



Illinois Department of Natural Resources

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Rod R. Blagojevich, Governor

Sam Flood, Acting Director

May 30, 2008

Mr. Michael Beyer
Hillsboro Energy
925 South Main St.
Hillsboro, IL 62049

Via Certified Mail

Re: Modification to Permit No. 399
Hillsboro Energy, Deer Run Mine

The Department, after reviewing the information contained in the permit application and information otherwise available to the applicant, and after considering all other comments received, has determined that modification of Permit Application No. 399 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:

1. receipt by the applicant of a written decision from the Department, approving the application as modified, or
2. 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
3. receipt by the Department of the applicant's denial statement.

The modifications required by the Department are as follows:

1. Pursuant to 62 Ill. Adm. Code 1779.25(b), 1780.14(c), and 1780.25(a), 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. On page 10 of Part V, the applicant proposes to limit timber disturbance to the time period September 30 to April 1 annually as a protection measure for the federally and state endangered Indiana bat. Pursuant to 62 Ill. Adm. Code 1817.97(a), the Department issued a policy statement on this issue in Operator Memorandum 2006-04 in which the Department identified the timber disturbance period currently in use. Pursuant to 62 Ill. Adm. Code 1817.97(a), the applicant shall modify the timber disturbance period to coincide with the provisions of Operator Memorandum 2006-04.
4. The applicant on page 10 of Part V, indicates that 12 acres of wetlands will be affected and that 22 acres of wetlands will be constructed. Pursuant to 62 Ill. Adm. Code 1784.13, the applicant shall describe steps being taken to comply with Section 404 of the Clean Water Act regarding these wetlands. Pursuant to 62 Ill. Adm. Code 1817.49(b), 1817.22, 1817.83(c)(4), and 1784.13, of the 22 acres of wetlands to be constructed, the following design information shall be submitted for all wetlands in the permit area which are part of the post mining land use plan. Since a number of post mining wetlands are proposed, each shall be identified with a number or label on the post mining land use map corresponding to the design information for each.
 - A. Adequate proposed contours or cross sections to depict the basin's three dimensional shape.
 - B. Characterization of wetland soils including a statement indicating the presence or absence of acid or toxic forming materials in the wetland or watershed and a description of how such materials are to be managed.
 - C. Identification on a map of the wetland watershed area and a corresponding acreage figure.
 - D. A statement of anticipated water quality.

- E. A properly designed discharge structure.
 - F. A revegetation plan.
5. Seven species listed under the Illinois Endangered Species Protection Act were identified by public commenters as possibly being associated with the permit area or adjacent area: Henslow's sparrow, royal catchfly, blazing star, ear-leafed foxglove, eastern blue-eyed grass, buffalo clover, and bald eagle. Pursuant to 62 Ill. Adm. Code 1784.21(a)(2) the applicant shall determine if these species are likely to be included within the permit area or adjacent area. Pursuant to Section 1777.13 the applicant shall provide the names of persons or organizations that made these determinations, descriptions of methodologies used and the qualifications of the persons making those determinations. If these species are likely to be included in the permit area or adjacent area, the applicant shall provide, pursuant to Section 1784.21(a)(2), site specific resource information for these species and, pursuant to Section 1784.21(b) protection and enhancement plans for these species.
 6. A public commenter identified the Coffeen Lake Upland Management Area and Coffeen Lake State Fish and Wildlife Area as important wildlife habitat areas which are to be impacted by the proposed operations. The applicant has proposed to subside part of the Coffeen Lake Upland Management Area, which is part of the Coffeen Lake State Fish and Wildlife Area. Pursuant to 62 Ill. Adm. Code 1817.121, the applicant shall describe what impacts are expected to occur to this area as a result of the planned subsidence and shall explain how the value and reasonably foreseeable use of this land will be maintained. The applicant shall identify any anticipated structural damages from the proposed subsidence in this area and describe how such structural damages are to be mitigated.
 7. On page 6 of part V, item 6, the applicant makes a reference to 450 live stems per acre for reclaimed forestry land; however forestry land use is not shown on the post mining land use map or in the post mining land use summary table (page 8, Part V). Pursuant to 62 Ill. Adm. Code 1773.15(c)(1) this discrepancy shall be resolved.
 8. The applicant at Part I(6)(A) of the application does not list officers, directors or managers, but rather an Authorized Person, Mike Beyer, is designated for the applicant. Under Attachment 1.6.A of Part I of the application, a Consent to Company Action by Foresight Management, LLC as manager of Hillsboro Energy, LLC designating Mike Beyer as an Authorized Person for Hillsboro Energy, LLC; however, no documentation was provided in the application showing Foresight Management, LLC as the controlling entity, manager, of Hillsboro Energy, LLC. Pursuant to 62 Ill. Adm. Code 1773.5 and 1778.13(c), all entities owning or controlling the applicant, Hillsboro Energy, LLC must be documented in the application. For Foresight Management, LLC, a non-member/owner, manager,

