



## Illinois Department of Natural Resources

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Bruce Rauner, Governor  
Wayne A. Rosenthal, Director

March 20, 2015

Mr. Brent Bilslund  
Sunrise Coal, LLC  
1183 East Canvasback  
Terre Haute, IN 47802

Via Certified Mail 7014 1820 0001 9522 7324

Re: Modification to Permit No. 429  
Bulldog Mine

The Department, after reviewing the information contained in the permit application and information otherwise available to the applicant, and after considering all comments received, has determined that modification of Permit Application No. 429 is necessary. The modifications to the application shall comply with the requirements of 62 Ill. Adm. Code 1777.11. The modifications required by the Department are enclosed here. If the applicant does not desire to modify the permit application as described below, it may, by filing a written statement with the Department, deem the permit application denied, and such denial shall constitute final action.

Pursuant to 62 Ill. Adm. Code 1773.15(a)(1)(B)(i), modifications required by the Department shall be received within one year from the date of this letter. Absent the modifications required by the Department, the application does not demonstrate compliance with the requirements of the Illinois Surface Coal Mining Land Conservation and Reclamation Act, Regulations and Regulatory Program and the Department will issue a written finding denying the application.

The period for administrative review (62 Ill. Adm. Code 1847.3) shall commence upon:

- receipt by the applicant of a written decision from the Department, approving the application as modified, or
- if the applicant's modifications are insufficient, or if the applicant fails to submit the required modifications in accordance with 62 Ill Adm. Code 1773.15(a)(1)(B)(i), receipt by the applicant of a written decision from the Department denying the permit application, or
- receipt by the Department of the applicant's denial statement.

1. Pursuant to 62 Ill. Adm. Code 1783.25(b), 1784.16(a), and 1784.23(c), and as required by Part I(10)(B) of the application, the Department is requiring the applicant to modify the application by submitting engineering certifications where the modifications result in changes to maps, plans or cross sections submitted under the original application.
2. Pursuant to 62 Ill. Adm. Code 1777.11(c), and as required by Part I(1) of the application, the Department is requiring the submittal of a verification by a responsible official of the applicant for the information being submitted as a result of this modification letter.
3. The applicant's response to Part IV(1) of the application indicates that "If necessary, consolidated overburden from the mine portal slopes will be drilled and blasted using conventional equipment. However, blasting within 50 feet of the surface is not anticipated." Further the response also states "Two airshafts (intake and return) will be constructed during mine development" but fails to indicate whether blasting activities will be involved with this construction. Pursuant to 62 Ill. Adm. Code 1817.61(a) and in order to complete review of this application, the Department will require the applicant clearly state whether surface blasting activities will be employed within 50 vertical feet of the original ground surface for the development of the proposed slope and shafts. Should the applicant anticipate that explosives may be used in the development of these structures within 50 vertical feet of the original ground surface information demonstrating how the applicant intends to comply with 62 Ill. Adm. Code 1817.61 through 1817.68 shall be required. The information required includes, but may not be limited to:
  - a) A copy of the proposed notification (1817.64(a)) and a list of persons and local governments to whom the notification will be distributed.
  - b) A copy of the format used to notify persons within one-half mile of the permit area as to how to obtain a pre-blast or condition survey.
  - c) A brief description of the procedures to be used to perform pre-blast or condition surveys and for distributing copies of the survey reports to owners/residents and the Department.
  - d) A copy of the proposed blasting report form.
  - e) The distance to, and the names and addresses of the owners of, all dwellings or other structures within one-half mile of the proposed permit area.
  - f) Clarification if blasting will be conducted within one thousand feet of any dwelling, public building, school, church, community building or institutional building outside the permit area. If such blasting is to be conducted (again within 50 vertical feet of the original ground surface) the anticipated blast design requirements must be met pursuant to 62 Ill. Adm. Code 1817.61(d).
  - g) Information setting forth the limitations the operator will meet with regard to ground vibration and airblast, the basis for those limitations, and the methods to be applied in controlling the adverse effects of blasting operations.

- h) A description of the systems to be used to monitor compliance with the standards of 62 Ill. Adm. Code 1817.67, including the type, capability, and sensitivity of any blast monitoring equipment and the proposed procedures and locations of monitoring.
4. Pursuant to 62 Ill. Adm. Code 1783.24(c), the applicant shall provide the information required by Part I(1)(H) of the application and designate the boundaries of each phase on the pre-mining land use map or other designated map. Specifically, the applicant should indicate where future permits for refuse piles and/or slurry impoundments or other surface facilities would be located.
  5. Pursuant to 62 Ill. Adm. Code 1779.24(b), the applicant shall provide an updated Hydrology Map indicating the most current mineral leases. Sunrise Coal appears to no longer retain leases on some areas previously indicated in the Hydrology Map.
  6. On pages 2 and 3 of Part III, the applicant provides a discussion of the acid-base accounting for both the unconsolidated and consolidated overburden materials.
    - a) Boring B-6 was utilized for the unconsolidated materials analysis, however, approximately 17 feet of material is missing from the ABA analysis included in Attachment III-2A2. Additionally, the location of Boring B-6 cannot be located on either the Operations/Surface Drainage Control Map (Map D) or the Hydrology Map (Map A).
    - b) Boring SA116-181426 was utilized for the consolidated materials analysis. It appears that the Danville No. 7 Coal seam was not analyzed for ABA values, even though the Danville No. 7 Coal is not proposed to be mined. The Department assumes that the Danville Coal will be spoiled when the slope is constructed, therefore, the ABA of this layer should be included.

Pursuant to 62 Ill. Adm. Code 1784.22(b)(2)(B), and as required by Part III.2.A.2, the applicant shall provide an explanation for the missing analytical data and update Maps A and D with the location of Boring B-6.

