, Pre-Mining Watersheds Map – Probable Hydrologic Consequences. The watershed corresponding with control point R-1 was analyzed instead of R-2 because R-2's watershed is a subwatershed of R-1.

- 16. Please include the model results or similar design information used to analyze the stability of reclaimed drainage ways in accordance with NDAC 69-05.2-16-06(6). The post mine reclaimed drainage ways should be evaluated based on the 100-year/6 hour storm event. Please update the probable hydrologic consequences section to show the calculated flow velocities in the representative portion of each reclaimed drainage channel, and the expected velocities in the most erosive section of each drainage channel. (RLK)***

Section 2.6.9, Post-Mine Drainage Stability Analysis has been added to the permit. This section includes maps of the post-mining drainages, watersheds, and profiles. It also includes the results of the drainages' cross-sectional analysis and a data summary table.

### **Section 3.0 - Operations Plans**

- 17. Please update if necessary, Section 3.1 - Operations Plan and the Pit Layout and Facilities Map, Section 3.1.5 to reflect any anticipated changes in the mining plan for the Riverdale mine area. Also update any other maps, plans, time schedules, stockpile locations, etc. that may be affected by these changes in the mining plan. The next 5-year coal removal area must be clearly depicted or identified. (BAJ)***

Please see updated Section 3.1.5, Pit Layout and Facilities Map and Section 3.6.1a, Total Water Management Plan Map, and Section 3.6.1d, Pond and Diversion Construction and Reclamation Schedule.

**18. In Section 3.1.1, please update the estimated number of acres to be disturbed for the next permit term if any changes have been made to the mining plan. (ZAB)**

Please see updated Section 3.1.1, Operations Description.

**19. The first sentence under the Intermittent Stream Buffer Zones discussion in Section 3.1.1, Operations Description, states that no mining related disturbance will take place within 100 feet of an intermittent stream but the third sentence of this narrative states that intermittent stream buffer zones will be marked within one year of mining related disturbance or when activities are within one-half mile, whichever is sooner. Please revise the third sentence to clarify that Falkirk will not disturb land within 100 feet of an “intermittent” stream unless specifically approved by the Commission as required by NDAC 69-05.2-16-20 and provide additional details about how intermittent stream buffer zones will be marked along their boundaries. The permit indicates that mining related activities are scheduled to occur near an intermittent stream in Section 36 of T146N, R84W, in 2016. (GAW)**

Please see updated Section 3.1.1, Operations Description.

**20. Please update, if necessary, page 1 of Section 3.1.3, Estimated and Total Coal Production for Permit NAFK-9503, and page 1 of Section 3.1.4, List of Equipment. (BAJ/ZAB)**

Please see updated Section 3.1.3, Estimated and Total Production and Section 3.1.4, List of Equipment.

**21. Please update the Pit Layout and Facilities Map, Section 3.1.5, to not show future mining within 100 feet of the intermittent stream located in Sections 7 and 18 of T145N, R83W prior to compliance with NDAC 69-05.2-16-20. (GAW)**

Please see updated Section 3.1.5, Pit Layout and Facilities Map.

**22. Ponds P-R05-01 and P-R05-02 are currently shown as “future ponds” on the Pit Layout and Facilities Map, Section 3.1.5, and can now be shown as “current ponds” on the map as these ponds were certified in July of this year. The described map changes should also be made for these ponds on the Total Water Management Plan Map in Section 3.6.1a. (BEB)**

Please see updated Section 3.1.5, Pit Layout and Facilities Map and Section 3.6.1a, Total Water Management Plan Map.

**23. The Pit Layout and Facilities Map shows a large overburden storage area in the W1/2 of Section 22 on the location of portions of grade approval request tracts R22J and R22L, both of which appear to have been respread in late 2014. Adjacent to the overburden pile in the SE1/4 of Section 22 is a large SPGM stockpile shown on the location of several, previously respread tracts. Please update the map with respect to these stockpiles as well as several other SPGM stockpiles in Section 27, and any other overburden or SPGM stockpiles requiring updates on the map. (BEB)**

Please see updated Section 3.1.5, Pit Layout and Facilities Map.

**24. Please update the Extended Mining Plan Map, Section 3.1.6, because the current extended mining plan depicts the addition of about 5000 acres to Permit NAFK-8405; however, recent correspondence with Falkirk indicates the 7th Addition to the East Mine Area will add only about 1700 acres to the permit. Any other proposed changes to the map in any of your permit areas should be made at this time. (BEB)**

Please see updated Section 3.1.6, Extended Mining Plan Topographic Map of Mine Phases.