documentation must be submitted by the owners of Hillsboro Energy, LLC designating and authorizing Foresight Management, LLC as the manager of Hillsboro Energy, LLC.

9. On page TOC-1 of the application submittal under Part I - Applicant Information, Attachment 1.4 "Purchaser of Record of Permit Area" was listed; however, Attachment 1.4 was not submitted with the application. References to Attachment 1.4 must be removed from the application attachment listing on page TOC-1. The Department notes that the required information for the "purchaser of record of the permit area" was submitted in response to Part I(4) in the application proper.
10. Pursuant to 62 Ill. Adm. Code 1777.11, the response to Part V(1)(A) shall be modified to correct the references to Sections 1817.62 and 1817.01.
11. Pursuant to 62 Ill. Adm. Code 1777.11, the response to Part IV(7)(K)(3) concerning proximity of permit to urban development shall be clarified.
12. The response to Part I(10)(C)(1) indicates there will be surface coal mining and reclamation operations within 100 feet of the right-of-way line of a public road. The response goes on to outline numerous activities that may be conducted in the 100 foot buffer zone, but these activities are not shown on the operations map. This discrepancy shall be corrected.
13. Pursuant to 62 Ill. Adm. Code 1783.21, Attachment II(6)(A)(2) must be revised to reference Bulletin 811 and the relevant data provided in that document.
14. Pursuant to 62 Ill. Adm. Code 1817.133 response V(2)(B)(4), page V 8, must be modified to justify why the soil stockpile area south of slurry pond 1 has not been returned to its premining land use of cropland. In addition the applicant must provide adequate information to demonstrate that the provisions of 62 Ill. Adm. Code 1823.11 apply.
15. Pursuant to 62 Ill. Adm. Code 1784.20, response II(12), page II-6, must be modified to locate existing drainage tiles in both the permit and shadow areas, or describe efforts to identify them in the field.
16. Pursuant to 62 Ill. Adm. Code 1783.12, response II(10)(A) and (E)(1), pages II-5 and II-6, must describe what efforts are being made to identify potentially eligible historic resources within the proposed shadow area and also summarize the conclusions of the Phase 1 survey within the permit area.

17. Pursuant to 62 Ill. Adm. Code 1784.15, response V(1)(D)(7), page 6, must be modified to address the nine acres of industrial land use which have been identified on the map and in Question V(2).
18. Pursuant to 62 Ill. Adm. Code 1784.13, response II(13)(E), page II-7, must be modified to address the removal of B and C horizons for areas of refuse disposal, not just sediment pond construction.
19. In response to Part V, Attachment V.1.B page No. 4 of the Reclamation Cost Estimate, the applicant shall correct the permit number.
20. In response to Part III(2)(D)(1), the applicant states coal processing wastes will be placed in the proposed refuse disposal area (RDA). Additional information concerning the construction of this RDA shall be submitted pursuant to 62 Ill. Adm. Code 1784.14. The applicant shall provide specific construction details of the in-situ liner proposed to be installed in the RDA, sediment ponds and ditches. Included in these details shall be a discussion of how the applicant will test the in-situ materials to determine if a permeability of 1×10^{-7} cm/sec is being achieved throughout the construction of the liner and what quality controls/quality assurance measures will be used to determine the design specifications are being met. Additionally, the applicant shall provide a discussion on the amount of material it expects to excavate from the interior of the impoundment area.

Additionally, in response to Part IV(6)(B), the applicant states "*Future additional drilling can better define the extent, depth and thickness. . .*", however, it is unclear if additional drilling is proposed. If additional drilling will be conducted in the RDA, the applicant shall provide a plan pursuant to 62 Ill. Adm. Code 1784.14.