7. In Attachment III-1, the applicant provides an explanation of the regional geology/hydrogeology and discusses the presence of regional and local aquifers. However, two geologic units appear to have been omitted from this discussion – the Walshville Channel and the Millersville Limestone are two geologic units that may be present within the proposed permit and/or shadow areas. Pursuant to 62 Ill. Adm. Code 1784.22(b) and as required by Parts III.1 and III.2.A.1, the applicant shall provide a discussion of these two geologic formations and what, if any impacts the proposed mining operation may have on them.
8. On page 4 of Part III, the applicant states that “*no known springs or other water resources within or adjacent to the permit area*” exist.

- a) It has been brought to the Departments attention that springs do exist in the area, seasonally.
- b) It has also been brought to the Departments attention that the Village of Oakwood potable water intake is within the Salt Fork River, approximately 9 ½ miles from the proposed permit area.

Pursuant to 62 Ill. Adm. Code 1784.14(b)(1), and 1783.24(g) and as required by Parts III.2.B.1 and III.2.D.6, the applicant shall provide additional information on the presence or absence of natural springs within or adjacent to the proposed permit and/or shadow areas and shall provide a discussion on the public water supply that appears to be sourced from a surface water body located in the vicinity of the proposed mine.

9. The applicant provided Table III-A and information in Attachment III-2B1b regarding private wells in the vicinity of the proposed mine. The following discrepancies are noted:
  - a) The narrative portion of the application states that 96 private wells were identified, however the Department cannot correlate the data from Table III-A, Attachment III-2B1b and the Hydrology Map (Map A) to clearly identify all 96 wells.
  - b) Two, possibly three, wells on Table III-A appear to be municipal water supply wells, rather than private water wells – See Well ID No. 12, 13, and 14.
  - c) The breakdown of wells (unconsolidated, bedrock, dry, unknown) on page 6 of Part III only totals 86 wells, not the 96 previously mentioned.
  - d) On page 11 of Part III, the applicant indicates “86 private wells exist within the permit and shadow areas.”
  - e) One of the private wells sampled is not included in Attachment III-2B1b (Wienke 18-14-14).
  - f) It appears some of the wells in Attachment III-2B1b correlate with the wells identified in Table III-A.
  - g) Numerous wells included in Attachment III-2B1b are not located on the Hydrology Map (Map A).
  - h) There are wells that appear on the Hydrology Map (Map A) that are not included on either Table III-A or in Attachment III-2B1b.
  - i) Twenty-six private wells were sampled by the company. This data is not presented in the narrative portion, nor in a manner that allows a comparison of the private well data to the installed monitoring well data.

Pursuant to 62 Ill. Adm. Code 1784.14(b) and as required by Part III.2.B., the applicant shall clarify the above discrepancies and provide a summary discussion of the in use private wells, including a summary of the private well sample data.

10. In Attachment III-2B3, the applicant provides a Potentiometric Map of the shallow groundwater present near the proposed permit area. There is no date associated with this Potentiometric Map. Pursuant to 62 Ill. Adm. Code 1784.14(b)(1)(B) and as required by Part III.2.B.3 the applicant shall provide a date associated with this particular map or

provide additional maps that depict the seasonal variations in the shallow groundwater potentiometric surface.

11. The applicant presented groundwater monitoring well data collected from September 2011 to August 2013. Pursuant to 62 Ill. Adm. Code 1784.14(b)(1)(A) and as required by Part III.2.B.2., the applicant shall provide the most recent groundwater data collected for the six installed monitoring wells.
12. The applicant presented surface water monitoring data collected from September 2011 to August 2013. Pursuant to 62 Ill. Adm. Code 1784.14(b)(2)(A) and as required by Parts III.2.C.2.a and b, the applicant shall provide the most recent surface water data collected for the six stream sampling locations.
13. In Attachment III-2D4a, the applicant states that there are three upgradient and three downgradient groundwater monitoring wells installed at the proposed permit area. However in Attachment III-2B3 and Attachment III-2D1 the applicant states the only upgradient well is MW-3, with the other five monitoring wells being downgradient. Pursuant to 62 Ill. Adm. Code 1777.11(a)(2), the applicant shall correct this discrepancy.
14. In Attachment III-2D1, the applicant provides a discussion of the "Cumulative Impact Area" or "CIA" for the proposed mine. Pursuant to 62 Ill. Adm. Code 1784.14(e) and as required by Part III.2.d.1 of the application, the applicant shall provide a discussion on any existing permit and/or shadow areas that could interact with this proposed permit and/or shadow area thereby necessitating a true CIA.
15. In Attachment III-2D4b the applicant presents groundwater monitoring well information and slug test results.
  - a) The groundwater monitoring well boring logs included in "Attachment A" lack the detailed descriptions seen in other shallow corehole logs provided by the applicant. The applicant shall provide more detailed descriptions of the geology encountered in the groundwater monitoring well boreholes, if available.
  - b) The presented slug test data only includes the Slug Test Graphs as "Attachment B". The applicant shall provide the raw slug test data used in the analysis, including the input parameters.

Pursuant to 62 Ill. Adm. Code 1784.22(b)(2)(A) and as required by Part III.2.D.4.b the applicant shall provide the requested information.

16. In Attachment III-2D7 the applicant provides well logs for Public Water Supply Wells located within ten miles of the proposed permit area. It is unclear if all of the PWS wells are currently in use by the listed communities as the information presented in Part III.2.D.6 of the application indicates that two communities (Sidney and Broadlands) purchase their water from other sources. Pursuant to 62 Ill. Adm. Code 1783.24(g) and as required by Part III.2.D.6 the applicant shall clarify the status of the public water supplies

for the listed communities and where necessary, provide additional discussion of the source of the supply.

