

IEPA Log No.: **C-0070-12**
CoE appl. #: **2010-247**

Public Notice Beginning Date: **August 29, 2014**
Public Notice Ending Date: **September 29, 2014**

Section 401 of the Federal Water Pollution Control Act
Amendments of 1972

Section 401 Water Quality Certification to Discharge into Waters of the State

Public Notice/Fact Sheet Issued By:

Illinois Environmental Protection Agency
Bureau of Water
Division of Water Pollution Control
Permit Section
1021 North Grand Avenue East
Post Office Box 19276
Springfield, Illinois 62794-9276
217/782-3362

Name and Address of Discharger: Knight Hawk Coal, 500 Cutler-Trico Road, Percy, IL 62272

Discharge Location: Section 3, T7S, R2W of the 3rd P.M. in Jackson County near Vergennes

Name of Receiving Water: Unnamed Tributary to Walkers Creek and Unnamed Wetlands

Project Description: Expansion of Red Hawk Mine.

The Illinois Environmental Protection Agency (IEPA) has received an application for a Section 401 water quality certification to discharge into the waters of the state associated with a Section 404 permit application received by the U.S. Army Corps of Engineers. The Public Notice period will begin and end on the dates indicated in the heading of this Public Notice. The last day comments will be received will be on the Public Notice period ending date unless a commenter demonstrating the need for additional time requests an extension to this comment period and the request is granted by the IEPA. Interested persons are invited to submit written comments on the project to the IEPA at the above address. Commenters shall provide their names and addresses along with comments on the certification application. Commenters may include a request for public hearing. The certification and notice number(s) must appear on each comment page.

The attached Fact Sheet provides a description of the project and the antidegradation assessment.

The application, Public Notice/Fact Sheet, comments received, and other documents are available for inspection and may be copied at the IEPA at the address shown above between 9:30 a.m. and 3:30 p.m. Monday through Friday when scheduled by the interested person.

If written comments or requests indicate a significant degree of public interest in the certification application, the IEPA may, at its discretion, hold a public hearing. Public notice will be given 30 days before any public hearing. If a Section 401 water quality certification is issued, response to relevant comments will be provided at the time of the certification. For further information, please call Thaddeus Faught at 217/782-3362.

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Fact Sheet for Antidegradation Assessment

Knight Hawk Coal – Unnamed Tributary to Walkers Creek and Unnamed Wetlands – Jackson County

IEPA Log # C-0070-12

COE Log # 2010-247

Contact: Diane K Shasteen (217) 558-2012

August 29, 2014

Knight Hawk Coal, LLC (“Applicant”) has applied for Section 401 water quality certification for impacts to approximately 1,972 linear feet (lf) of an ephemeral, unnamed tributary to Walkers Creek, a tributary to Beaucoup Creek. The proposed project, Incidental Boundary Revisions (IBR) to Red Hawk Mine (RHM) Permit # 400, is located in Section 3, Township 7 South, Range 2 West approximately 3 miles northeast of Vergennes, Jackson County, Illinois. The area contains ungraded spoil bank topography and is contiguous and south of the current RHM. The proposed permitted area covers 3 (20 acre) IBRs (# 1 - # 3, 60 total acres) and is currently used for pasture (4.5 acres), cropland (6.5 acres), fish and wildlife habitat (39.9 acres), and open water resources (9.1 acres). The purpose of the project is to expand current surface mining facilities at RHM # 400 which has been a continuously working mine for over 15 years. Portions of the proposed permit area (~45.5 acres) were surface mined to extract the shallow Herrin #6 coal seam prior to the enactment of current State and Federal regulations. Traditional surface mining methods will be used to recover the lower elevation Herrin #5 coal seam and the existing sedimentation pond on site will be utilized to capture runoff from the site. The additional IBRs would produce approximately 258,000 tons of coal over a 3 year period.

In addition to the stream impacts, the proposed project will impact 0.62 acres of jurisdictional forested (0.35) and emergent (0.27) wetlands and 6.99 acres of non-jurisdictional wetlands. Prior to mining activities, on-site stream mitigation will occur. Relocation of the existing ephemeral stream will include permanent rerouting of 1,083 lf and disturbance to an additional 889 lf to reconnect the area to its downstream drainage. Riparian buffers, including 2,063’ of 100’ buffer (within the proposed permit area) and 777’ of 50’ buffer (within the RHM Permit #400 area), will be established for the permanently relocated stream. During the reclamation phase of the project, a minimum of 27.9 acres of forested habitat, including the riparian buffer, will be restored and a final-cut lake of unknown dimensions will be constructed. Emergent and forested wetlands will be mitigated on-site at a ratio of 1:1 (0.30 acres) and 2.5:1 (0.90 acres), respectively.

Identification and Characterization of the Affected Water Body.

The Applicant contracted Midwest Reclamation Resources (MRR) to identify water resources located in the project area. In August and September 2011, three stream reaches (1-3), unnamed tributaries to Walkers Creek totaling 2,782 lf, were identified within the proposed mining area. According to MRR, stream reach #1 flows for 1,661 lf through the proposed site, consists of pools containing ferric oxide created by water seepage from nearby final-cut mine lakes through course mine-spoil, and was considered functionally impaired due to entrenchment and mine drainage. Stream reaches #2 and #3 flow for 587 lf and 302 lf, respectively, through active cattle pasture. Both streams are ephemeral, heavily eroded and disturbed due to cattle grazing, and therefore, considered functionally impaired due to this degradation. Prior to mining activities, all of stream reaches #2 and #3, along with 1,083 lf of stream #1, will be permanently rerouted and reconnected with their downstream drainage.