21. In response to Part III(2)(D)(1), the applicant makes certain statements regarding groundwater characteristics. Pursuant to 62 Ill. Adm. Code 1784.14(e), the applicant shall quantify their statements of current groundwater flow directions/flow paths, hydraulic conductivity values, aquifer yield data and groundwater quality (within the permit, adjacent and shadow areas). Additionally, pursuant to 62 Ill. Adm. Code 1784.14(b)(1)(B), the applicant shall provide supporting documentation for these statements, as well as providing a discussion on the presence or absence of wells/groundwater supplies within the permit and adjacent areas. If wells and/or other groundwater supplies do not exist within the permit and adjacent areas, the applicant shall state as such.

Pursuant to 62 Ill. Adm. Code 1784.14(e), the applicant must adequately characterize the surface and groundwater regimes within the permit, adjacent and shadow areas, including addressing the utilization of water for the mine processes and how this use will affect the hydrologic balance. The applicant shall incorporate this

information into the Probable Hydrologic Consequences (PHC) determination.

22. In response to Part III(2)(B)(2) and III(2)(C)(2)(b), the applicant discusses seasonal variations in groundwater and surface water. Pursuant to 62 Ill. Adm. Code 1784.14(b)(1)(A) and 1784.14(b)(2)(B), the applicant shall quantify their statements of the seasonal variations in both surface and groundwater regimes (of the permit, adjacent and shadow areas), as well as describe the streams present within the permit, adjacent and shadow areas.
23. Pursuant to 62 Ill. Adm. Code 1784.14(b)(1)(A)(ii); 1784.14(b)(3) and 1784.14(e), the applicant shall provide baseline characterization of groundwater within the shadow area. If surface water is expected to be impacted, the applicant must also provide characterization of all streams, springs and ponds within the permit, shadow and adjacent areas.

Additionally, the applicant's response to III(2)(C)(1), mentions a "*few small water bodies*" within the shadow area, but these water bodies are not identified. The applicant shall add a table to identify these water bodies, including a statement of ownership that can be easily cross-referenced to the Hydro-Geological Map (Map 4).

24. The applicant presented, on the Surface Facilities Map (Map 6 S.F.) that the proposed RDA will discharge via NPDES Point 005. This discharge point is upstream of an unnamed tributary which drains into the Lake Hillsboro watershed. Lake Hillsboro has been identified as a back-up water supply source to Glen Shoals Lake, which supplies the town of Hillsboro with its drinking water. Pursuant to 62 Ill. Adm. Code 1784.14(g), the applicant shall characterize Lake Hillsboro and shall demonstrate how it will protect this surface water resource from negative impacts due to runoff from the proposed RDA.
25. Pursuant to 62 Ill. Adm. Code 1784.14(b)(1)(A) and 1784.14(b)(2)(A), the applicant shall submit all analytical results collected to date, for the groundwater monitoring wells and surface/stream sampling points. This information shall also be incorporated into the applicants PHC determination. Additionally, the applicant shall provide a discussion on the sampling protocol for surface water sampling (including, but not limited to the data collection during periods of low or no flow).
26. Pursuant to 62 Ill. Adm. Code 1784.14(b)(1)(B), and as required by Part III(2)(B)(3), the applicant shall supply the potentiometric levels and rates of discharge/usage of the coal seam to be mined and all water-bearing strata above and below the coal, which could be potentially impacted. Where this information is not applicable, the applicant shall state as such.
27. In response to Part III(2)(D)(1)(b), the applicant references the laboratory data sheets

in Attachments III.2.A.2 and III.2.A.3, but does not supply a narrative explanation of the results. Pursuant to 62 Ill. Adm. Code 1784.22(b)(2)(B), the applicant shall provide a narrative discussion of the acid-base accounting/sulfur forms analysis which includes a description of the potential acid/toxic forming materials and their locations; a description of the potentially alkaline producing materials and their locations; as well as what criteria were used to determine if the materials to be encountered are acidic/toxic forming or alkaline in nature. The applicant shall also include a discussion on how the potentially acidic materials will be field identified and handled during shaft/slope development/construction, temporary storage, use or disposal and final reclamation.

Additionally, the applicant shall provide an explanation for the delay in the acid-base accounting and sulfur forms analyses. Samples were collected on February 1, 2007 and analyzed on August 6, 2007. The applicant shall provide documentation on the core sample storage during the six month delay between sample collection and laboratory analysis.

In the response to Part IV(6)(A), the applicant indicates that "suitable" shaft and slope materials will be used as a base for roadways, rail lines and storage areas. The applicant shall revise this response to assure that acidic materials will not be utilized.