17. The applicant provided geologic cross-sections for the proposed permit and shadow area for both the unconsolidated and consolidated materials. Cross-Sections A-A', B-B' and C-C' include descriptions of the materials. Within these descriptions the letters "GT" appear however there is no explanation for this notation. Pursuant to 62 Ill. Adm. Code 1784.22(b)(1)(A) the applicant shall clarify this discrepancy.
18. The applicant provided a Community Public Water Supply Well Location Map as part of Attachment III-2D7, however the legend and scale on this map is illegible. Pursuant to 62 Ill. Adm. Code 1784.14(g), the applicant shall provide this map at a larger scale or provide a clearer copy of this map.
19. In Response to Parts III.2.D.1.a and d, the applicant states, "*If ground water quality problems do occur, the natural geologic material will act as a filtering system and mitigate the problem in a very short distance.*" What is the applicant's definition of a "very short distance"? Pursuant to 62 Ill. Adm. Code 1784.14(e)(3), the applicant shall clarify this term.
20. In Response to Part III.2.D.3.f the applicant makes a statement regarding potential impacts on surface water flows and downstream users. In this statement the following phrases are used, "*In the short term...*" and later, "*...in the long term.*" What is the applicant's definition of these phrases? Pursuant to 62 Ill. Adm. Code 1784.14(i) the applicant shall clarify these terms.
21. On page 8 of Part III the applicant states that the groundwater flow direction mimics the "present surface watercourses" but does not clearly identify the assumed direction of groundwater flow. Pursuant to 62 Ill. Adm. Code 1784.14(b)(1)(B) and as required by Part III.2.B.3 the applicant shall clarify the groundwater flow direction in the vicinity of the proposed permit and shadow area.
22. On page 12 of Part III the applicant states the proposed groundwater monitoring plan for this permit "*includes wells in and around the proposed permit, shadow and adjacent area.*" The only installed groundwater monitoring wells are within the proposed permit area. Therefore, pursuant to 62 Ill. Adm. Code 1784.14(e) and as require by Part III.2.D.1.a, the applicant shall clarify which wells are to be utilized in the proposed groundwater monitoring program and shall identify wells to be used that are located within the proposed shadow and adjacent areas.
23. As required by Part III.2.D.1.d, the applicant was to provide discussions on the probable hydrologic consequences for both surface and groundwater and what impacts the proposed mining operation could have on sediment yield, acidity, total suspended solids, total dissolved solids, flooding or stream flow alterations and the availability of surface

and groundwater. It appears that Part III.2.D.1.d.i and Part III.2.D.1.d.iii through Part III.2.D.1.d.vi were not adequately discussed. Pursuant to 62 Ill. Adm. Code 1784.14(e)(3) and as required by the above referenced permit application parts, the applicant shall provide the necessary responses to these permit application questions.

24. The Department is in receipt of two letters from the Illinois EPA dated September 9 and September 23, 2014 requesting clarification or additional information. Pursuant to 62 Ill. Adm. Code 1773.12, please provide responses to those questions contained in the referenced IEPA letter as a part of this modification package. Including this information will assure coordination with each agency's regulations. If any response to the IEPA's comment would result in changes to this permit application, clearly indicate which application part and/or map is being revised.
25. Pursuant to 62 Ill. Adm. Code 1823.11, response V2B4 , page V-10, must be modified to expand the discussion for exemption for prime farmland. There appears to be substantial area in the SE¼ of Section 26 which has no planned disturbance. The nature and type of disturbance of the remaining support area which are not specifically identified with a structure, pond, stockpile, etc. must be discussed. In addition this response must discuss the removal of any liners which would be in or immediately below the root zone of reclaimed high capability areas.
26. Pursuant to 62 Ill. Adm. Code 1784.11(a) and 1784.23(a) and as required in Part IV(5)(A) and IV(5)(B) in the operations section of the application, the applicant is required to locate on the mining operations map each area to be permitted for surface disturbance and indicate the acreages of support and surface facilities.

The table in Part IV(5)(A) indicates the following:

- Undeveloped support area – 103.2 acres
- Undisturbed support area – 68.3

The applicant shall clarify the difference between those two types of support areas and as required by Part IV(5)(B) indicate on the Operations/Surface Drainage Control Map, Map D where these areas are located.

27. On page 14 of Part V, in response to Part V.4.B, the applicant indicates that a four-foot earthen cover will be placed on the refuse disposal area (RDA) as part of the reclamation activities. To ensure adequate groundwater protection, the applicant shall consider the construction and installation of a low permeability cap underneath, or as part of, the final cover of the RDA. Pursuant to 62 Ill. Adm. Code 1784.14(e), the final cover must be constructed so that infiltration is limited to prevent lateral and vertical seepage from the RDA outcrops, maintain stability of the RDA and to minimize hydraulic head within the RDA. The Department will evaluate this response, along with the information provided in response to Modification Question No. 24 and coordinate the review with the Illinois EPA.

28. Pursuant to 62 Ill. Adm. Code 1778.13(c), the applicant's response to Part I 6)A) of the application is inadequate. The applicant must provide all owners and controllers (officers and directors) of the applicant as defined by 62 Ill. Adm. Code 1773.5 for five (5) years preceding the date of the application. The applicant must provide all owners up to and including the top level of the corporate structure. The applicant must provide all officers and directors for all of its owners.

The Department finds discrepancies in the information reported in the application for the owner of the applicant (Hallador Energy Co.) and its relationship with David Hardie, shareholder. The Department is requiring Sunrise Coal LLC to update the ownership information for Hallador Energy Co. or provide a statement indicating David Hardie is not considered an owner/controller as defined in 62 Ill. Adm. Code 1773.5 (definitions).

Further, the Department finds discrepancies with the following individuals in relationship to Hallador Energy Co.: Teressa Jones, Asst. Treasurer/Contorller; W. Anderson Bishop, CFO/Corp. Officer; David Hardie, Chairman; Cortlandt Dietler, Director; Victor Stabio Secretary.

29. Pursuant to 62 Ill. Adm. Code 1778.13(d), the applicant's response to Part I 6)B) of the application is inadequate. The applicant must provide each surface coal mining and reclamation operation in the United States either owned or controlled or owned or controlled within the five years preceding the date of the application associated with its owners/controllers, as reported for Part I 6)A) of the application and as modified herein.

The Department finds associated companies that hold permits/applications that are associated with current owners/controllers, specifically Brent Bilsland and Lawrence Martin, of the applicant. The Department is requiring Sunrise Coal LLC to update Attachment I-9 to include all companies that have association with any owner/controller as defined in 62 Ill. Adm. Code 1773.5.