**25. Please update, if necessary, pages 3, 4, and 5 of Section 3.3.1, the list of parties who receive the blasting notice, and the list of landowners located within one mile of the permit boundary who will be notified of their right to a pre-blast survey, and a copy of the blasting schedule. (BAJ)**

Please see updated pages 3, 4, and 5 of Section 3.3.1, Blasting Plan.

**26. Please update Section 3.6.1d – Pond Construction and Reclamation Schedule. For example, the “Design” information for ponds P-R05-01 and P-R05-02 in Sections 3.6.27 and 3.6.28 states that the ponds will be constructed in 2012. These dates and any other relevant information in these sections for these ponds, and any other outdated information should be updated at this time. (BAJ/BEB)**

Please see updated Section 3.6.1d, Pond and Diversion Construction and Reclamation Schedule.

#### **Section 4.1 – Post Mining Land Use and Revegetation**

**27. The narrative at the top of page 8 of Section 4.1.1, Post-Mining Land Use Narrative, states that shelterbelts in the NE1/4 of Section 26, T145N, R83W will be relocated to the SE1/4 of Section 26 on land owned by Falkirk, but these shelterbelts are not shown**

*on the Post Mining Land Use Map, Section 4.1.2. Please review and update as necessary. (GAW)*

Please see updated Section 4.1.1, Post-Mine Land Use Narrative. The shelterbelts are shown on the Post-Mining Land Use Map in the SE¼ of Section 27, T145N, R83W.

28. *Please revise the Table of Contents of Section 4.1, Post-Mining Land Use and Revegetation map, to indicate that three maps are actually being used to show the postmining land use map of the permit area, and label them accordingly. Please also correct the error on Sheet 2 as it is labeled Sheet 2 of 2 when it is actually Sheet 2 of 3. Sheets 1 of 3 and 3 of 3 are not labeled as sheets. Please also include a single Post-Mining Land Use and Revegetation Map that contains the entire permit area. (GAW)*

Please see updated Section 4.1.2, Post-Mining Land Use Map.

29. *Please review and revise as necessary the areas depicted on Section 4.1.2 (Post-Mining Land Use Map) where prime farmland will not be reclaimed on tracts for which the postmine topography was changed with Revision No. 24. The postmine topography changes in the W½ of Section 15 (T145N, R83W) with Revision No. 24, for example, have resulted in broad convex runoff landscape configurations that should be depicted as areas where prime farmland will not be reclaimed in keeping with NDAC 69-05.2-26-04(1) indirectly referenced on page 29 of Section 2.8.1 (Soils and Prime Farmland Narrative). (WTG)*

Please see updated Section 4.1.2, Post-Mining Land Use Map.

30. *Please review the Shelterbelt discussion that begins on page 9 of Section 4.1.5 and revise as necessary if any planting design plans or management plans have changed. Please also include actual as-planted shelterbelt designs of all shelterbelts that have been planted since the design plan language states that species changes may occur just prior to planting. (GAW)*

Please see updated Section 4.1.5, Revegetation Procedures and Establishment.

#### **Section 4.2 – Reclamation - General**

31. *Please update the Reclamation Schedule in Section 4.2.2 and the Grading Sequence Map in Section 4.2.3 if changes are made to the mining plan. (BAJ/RLK/ZAB)*

Please see updated Section 4.2.2, Reclamation Schedule.

***32. Please update, if necessary, Section 4.2.4 – Reclamation Costs. Since the average variable costs did not increase this year, Falkirk will not be required to update the current worst-case reclamation cost estimates using the July 1, 2015 rates. However, if mining and reclamation changes are proposed, Falkirk will need to revise the worst-case reclamation scenario and update Section 4.2.4 using the 2015 variable costs. (BAJ)***

No updates are necessary to this deficiency.

***33. The first paragraph in Section 4.2.6 includes a brief description of Natural Regrade software that will be used as a method to design drainages in the post-mining topography and we encourage Falkirk to continue to pursue the use of the software. Please include additional information on the settings or design inputs that will be used in Natural Regrade to design drainages in the permit area (in this section or other section as you may choose). Some of the settings should be based on observations and measurements of the local landscapes such as the settings for the distance between connecting channels and distance from ridgeline to channel head. The information on the how these and similar settings have or will be determined should be included in the permit. (RLK)***

Please see updated Section 4.2.6, Post-Mining Topography Map Generation.

Sincerely,

**THE FALKIRK MINING COMPANY**



Jason Frye  
Environmental Specialist