28. The applicant reports (in UCM 1 Application Addendum No. 1) that only 17 of 49 groundwater user survey respondents actually rely on groundwater as their primary source of drinking water. This number represents 35% of the total respondents. However, the table provided as Attachment IV.3.B.5.C indicates that there are 57 survey respondents (out of 116 surveys sent) and that 22 of these 57 respondents rely on groundwater as their primary source of drinking water.

Pursuant to 62 Ill. Adm. Code 1784.14(b)(1), the applicant shall first explain the discrepancy in the number of users/respondents and secondly, shall provide documentation for the conclusion that these numbers indicate a "*limited availability and poor quality*" groundwater resource.

29. In their response to Part III(2)(D)(3)(c) the applicant did not provide sampling methods, sampling frequency or parameters to be analyzed for the NPDES program. Pursuant to 62 Ill. Adm. Code 1784.14(i), the applicant shall provide details of the proposed NPDES monitoring program.
30. Pursuant to 62 Ill. Adm. Code 1784.14 the applicant must provide sufficient information that allows the Department to determine if adverse impacts to the hydrologic balance may occur. All hydrologic/geologic statements presented in Section III, Section IV and Addendum No. 1 (and any attachments) must be

documented and confirmable. Sources of site-specific information must be presented (e.g., field collected, published materials or personal discussions/observations).

31. In response to Part III(2)(D)(5), the applicant states that there are no known sources of pollution that could affect stream quality. Pursuant to 62 Ill. Adm. Code 1784.14(e), the applicant shall provide a discussion on the methodology used to determine the presence or absence of potential sources of surface and/or groundwater contamination.
32. The Underground Operations Map (Map 6 U.G.) depicts areas of previous underground mining, however, the applicant did not provide details. Pursuant to 62 Ill. Adm. Code 1784.14(e), the applicant shall provide a discussion of previous mining activities in the area and the potential impacts on the surface and groundwater regimes from these activities.
33. In response to Part III(2)(D)(1)(a), the applicant states "*Should runoff. . . develop acidic characteristics, [it] will be collected and neutralized to meet water quality standards.*" Pursuant to 62 Ill. Adm. Code 1784.14(e)(3), the applicant shall provide details on the determination/identification of acidic runoff, the collection and treatment of this runoff and what erosion/sediment controls will be implemented to minimize contamination of the runoff.
34. The applicant has provided seemingly contradictory statements regarding the groundwater resources in the area. In their response to Part III(1)(B) it is stated that there are no major or minor bedrock valley aquifers, yet in response to Part III(1)(D), they provide a statement that the best potential source for groundwater is within the "*sand and gravel deposits in the major valley systems.*"

Further, in response to Part III(2)(D)(1)(a) the applicant claims there is limited groundwater and limited geologic materials to allow infiltration, yet the groundwater encountered during drilling is considered to be Class I. Additionally, the applicant states, "*Infiltration from the creek to the shallow ground water regime through the alluvial deposits along the streams already occurs,*" yet, there is no discussion of the potential for stream loss as a result of subsidence.

The applicant shall clarify these apparent contradictory statements.

35. In the Schedule B, the applicant presents quality data from the 12 currently installed groundwater monitoring wells. However, it is unclear whether this data is from one or multiple sampling events, as no sampling dates were provided. The data indicates extremely high levels of iron, manganese and magnesium, well above the Class I Groundwater Quality Standards.

In their letter, dated February 15, 2008, the Illinois EPA requires a statistical analysis of the existing water quality. However, due to the extremely high levels it may be necessary for the applicant to pursue an Alternative Groundwater Quality Standard under 35 Ill. Adm. Code 620.450. Pursuant to 62 Ill. Adm. Code 1784.14(h), the applicant shall provide an explanation of the data, as presented in Schedule B.

36. The applicant must provide, pursuant to 62 Ill. Adm. Code 1784.14(e) a determination of the probable hydrologic consequences of the proposed operations on proposed permit, shadow and adjacent areas. In their response to Part III(D)(1), the applicant appears to address these issues for the permit and adjacent areas, but not for the shadow area. Therefore, the applicant shall provide additional discussions of the proposed impacts of the mining operations within the shadow area.

Additionally, pursuant to 62 Ill. Adm. Code 1784.14(e)(3)(C)(iii), the applicant must characterize those streams which may be impacted due to mining operations with regard to flooding and/or stream flow alterations. The applicant shall describe the potential impacts and must describe efforts to be used to prevent material damage to the hydrologic balance within the permit, shadow and adjacent areas.