30. Pursuant to 62 Ill. Adm. Code 1778.14(c), the applicant's response to Part I 9 of the application is inadequate. The applicant must provide a listing of all violations for all operations which the applicant owns and controls under the 62 Ill. Adm. Code 1773.5 definition of owned and controlled and owns or controls. This includes all entities listed under Part I 6 (b).
31. The Department is requiring the applicant to revise Attachment I-9 to include violations received for any provision of the Federal Act or of any **Federal State law, rule, or regulation pertaining to air or water environmental protection** (emphasis added) incurred in connection with any surface coal mining operations in the last three years from the date of the application, for all entities associated with the applicant's owners/controllers.



32. Pursuant to 62 Ill. Adm. Code 1784.13(1)(5) and as required by Part V(1)(A) of the application, the applicant is required to provide an overview of each major step in the reclamation process. The applicant's description is vague and quite general. Pursuant to 62 Ill. Adm. Code 1784.13(1)(5) the applicant shall provide a detailed timetable for the approximate completion of each major step in the reclamation plan. Table form is sufficient.
33. Pursuant to 62 Ill. Adm. Code 1817.111 and as required by Part V(1)(D)(2)(a) of the application, the applicant is required to provide revegetation information for areas other than forest and/or wildlife habitat. The narrative provided discusses wildlife herbaceous habitat and waterway seeding species. This narrative should be moved to other sections of Part V – see below.
34. Pursuant to 62 Ill. Adm. Code 1817.111(a)(2) and section 1817.111(b)(1) and as required by Parts V(1)(D)(2)(b), V(1)(D)(3), and V(1)(D)(5) of the application, permanent vegetative cover should be comprised of species native to the area (warm season grasses) and compatible with the Post Mining Land Use (PMLU) designation. Throughout the application PMLU is listed as “herbaceous wildlife”, however many of the listed species (*Festuca* spp. for example) are suitable for pasture rather than herbaceous wildlife.
- Suitable substitutes are available for *Festuca* spp. and other cool season pasture grasses. The applicant should eliminate cool season pasture grasses from any lands bounded or bordered by wildlife herbaceous land use including waterways and propose a seeding mix compatible with approved PMLU.

Pursuant to section 1784.13(b)(5) and as required by the above listed application Parts, the applicant must provide a more detailed plan for revegetation to meet regulations as required in 1817.111 through 1817.117 so that a finding under section 1773.15(c) can be made. With the understanding that establishment of warm season grasses as the PMLU final cover requires more intensive establishment practices and more time, details required of the applicant include:

- a) A ground cover vegetative species list that is predominantly composed of native species. This will fulfill the stated goal of SMCRA that plant species used are to provide “...a diverse, effective, and permanent vegetative cover of the same seasonal variety native to the area of land to be affected...” Species proposed for use can be both cool and warm season types. A good mix should contain several species of both grasses and forbs.
- b) If a revegetation strategy is to use non-native types as a nurse crop and/or for site stabilization, then in addition to a species list, the management strategy and time table sequence that is to be followed for conversion of the stand to predominantly native species must be specified.

Pursuant to sections 1817.116(a)(3)(D) and 1817.117(a)(2) the applicant should note that final bond release requirements for herbaceous wildlife is 70% ground cover; this 70% ground cover shall be composed of native species.

Pursuant to section 1777.11(a) and (b) all information provided shall be clear, concise, and appropriately referenced.

35. Pursuant to 62 Ill. Adm. Code 1780.16(a)(2)(a) and as required by Part V(3)(B)(4) and Part II(8) of the application, the applicant must address “listed or proposed endangered or threatened species”. A narrative is provided regarding the Indiana Bat (*Myotis sodalis*) Attachment V-3B1 describing why conditions in the proposed permit area are unsuitable habitat for the species. This information is insufficient to address the species and should be amended to include:
- a) The flowchart found in section 2.0 of the “Range-wide Indiana Bat Protection and Enhancement Plan Guidelines” (USFWS 2009, updated 2013) and a more detailed narrative explaining each step in ruling out a PEP for the species.
  - b) Any reference to a “cut period” for trees must indicate October 15th to March 31st. If not tree cutting is required, this should be stated in the narrative. Maps indicate an area of trees within the permit area associated with structures.
  - c) Pursuant to section 1773.13 the applicant shall provide names of persons or organizations that have made the determination of possible impacts to the Indiana Bat at this site, including credentials and methodologies used.
36. Pursuant to 62 Ill. Adm. Code 1780.16(a)(2)(a) and as required by Part V(3)(B)(4) and Part II(8) of the application, the applicant must address “listed or proposed endangered or threatened species”. The Northern Long Eared Bat (*Myotis septentrionalis*) is a proposed federally endangered species. Section 1780.16(a)(2)(a) indicates that regulatory protection also applies to species proposed to be listed under the Endangered Species Act as amended, the Northern Long Eared Bat should be considered in the threatened and endangered section of this application. Although it is unlikely that the species is found in the area or that suitable habitat is found in the permit area, OSM indicates that there is a “requirement to consult with the United States Fish and Wildlife Service to develop protection and enhancement measures for a species proposed for listing as an endangered species”. The applicant can meet this requirement by:
- a) Ruling out the need for an Protection and Enhancement Plan for the Northern Long Eared Bat as outlined above for the Indiana Bat pursuant to section 1780.16 (a)(2)(A).
  - b) Any reference to a “cut period” for trees must indicate October 15th to March 31st. If not tree cutting is required, this should be stated in the narrative. Maps indicate an area of trees within the permit area associated with structures.
  - c) Pursuant to section 1773.13 the applicant shall provide names of persons or organizations that have made the determination of possible impacts to the Northern Long Eared Bat at this site, including credentials and methodologies used.