37. In response to Part IV(2)(B) of the of the UCM-1 application concerning soil storage protection, additional information is necessary. Pursuant to 62 Ill. Adm. Code 1817.11(f), the applicant shall:
- A. In response to Part IV(2)(B)(1), the applicant references the Surface Facilities Map (6 S.F.) for soil horizon storage areas. This map locates soil storage areas but does not differentiate as to the content (topsoil or subsoil). The applicant shall revise the mapping of soil storage areas to differentiate topsoil storage from subsoil areas. In the event different soil types will be stored adjacent to one another in a given area, detail how the material will be segregated in the field to assure proper reclamation.
 - B. In response to Part IV(2)(B)(2), the applicant shall use best practices for erosion control until such time that adequate vegetative cover is established. The applicant shall revise the response to indicate what erosion control practices will be employed prior to vegetative cover establishment. The applicant discusses soil stockpiles that are outside the surface drainage collection system. It is unclear what soil stockpiles do not report to a sediment pond. If sediment storage falls outside of drainage control, then a request for a small drainage area exemption shall be made and justified or all soil storage areas relocated to report to a sediment pond.

38. In response to Part IV(2)(D) of the UCM-1 application, the applicant has defined areas of "Future Refuse Disposal" and "Future Course Refuse Disposal Area" and indicated that the areas are not being bonded at this time. The applicant has not provided adequate baseline geologic or hydro-geologic information for the two future disposal areas as requested in Part III(2)(D) of the UCM-1 Application. As such, a significant revision will be necessary to allow any refuse disposal in either of the two areas. Pursuant to 62 Ill. Adm. Code 1784.14(e), the applicant shall remove the contours of the "Future Course Refuse Area" and cross hatch the area as labeled in the southern "Future Refuse Area".
39. In response to Part IV(5)(C) of the UCM-1 application concerning transportation facilities, the applicant references the Surface Facilities Map (Map 6 S.F.). It does not appear that any borrow areas are defined for the construction of the rail loop or roads. Attachment IV.5.C.2 - Roads /Railroad Details provides grade relative to pre-construction elevations. Pursuant to 62 Ill. Adm. Code 1784.24, the applicant shall provide cut and fill volume balancing and if necessary, locate borrow areas for bed construction on the Operations Map.
40. In response to UCM-1 application Part (IV)(5)(C)(3) for transportation facilities and IV(7)(A)(2) surface drainage control, it appears that portions of some roads and portions of the rail loop will not report to a sediment control pond, including the rail load out. Pursuant to 62 Ill. Adm. Code 1817.46(e), the applicant shall:
 - A. Clearly delineate on an appropriate map all areas for which an exemption is being sought.
 - B. Provide a specific plan as to the measures (see Section 1817.45(b)) that will be utilized to control sediment loss. Indicate the size of each area if greater than 0.1 acre.
 - C. Provide additional detail on alternative sediment control for the load out facility that assures coal and sediment runoff will not reach receiving streams.
41. In response to Part (IV)(5)(C)(7) of the UCM-1 application concerning culvert design, the applicant references Attachment IV.5.C.2. The attachment presents cross sections locating culverts and defining the diameter of each. Pursuant to 62 Ill. Adm. Code 1784.24, the applicant shall provide calculations that assure the culverts are properly sized and locate them on an appropriate plan view map.

42. In response to Part IV(6)(B) of the UCM-1 application concerning coal processing waste bank dam designs, the applicant discusses the long term plans for an impoundment but has designed the initial phase to not impound coal waste above natural grade. The plan shows an incomplete course refuse ring to limit above natural grade impounding of slurry. The "Slurry Cell No. 1 Plan and Cross Sections" drawing shows a berm Section A-A with top elevation of 627.5 and a spillway elevation of 626.0. Pursuant to 62 Ill. Adm. Code 1784.16, the applicant shall;
 - A. Provide the volume of impounded slurry, if any, proposed in this application.
 - B. Define the minimum freeboard to be maintained from the top of slurry to the spillway crest to assure slurry is not discharged to the receiving stream.
 - C. Contour intervals defining the coarse refuse shall be provided on the plan view as well as the cross sectional location of the terrace.

43. In response to Part IV(6)(H) of the of the UCM-1 application, the applicant discusses four feet of earthen cover consisting of B horizon material and top soil.
 - A. Based on the dimensions of the above grade coarse refuse and the below grade slurry area, the applicant shall provide soil balancing to show that enough soil cover material will be stockpiled from the construction and excavation of the refuse site. If the volumetric calculation shows less than adequate cover, a borrow area within permit shall be established to assure reclamation can be achieved.
 - B. In response to Part V(1)(A) and V(4)(B), the applicant discusses the potential use of dredged material from local lakes or stream channels. Pursuant to 62 Ill. Adm. Code 1784.16, the applicant shall provide further details on the source of any off site material, how this material will be obtained in compliance with all applicable regulatory requirements and how the material will be tested to assure that it is suitable for cover, or remove all references to dredged material as use in refuse cover.

44. The Department is in receipt of a letter addressed to the applicant dated February 15, 2008, from the Illinois Environmental Protection Agency (IEPA) requesting additional information and corrections. Pursuant to 62 Ill. Adm. Code 1773.12, the applicant shall provide the responses to this letter to insure coordination with each agencies regulations. For responses that result in changes to this application, clearly indicate which application part, attachment and/or map is being revised.

45. Part (IV)(7) of the UCM-1 application addresses surface drainage control. In addition to the design information and corrections required by the IEPA's letter addressed above, the following information shall be provided pursuant to 62 Ill. Adm. Code 1817.46(c).
- A. The applicant references the Surface Facilities Map (Map 6 S.F.) in response to Part IV(7)(A)(1). To assist in evaluation of sediment control design, watershed boundaries reporting to each sediment pond shall be defined.
 - B. The applicant shall incorporate flow direction arrows for ditches 1A, 1B, 2A, 2B, 3A, 3B, 4A and 4B.
 - C. Ditches 3A and 3B are connected but would appear to flow in opposite directions, the drainage divide shall be defined.
 - D. The west end of Ditch 6A appears to terminate at a draw. Clarify whether this ditch will extend across the draw and intercept this drainage.
46. In response to Part (IV)(7)(I) of the UCM-1 application, the applicant responds "no" concerning the location of intermittent streams. The Department questions this response based on the definition of intermittent streams found in 62 Ill. Adm. Code 1701.5. The rail loop will cross sections of what appears to qualify as an intermittent stream. Such activities shall not be located in the channel of an intermittent stream unless specifically approved by the Department in accordance with applicable Sections of 62 Ill. Adm. Code 1817.41 through 1817.43 and 1817.57. Unless the applicant can demonstrate that this stream course does not meet the definition of an intermittent stream, the applicant shall indicate how compliance with these regulations will be achieved. The following shall be included as part of the assessment.
- A. Clearly delineate on the Surface Facilities Map or other appropriate map those areas where disturbance within the stream buffer are contemplated.
 - B. Indicate how the requirements of Section 1817.57(a)(1) will be met.
 - C. Discuss the measures taken to prevent coal or coal waste from entering the stream buffer zone.
 - D. Provide cross sections of the stream at the proposed crossing locations, adequate to describe the existing geometry and including elevations.

- E. Provide Engineering calculations justifying all culvert sizes as indicated in Attachment IV.5.C.2 Road/Railroad Details. Locate and identify all culverts on the plan view Surface Facilities Map or other appropriate map.
 - F. Provide a description of the construction practices in the crossing locations. Describe the type of fill materials to be used anywhere within the stream buffer, and the erosion control practices to be followed during construction and operation for each structure.
47. In response to Part IV(6)(H) of the UCM-1 application, the applicant discusses coarse refuse disposal. Pursuant to 62 Ill. Adm. Code 1817.81, the applicant shall indicate what is proposed as the maximum lift thickness and describe any testing procedures to verify proper compaction.
48. In response to Part IV(3)(B)(5)(a) of the UCM-1 Application the applicant indicates that Attachment 1.2.B cross references with the Identification of Interests Map. The Identification of Interest Map does not locate all structures. Pursuant to 62 Ill. Adm. Code 1784.20(b)(10), the applicant shall correct the reference to an appropriate map and assure that the listing 1.2.B can be cross referenced to the longwall panels as requested. For clarity, the Underground Operations Map (Map 6 U.G.) shall be revised to show all structures. Currently, it appears that the color coded years of mining supercedes the surface features layer.
49. A public comment was received indicating the location of a gas line located along Route 185 was incorrectly located near his property. Pursuant to 62 Ill. Adm. Code 1784.20(a)(1), the applicant shall determine if the utility is mis-located and if necessary make corrections to all appropriate maps for accuracy in the permit file.
50. In response to Part IV(3)(B)(2) of the UCM-1 application concerning prediction of planned subsidence areas, the applicant provides post subsidence contour maps defining the limits of subsidence with a 0.0 isopleth line. The angle of draw proposed is 25 degrees which will be verified by surface monitoring over the first panel. Pursuant to 62 Ill. Adm. Code 1784.20(b)(2), the applicant shall verify whether or not this line represents 25 degrees. All maps of the shadow area shall be revised to clearly define the limits of planned subsidence for clarity so that it can be readily determined which structures require pre-subsidence condition surveys, damage minimization or waivers from damage minimization, and where subsidence rights must be in place prior to subsidence impacts occurring.