37. Pursuant to 62 Ill Adm. Code 1817.97(c) and (d) and as required by Part V(3)(B)(2) of the application, the application must be modified to provide current and accurate information on distances to known Bald Eagle and nests within a one mile radius of the permit boundary. Information should also include any species protected under the Bald Eagle Protection Act as amended. Information provided will insure compliance with all aspects of the Federal Endangered Species Act as amended.

Pursuant to section 1773.13 the applicant shall provide names of persons or organizations that have made the determination of nest distances including credentials and methodologies.

38. Pursuant to 62 Ill. Adm. Code 1783.11 and 1784.21 (a)(2)(B) and as required in Part II (8) and Parts V(3)(A)(1) and V(3)(A)(3) of the application, the applicant required to provide fish and wildlife information for adjacent areas that are likely to include threatened and endangered species and/or habitats of unusually high value and any site-specific resource in formation as deemed necessary by the Department. Pursuant to section 1817.97 (b) no underground mining activity shall be conducted which is likely to jeopardize the continued existence of endangered and threatened species.

Note that according to Section 1701 Appendix A, an "adjacent area" means the area located outside the permit area or shadow area, where a resource or resources, determined according to the context in which adjacent area is sued, are or reasonably could be expected to be adversely impacted my proposed mining operations.

The proposed discharge from the permit area will enter the Olive Branch, a tributary to the Salt Fork River which eventually feeds the Vermilion River. The Salt Fork River provides critical habitat for several threatened and endangered species including but not limited to the federally endangered Northern Riffleshell Mussel (*Epioblasma rangiana*) and the federally endangered Clubshell Mussel (*Pleurobema clava*).

Based on the above, the information provided in attachments V-3B1 and V-3B3 insufficiently addresses Parts V(3)(A)(1) and V(3)(A)(3) regarding adjacent area potential impacts to threatened and endangered species or habitats of unusually high value. The following information is required so that a finding under section 1773.15(c) can be made:

- a) The applicant shall describe measures to be taken to protect the threatened and endangered species and habitats of unusually high value where those species are found or clearly describe why, based on facts, that a Protection and Enhancement Plan is not required for the above referenced invertebrate species.
- b) Pursuant to section 1773.13 the applicant shall provide names of persons or organizations that have provided the requested information and pursuant to section 1777.11(a) and (b) all information provided shall be clear, concise, and appropriately referenced.

- c) Pursuant to section 1773.13 the applicant shall provide names of persons or organizations that have made the determination of possible impacts to the above referenced invertebrates located in areas adjacent to the site, including credentials and methodologies used.
39. Pursuant to Pursuant to 62 Ill. Adm. Code 1817.97(e)(1) and as required by Part V(3)(A)(1) the applicant included protective measures to help minimize electric power line electrocution hazards to raptors (Attachment V-3A1). The applicant intends to rely on the recommendations presented in the publication titled: "Suggested Practices for Raptor Protection on Power Lines (1996 Version). The Avian Power Line Interaction Committee and the Service recently released an updated manual titled: "Reducing Avian Collisions with Power Lines: The State of the Art in 2012". The manual is available at <http://www.aplic.org/>. The applicant shall update the attachment using the most recent version of the document.
40. Pursuant to 62 Ill. Adm. Code 1784.14, Question III( 2)(D)(3)(h)(3), Page III-18 states contemporaneous reclamation will occur. This response must clarify what type of activities will occur to achieve this.
41. In Response to Part I(12)(B)(4) of the application, the Applicant indicates public roads will not be removed, relocated or temporarily closed. Pursuant to 62 Ill. Adm. Code 1761.14, the Applicant shall provide an explanation as to how road 800 North would not need to be temporarily closed during installation of the conveyor belt. If temporary closure is anticipated, the Applicant shall revise the response and provide a copy of the written agreement with the road authority or describe time frames to submit the agreement prior to any temporary closure. Also, describe the measures to be used to insure that the interest of the public will be protected including consideration of acceptable clearance heights, proper vehicle sight lines and belt enclosure.
42. In response to Part I(12)(C)(1) of the UCM-1 Application, the Applicant indicates operations will be within 100 feet of the right-of-way of public roads. The measures to be used to insure that the interest of the public will be protected are described as "all entrances to the mine site will be clearly marked with appropriate signage". Pursuant to 62 Ill. Adm. Code 1761.14, the response shall be revised to address the location of facilities such as fresh water ponds, sediment ponds, soil stockpiles and the refuse impoundment relative to the public roads. Information concerning driver line of sight and consideration of the proximity of constructed water bodies to the road surfaces shall be provided.
43. In response to Part III(2)(D)(1)(a) of the of the UCM-1 application, the Applicant addresses whether the operations will have adverse impacts on the hydrologic balance. Pursuant to 62 Ill. Adm. Code 1784.16(b), the following clarification or corrections are necessary:

- a) The Applicant indicates that protective measures will include installation of a compacted clay liner beneath the Refuse Impoundment, Treatment Pond #1, Treatment Pond #2, raw coal stockpile area, clean coal stockpile area and Collector Ditches #5 to #8. The Department is concerned that the Freshwater Ponds #1 and #2 that are in series and downstream of the treatment ponds are not proposed to be lined to protect groundwater. The Applicant shall provide for liners in the Freshwater Ponds as well or alternatively propose a plan to monitor water quality as it leaves the treatment ponds. The Applicant shall revise all parts of the application, maps, plans, cross sections and attachments as necessary to show appropriate liners beneath Freshwater Ponds #1 and #2 or alternatively propose methodology and operational planning to test water quality at the outlet of each of the Treatment Ponds.
  - b) The Applicant indicates that off-site surface drainage from up-gradient watersheds migrating through unaffected areas within the surface permit boundaries will be “collected and segregated” from affected area runoff. In response to Part IV(7)(B), the Applicant responds that all surrounding drainage will be intercepted and directed to the fresh water ponds. This apparent contradiction shall be clarified and responses corrected as necessary. After review of the drainage control plan, it is unclear where unaffected drainage migrating through the Permit Area will be collected and segregated. The Applicant shall revise all parts of the application, maps, plans, cross sections and attachments as necessary to delineate watershed boundaries within and adjacent to the permit boundary.
  - c) On Page III-11, the Applicant indicates that “water discharged from the preparation plant will be pumped back to the treatment ponds for reuse at the preparation plant”. It is assumed the preparation plant slurry waste stream will report directly to the Refuse Impoundment. The Applicant shall clarify the water circuitry proposed and correct all application parts to agree.
44. In response to Part IV(2)(A)(1) of the of the UCM-1 application concerning shaft excavation handling, the Applicant states that excess consolidated material not used for road base or parking and storage areas will be placed in the soil stockpile at the location shown on Map D. It is unclear which stockpile will be used to store this excess consolidated material. It would not be acceptable to comingle consolidated material with soil or subsoil stored for reclamation. Pursuant to 62 Ill. Adm. Code 1784.13(b)(4), the Applicant shall revise the response and Map D as necessary to clearly provide an acceptable location for storage of excess consolidated material generated from the slope and shaft excavation.
45. In response to Part IV(5)(C)(1)(c) of the UCM-1 application concerning the specific locations of earth borrow areas and/or area for deposition of excess excavations, the Applicant has discussed “spoil material from a box cut will be deposited in the areas, and at the locations discussed above in IV-1”. The question is specific to borrow areas if fill is needed or locations of deposition areas for any excess material cut for construction of

roads, rails or belt lines. Pursuant to 62 Ill. Adm. Code 1777.11(a) and 1784.24, the response shall be corrected as necessary.

46. In response to Part IV(5)(C)(2) of the UCM-1 Application, the Applicant references the calculations and drawings provided. Pursuant to 62 Ill Adm. Code 1784.25(a), the following corrections or additional information is necessary:
- a) It appears that Collector Ditch 6 lacks a necessary culvert between footage 30+00 and 35+00 where the collection ditch crosses under the rail. The Applicant shall evaluate this need and adjust the drawings and calculations accordingly.
  - b) Several culverts have a defined slope in SEDCAD runs that are slightly different than the inlet and outlet slopes of the ditch designs. The Applicant shall assure that the culvert slopes as designed will match design grade of the downstream receiving ditch or adjust the calculations and/or design drawings accordingly.
  - c) Provide the type of culvert pipe that will be used to justify the use of a "Manning's n" value of 0.014.
47. Part IV(6)(C) of the UCM-1 application concerns locations of disposal areas for (1) coal processing waste, (2) shaft excavation material and (3) non coal waste including RCRA material. Pursuant to 62 Ill. Adm. Code 1784.14(b), and 1784.16(a) the Applicant shall clarify and/or correct the following:
- a) The Applicant has discussed coal waste disposal. The response shall be expanded to discuss any non-coal waste generated on site and its proper disposal. If any onsite disposal is proposed for materials beyond coal processing waste, it shall be located on an appropriate map.
  - b) Indicate all streams, creeks, and surface water impoundments within such areas or which receive runoff from such areas.
  - c) Provide the acreage of the disposal areas as requested.
  - d) The Applicant indicates that Treatment Pond #1 will receive mine pumpage. The Schedule A provided in Part III(2)(D)(3)(c) of the application indicates that all treatment basins at this facility will receive mine pumpage. The application shall be modified to clarify which ponds will receive underground mine pumpage and all application sections revised as necessary to be in agreement. Pond sizing calculations shall be revised as necessary.
48. In response to Part IV(6)(D) of the UCM-1 application concerning impoundments to contain coal processing waste, the Applicant discusses lining of Collection Ditches #5, #6, #7 and #8 and offers the possibility of replacing the liner beneath the ditches with a 20 mil impermeable geomembrane liner. Pursuant to 62 Ill. Adm. Code 1784.14(e), if the geomembrane liner is to be approved as a viable alternative, the Applicant shall provide an evaluation to demonstrate that the 20 mil liner will be adequate to protect groundwater resources.
49. In response to Part IV(6)(E) of the UCM-1 application concerning diversion of water around the disposal sites, the Applicant has discussed collector ditches. The question

concerns diverting unaffected drainage around the areas. Pursuant to 62 Ill. Adm. Code 1784.23(b)(6), the response shall be revised to clearly indicate if offsite unaffected drainage that would normally pass through the refuse disposal area is being diverted around the refuse area and if so, how this be achieved? If off-site drainage is being collected and transported to Treatment Pond #2 then any necessary changes to the design shall be made.

50. In response to Part IV(6)(F) of the UCM-1 application concerning collection of runoff from the refuse disposal areas, the Applicant references the surface drainage control plan and calculations. The Department is concerned that the soil stockpiles are located within the refuse drainage plan and may not be adequately segregated from coal processing waste runoff. Pursuant to 62 Ill. Adm. Code 1784.13(b)(4), and to assure compliance with 1817.22, the response and drainage plan shall be revised as necessary to provide for appropriate separation of drainage.
51. In response to Part IV(6)(J)(2) of the UCM-1 application concerning freshwater makeup and slurry circuits, the Applicant discusses withdrawal of water from field tiles to provide a portion of the needed processing water. There are two existing drainage tile mains that cross through and adjacent to the proposed permit area. Pursuant to 62 Ill. Adm. Code 1817.46, the following additional information is necessary:
  - a) The Applicant shall provide clear documentation and/or narrative that assures the legal right exists to extract water from the existing drainage tiles. The Applicant shall provide documentation concerning the ownership of the existing tiles, any drainage district that has authority over the tile system and clarification whether permission is necessary to access the tiles to implement the proposed plan for water extraction.
  - b) If the legal right exists to utilize this field tile water source, additional details shall be provided on where and how this water will be extracted and transported to water storage ponds. The withdrawal of water should be accomplished such that it will not impact the design of the ponds for storm water runoff calculations or adjust calculations as necessary.
52. In Response to Part IV(7)(A)(1) of the UCM-1 application concerning drainage patterns, the Applicant references Map D. Pursuant to 62 Ill. Adm. Code 1817.46, the following corrections or additional information is necessary.
  - a) The Map legend defines watersheds limits with a solid line and section lines with a dashed line. The line type is reversed on the map.
  - b) The Applicant shall provide a second more detailed watershed map that clearly defines each contributing sub-watershed used in the calculations of ditch and pond design.
53. In response to Part IV(7)(A)(2) of the UCM-1 application concerning collection of all affected drainage, the Applicant has responded that all affected drainage will be collected and treated prior to leaving the site and refers to Map D and related surface drainage control. The Department concurs with the response with the possible exception of a

stretch of Haul Road 2 on the south side between the inlets of Ditch 3 and Ditch 4. Pursuant to 62 Ill. Adm. Code 1817.46 the Applicant shall provide additional detail concerning drainage patterns in this area and correct the drainage control design if necessary.