51. In response to Part IV(3)(a)(3) of the UCM-1 application concerning geology, the applicant references the Hydro-Geologic Map (Map 4). Part III.1.A.1 provides eight lithologic descriptions contained in two cross sections, "A" and "B". Pursuant to 62 Ill. Adm Code 1784.20(b)(3), cores 08-03-18-07 and 08-03-18-14 require additional information to accurately define unconsolidated thickness, depth to coal and coal thickness. Additional geologic descriptions within the shadow area away from the two cross sections are necessary to better define the geology present.
52. In response to Part IV(3)(B)(5)(b) of the UCM-1 Application the applicant references the Post Subsidence Contour Map (Map 8). This map resulted from the use of a computer model entitled "Subsidence Deformation Prediction System" (SDPS). Public comments have questioned the use of this model alleging it is not appropriate for midwest conditions. The Department is aware that this model has the ability to model midwestern subsidence based on geologic conditions and historical data when properly implemented. Pursuant to 62 Ill. Adm. Code 1784,20(b)(6), the applicant shall provide background on the input data and settings used to generate the profiles used in developing the post mining contour map to assure it is applicable to this longwall operation.
53. Part IV(3)(B)(4)(c) and (d) request information in relation to surface features listed under 62 Ill. Adm. Code 1761.11 and 12. The Department of Interior, Office of Surface Mining has determined that the limitations and prohibitions described in this regulatory section do not apply to subsidence and therefore this agency no longer applies the requirements of this section to subsidence. The Department is however requiring additional information to assure that the requirements of 62 Ill. Adm. Code 1784.20 and 1817.121 regarding the implementation of the subsidence control plan are met.
 - A. Public Roads: Absent a detailed damage minimization plan required under 62 Ill. Adm. Code 1784.20(b)(8), the Department finds that an agreement with the public road authorities is necessary to assure subsidence will not create a public safety hazard to the motoring public. The applicant shall commit to securing a written agreement with all appropriate road authorities that establishes that safety precautions will be in place during and after subsidence. The agreements shall be in place prior to subsidence impacting any public road.
 - B. Public Parks: The applicant has responded that no public parks exist in the shadow area. The Cranfill Unit of the Coffeen Lake Fish and Wildlife Area would be considered a park as it is publicly controlled property used for recreation. For clarity in the permit file the applicant shall revise the response accordingly.