54. In response to Part IV(7)(D) and (E) of the UCM-1 application concerning sediment control design, the Applicant references the Pond Design Section (SEDCAD runs) and the maps and engineering design plan sheets. Pursuant to 62 Ill. Adm. Code 1817.46 the Applicant shall provide additional details and appropriate corrections to the following:
- a) Sediment ponds are designed to connect into existing drainage tile mains. Public comments were received questioning the right to access the existing drain tiles as a primary discharge point for the proposed ponds. The Applicant shall provide documentation concerning the ownership of the existing tiles, any drainage district that has authority over the existing tile system and clarification as to whether permission is necessary to implement the proposed discharge plan.
  - b) If the Applicant has the rights and ability to utilize the existing tile system as a receiving stream for the primary discharge from Freshwater Ponds #1 and #2, and Sediment Pond #1, the Applicant shall evaluate the impact the added flow will have on upstream and downstream land owners currently using the system for drainage of their farming operations.
  - c) Freshwater Pond #1 shows the 24 inch tile main crossing through the Freshwater Pond #1. It is assumed the tile will be cut at the south end of the pond and eliminated through the excavated portion of the pond. Map D and all similar maps shall be revised to reflect the elimination of the tile through Freshwater Pond #1.
  - d) The "Sediment Control Calculations" sheet provides a summary of the approach to pond volume determination. The minimum pond volume calculations shall be revised to accurately represent 10 hour detention of the 10 year 24 hour event plus run off of 0.1 acre feet per acre disturbed and any additional volume for pumpage from the underground workings where appropriate. The resultant values shall be accurately represented in the table required under Part IV(7)(E). Calculations were not included for several ponds concerning the 10 year 24 hour runoff to verify numbers reported in the "Pond Design" tables.
  - e) When comparing the SEDCAD calculations with Map P-4, there are discrepancies in allocated minimum freeboard from the drawing to the calculations (0.3 feet vs. 0.5 feet). The calculations and drawings shall be adjusted as necessary to be in agreement.
  - f) Several calculated flow depths plus freeboard result in slightly higher values than the minimum ditch depths defined on Map P-4 and P-5. Appropriate corrections to calculations and/or cross sections shall be made to assure that all ditches meet the minimum required depths.
  - g) It is unclear why Collection Ditch 6 is represented with 4 reach cross sections on Map P-5 while the SEDCAD run provides 6 reach calculations. Although the outcome of the flow depth and velocity calculations may be acceptable with the



division of the 6 reaches verses 4, the reasoning for the difference shall be further explained or adjusted accordingly.

- h) Several cross sectional drawings concerning liner thickness have no identifying label for scale. All cross sections shall be revised with proper nomenclature.
55. Map PP-1 defines a 4 foot clay liner beneath the raw coal pile, clean coal pile and the preparation plant footprint. Pursuant to 62 Ill Adm. Code 1784.23(b)(4) and 1784.14(e), the Applicant shall provide the following additional information to assure the coal piles will remain on the respective footprint of the 4 foot clay liner.
- a) The Applicant shall provide a demonstration that the area of the liner will be large enough to contain the coal storage volumes based on height of the clean and raw coal stacker discharge and the anticipated maximum capacity of each pile.
  - b) The Applicant shall provide a plan for marking the limits of the clay liner in the field to assure that coal remains on the compacted liner area during the life of the operation.
56. In response to Part IV(6)(B) of the UCM-1 application, the Applicant references the Patriot Report. Pursuant to 62 Ill. Adm. Code 1817.49, the following additional information, clarification and/or changes are deemed necessary:
- a) The Patriot Report on page 3 defines the crest of Phase 3 as 735 mean sea level (msl). This contradicts the Phase 3 crest listed on page 12 and related drawings that places the crest of Phase 3 at 740 msl. The discrepancy shall be corrected.
  - b) The 2 foot drop inlet structure proposed in each stage as a primary overflow structure discharges through a 36 inch pipe that discharges at approximate natural ground elevation to a riprap channel. It appears the discharge pipe will be located on the east side near the south corner. The pipe is not clearly labeled on the plan view sheets in the Patriot Report. The decant is also not located on Map D and related maps provide by Midwest Reclamation Resources Inc. The decant shall be properly labeled on the plan drawings in the Patriot Report and also incorporated on appropriate maps provided as part of the reclamation and surface drainage control plan for the facilities.
  - c) The impoundment decant maintained throughout each of the 5 phases of construction discharges under a design p.m.f. event. It is unclear whether the decant pipe will discharge under a 100 year 6 hour event. The receiving ponds in series (Treatment Pond #2 and Fresh Water Pond #2) are designed for a 100 year 6 hour event. The application shall be revised as necessary to design the receiving ponds discharge structure based on the worst case scenario. If a discharge through the decant system of the slurry impoundment occurs under a 100 year 6 hour event, the receiving pond design shall be revised as necessary to safely pass the greatest peak flow (i.e. phase 1, 2, 3, 4 or 5 or when the coarse refuse cap is in place but has not been covered with soil and vegetation).
  - d) The drainage blankets proposed have outlet pipes spaced at 100 feet around the entire perimeter. It is unclear what the design of the receiving stream will be at the outlet. It is assumed the pipes will outlet at the toe of each phase. The

Applicant shall evaluate the drainage control plan under each phase to determine if interim ditches are necessary to safely convey drainage to the perimeter ditches 7 and 8 or directly to Treatment Pond #2. Consideration should be given to the soil stockpiles and the requirement to isolate the soil piles from the coal processing waste runoff.

- e) The drainage blanket design incorporates rock sizing and filter fabric to encapsulate the rock. The design did not provide for filter fabric around the internal perforated collection pipe and did not define the perforation size and spacing. The Applicant shall clarify the design to assure there is no need for filter fabric around the slotted pipe.
- f) Appendix E, Pipe Calculations contains hand written calculations. Some of the photocopied pages are light and difficult to read. The Applicant shall provide a cleaner copy of the calculations for clarity in the permit file.
- g) The Patriot Report did not provide any information on piezometers in the embankments to monitor phreatic surface as is often required of large impoundments of this nature. The Applicant shall clarify the need for piezometers and provide appropriate information on location and maintenance if necessary.
- h) Control of surface runoff to control erosion of the structure both during the operational phases and post reclamation is not adequately described. The application shall be modified to describe control of surface runoff over the out slopes during all phases of the operation. Bench design and the need for controlled down drains during both operational and reclamation phases shall be described and incorporated into the design as necessary.
- i) The Department has communicated with both the Office of Water Resources (OWR) and the Mine Safety and Health Administration (MSHA). MSHA has apparently required some adjustments to the design. The Applicant shall update the information as it applies to the proposed Permit No. 429 and the IDNR Land Reclamation Division's permanent program rules and regulations.

57. In response to V(1)(B) of the UCM-1 application concerning bond calculations, the Applicant has indicated N/A in reference to railroads to be removed. Pursuant to 62 Ill. Adm. Code 1784.13(b)(2) and 1784.23, the Applicant shall provide necessary engineering design for railroad construction including earthen cut and fill, ballast footprint dimensions and ballast thickness and provide calculations for reclamation costs or alternatively remove the railroad from all maps, plans and permit language.

58. In response to Part V(1)(G) of the UCM-1 application concerning sealing of underground openings, the Applicant provides a discussion of filling the shafts and slopes and references Attachment V-1-G for drawings. Pursuant to 62 Ill. Adm. Code 1817.13(b)(8), the Department requires additional details concerning the construction of the openings. The Applicant shall provide outside diameter and finished inside diameter of the excavations, thickness and type of slope and shaft lining material and the location of the lining material relative to the geology (i.e. unconsolidated vs. consolidated

overburden). The location of the concrete plug and proposed thickness shall also be detailed.

59. In response to Part V(4)(B) of the UCM-1 application concerning final cover of the refuse area to achieve post mining land use, the Applicant provides calculations of available soil cover for the entire facility and concludes no borrow areas will be necessary. Pursuant to 62 Ill. Adm. Code 1784.13(b), additional clarifications on the volume numbers presented shall be provided. Specifically, the Applicant shall clarify if the refuse area soil balancing stands independent of the surrounding facilities including elimination of sediment ponds. The Patriot Engineering and Environmental Inc. Report titled "Engineering Evaluation and Construction Considerations, Coal Refuse Impoundment No. 1" (Patriot Report) appears to indicate that the soil excavated from the interior of the refuse impoundment (incised portion) will provide needed soil for the four foot clay liner beneath the impoundment, the phase 1 earthen embankment and the interior slope of phases 2 through 5. Soil balancing for these purposes was not provided in the Patriot Report.
60. The UCM-1 Addendum No. 1 concerns additional subsidence control and mitigation requirements. The Applicant's response to Part I.B.1 of the Addendum contains a discussion detailing private water well information and statistics. Based on modifications required elsewhere relative to Part III, Table III-A and Attachment III-2B1a and b, any changes necessitated to this Addendum shall be updated as well for accuracy.
61. In response to Part IV(3)(A)(1) of the UCM-1 application concerning structures and facilities present over the proposed shadow area, the Applicant references the Shadow Area Map S. The Department regards a bridge as a facility subject to the subsidence control regulations of 62 Ill. Adm. Code 1817.121(c)(2). The Applicant shall specifically identify bridges on the shadow area map. Additionally, any identifiable drainage tile fields beyond the tile field noted adjacent to the permit area shall be provided.
62. In response to Part IV(3)(C)(2)(a) of the UCM-1 application concerning proposed extraction, the Applicant provides minimum pillar dimensions for mains, submains, and production areas (extraction panels). The maximum extraction coincides with the geotechnical analysis and conclusion in Attachment IV-3A3, Roof Overburden Pillar and Floor Conditions for the Allerton Coal Reserve (MEA Report). Pursuant to 62 Ill. Adm. Code 1784.20(a)(3) and (5), the Applicant shall address the following.
  - a) The Applicant discusses additional data collection as the mine is developed to potentially alter the mine plan geometries. The location and frequency of additional in mine testing as the reserve is developed to substantiate a continued stable mine plan shall be provided.
  - b) The MEA Report details a plan for an alternative two stage mining approach. The Applicant has indicated that this plan is not being proposed at this time. In the event the two stage mining approach is considered, the Applicant will need to provide specific locations within the mine plan and receive the Department's

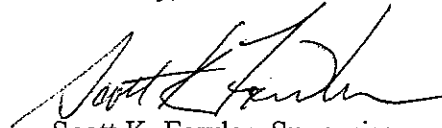
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approval to proceed. Any increase in extraction rate will need specific approval from this Department.

- c) The response indicates that extraction will be reduced to 50 percent under and within the angle of draw of "critical structures or protected structures". The response shall be revised to indicate specifically what surface features are proposed to have reduced extraction.

If you have any questions, please contact this office at (217) 782-4970, or our Southern office in Benton at (618) 439-9111.

Sincerely,



Scott K. Fowler, Supervisor  
Land Reclamation Division

SKF:KD

cc: K. Dodson  
Vermilion County Clerk