- C. Cemeteries: In response to Part IV(3)(B)(4)(C), the applicant references the Identification of Interests Map. This map identifies one cemetery within the shadow area. A field inspection revealed the name of the cemetery based on a marker as "The County Farm Cemetery". This cemetery is located outside the area of full extraction but within the angle of draw. Pursuant to 62 Ill. Adm. Code 1784.20(b)(2), the applicant shall define the limits of subsidence based on the projected angle of draw on the Maps 6 UG, 8, and 11. The anticipated amount of subsidence projected at the cemetery based on the subsidence modeling shall be provided.
54. In response to Part IV(3)(c)(1) of the UCM-1 application concerning mine stability in unplanned subsidence control plan areas, the applicant indicates that the mine plan under the prison will be mined on a conservative plan of 150 x 100 foot centers. The remainder of Part IV(3)(C) is answered as not applicable. Although the area of unplanned subsidence is limited to the north south main, the responses to Part IV(3)(C) are applicable for room and pillar areas outside the limits of planned subsidence. Therefore, this section shall be addressed including minimum pillar dimensions in areas outside the zone of mining influence on the prison if smaller pillars are proposed.
55. In response to I.B.2 of the UCM-1 Addendum No. 1 concerning monitoring of specific drinking domestic and residential water supplies, the applicant provides a plan to notify the Department of any ground water sources that should be monitored. The applicant indicates that a quarterly progress report will be maintained, documenting the location of wells in the next six months of longwall mining projections. Pursuant to 62 Ill. Adm. Code 1784.20(b)(8)(B), the applicant shall provide a template of this tracking report to demonstrate how this information will be presented and updated to document the progress of water monitoring and assure collection of adequate seasonal quality and quantity data in advance of subsidence impacts.
56. In response to I.B.3 of the UCM-1 Addendum No. 1 concerning an exemption from monitoring water supplies, the applicant appears to request an exemption from conducting a survey of water supplies. This appears to contradict the commitments made in I.B.2. The applicant has not justified an exemption from water quality and quantity monitoring. Based on the results of the initial mail survey conducted, many well depths are unknown at this time. Therefore, the Department can not exempt any well from specific monitoring at this time and denies the request. Exemptions can be granted on a case-by-case basis if agreements preclude the need for monitoring or site specific geotechnical information assures a given well will not be negatively impacted. Pursuant to 62 Ill. Adm. Code 1784.20(b)(8)(B), additional information to justify a site specific well monitoring exemption shall be presented or a

commitment to monitor all wells in the planned subsidence and adjacent areas shall be maintained.

57. In response to Part IV(3)(B)(7)(c) of the UCM-1 application, the applicant discusses plans to mitigate damage to land and structures. Pursuant to 62 Ill. Adm. Code 1784.20(b)(8), (9) and (10) and in response to Part IV(3)(B)(7)(c) of the UCM-1 application, the following additional information shall be provided:
 - A. The applicant describes pre- and post-subsidence surveys to determine the degree of material damage. The applicant shall additionally describe how disputes between the land owner and permittee over the existence, amount, level or degree of material damage will be resolved.
 - B. The applicant indicates agreements will be pursued with governmental bodies, utility companies, road authorities and buried pipeline companies to allow prevention or minimization of subsidence damages. The applicant shall provide a list identifying all such entities within the planned subsidence area.
58. In response to II.A.1.c of the UCM-1 Addendum No. 1 concerning specific damage minimization methods for each structure, the applicant indicates an agreement with the structure owner will be pursued prior to subsidence. Minimization of damage is required unless the structure owner specifically waives this requirement in writing. Therefore, agreements may or may not preclude the need for damage minimization. The applicant has committed to providing a plan for damage minimization 120 days in advance of planned subsidence in the event a waiver is not obtained. In the event the Department determines this mining application is approved, the Department will require quarterly reporting of the disposition of the approved subsidence control plan. Pursuant to 62 Ill. Adm. Code 1784.20(b)(8), (9) and (10), the format of a tracking spread sheet table that will be used as part of the quarterly reporting shall be provided. The tracking spread sheet shall detail at a minimum the status of agreements reached with structure owners, damage minimization waivers obtained, completion of pre-subsidence condition surveys, completion of water well quality and quantity surveys and repair of both land and structures requiring such. The information shall be presented on a per panel basis as the mine develops.
59. Pursuant to 62 Ill. Adm. Code 1784.20, response IV(3)(B)(7)(b), page IV 8 must be modified to explain in more detail, the restoration efforts for the areas identified on map 8 showing drainage interruptions, which are impacted by subsidence which will affect the land capability. This must include procedures for initial landowner contacts and follow-ups, crop damage compensation, timing, duration and planned practices within the shadow area and areas needed outside the shadow area for the restoration efforts. The Department strongly recommends that you work cooperatively with the

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Montgomery County Soil in addition to Water Conservation District and USDA Natural Resources Conservation Service, to take advantage of local expertise.

60. Pursuant to 62 Ill. Adm. Code 1783.25(b)(3), in response to Part III(2)(A)(3) the strike and dip of the coal to be mined shall be depicted on an appropriate map.
61. A public commenter is concerned with public survey markers such as section markers being moved by subsidence. Pursuant to 62 Ill. Adm. Code 1784.20(b)(10), the applicant shall address potential subsidence impacts and necessary actions to established and recorded survey markers.

If you have any questions please contact this office at (217) 782-4970.

Sincerely,



Joe Angleton, Director
Office of Mines and Minerals

JA:SF

cc: C. Johnson
OSMRE
Montgomery County