The ephemeral streams to be impacted, unnamed tributaries (no Segment Codes) to Walkers Creek have not been assessed by Illinois EPA. These streams are not listed as biologically significant streams

in the 2008 Illinois Department of Natural Resources Publication *Integrating Multiple Taxa in a Biological Stream Rating System*, nor are they given an integrity rating in that document. The USGS Illinois Streamstats basin characteristics program gives a watershed size of approximately 1 square mile for the largest stream reach (#1). According to the Illinois State Water Survey, these unnamed tributaries are likely to be a 7Q1.1 zero flow streams. In this region of Illinois, 7Q1.1 zero flow streams are streams with a watershed area of 5 square miles or less. These streams will exhibit no flow for at least a continuous seven day period nine out of ten years. Aquatic life communities in these headwater streams are tolerant of the effects of drying. Depending on the rainfall received before biological surveys, either a very limited aquatic life community, or no community at all would be found. Given this flow regime, no additional biological characterization would be required.

Walkers Creek (IL_NCC-01), a direct tributary to Beaucoup Creek, is a General Use Water with an estimated zero cfs 7Q10 flow. According to the draft 2014 Illinois Integrated Water Quality Report and Section 303(d) List, Walkers Creek has been assessed by Illinois EPA and is listed as not supporting Aquatic Life use. Causes listed for impairment include Alteration in stream-side or littoral vegetative covers (non-pollutant), and Manganese. Fish Consumption, Primary Contact Recreational, Secondary Contact, and Aesthetic Quality uses have not been assessed. Walkers Creek is not listed as a biologically significant stream in the 2008 Illinois Department of Natural Resources Publication *Integrating Multiple Taxa in a Biological Stream Rating System*; nor is it given an integrity rating in that document. Walkers Creek is not designated as an enhanced water pursuant to the dissolved oxygen water quality standard.

The Manganese impairment listing for Walkers Creek is based on a 1996 sample of 2.9 mg/L. Based on the revised water quality standard (WQS) for manganese (420 critical hardness, Acute 12.44 mg/L, Chronic 5.29 mg/L) this sample would no longer be in violation of the Manganese WQS. Water samples were taken three times in 2013 at NCC-01 and while these data have not been fully reviewed and are subject to revision prior to being used for the next 305(b)/303(d) reporting cycle it appears that all samples taken were well below the Acute and Chronic Manganese WQS. Permitted effluent discharge limits will not exceed the current Manganese WQS.

A wetland assessment was completed by MRR at the proposed site. Thirteen wetlands (Features 1- 13) totaling 7.89 acres were identified within the proposed permit area. Eight wetlands, (~ 6.99 acres) including 2 final-cut lakes, 2 between-spoil-depressions, and their associated aquatic beds, were determined to be non-jurisdictional and are the results of previous pre-law surface mining activities. Portions of the 2 final-cut lakes (Feature 1 & 2) are within the boundaries of the proposed permit area. Feature #1 (6.67 acres) and Feature # 2 (2.48 acres) will have impacts of 3.73 and 2.13 acres, respectively within the proposed permit boundary. The remaining acreage of Feature #1 and #2 reside within RHM Permit # 400 boundary. Feature #1 and #2 will be dewatered and mined through for impacts to non-jurisdictional wetlands totaling 6.99 acres within the proposed permit boundary. Of the remaining 5 wetlands (0.86 acres) designated as jurisdictional, 3 wetlands (0.62 acres) will be impacted by mining activities. These wetlands include 0.35 acres of forested wetlands (Features 10 and 12) and 0.27 acres of emergent wetlands (Feature 13). The forested between-spoil-depressions, were previously classified as unconsolidated open water areas (PUBG, 1982) by NWI and over time have matured into bottomland hardwood forests consisting of *Betula nigra* (river birch), *Salix nigra* (black willow), *Quercus palustris* (pin oak), and *Populus deltoids* (eastern cottonwood). Feature 13 is an emergent wetland in the swale draining a grazed cattle pasture and hay field consisting of common species, *Echinacloa muricata* (Rough barnyard grass), *Polygonum punctatum* (dotted smartweed) and

Carex sp. (sedge). No FQI was reported for this wetland, however, based on the species present; it would be classified as a low quality wetland.

Impacts to these areas are unavoidable and on-site mitigation will consist of following mitigation credits and pre- and post- active mining construction:

- 2,063 lf relocated ephemeral stream within project boundary, 777 lf relocated stream within RHM # 400 Permit area-3,976 credits
- 100 foot forested riparian buffer (2,063 lf), 50 foot buffer (777 lf) – 8,217 credits
- Undetermined area final-cut lake
- Restoration of 27.9 acres (minimum) of forested habitat including planting approximately 1,500 trees including Oaks, Ash, Maple, Hickory, and Elm

The on-site mitigation for the ephemeral stream and associated riparian buffer exceeds the needed mitigation credits (6,793) by 5,400 credits. On-site mitigation for the emergent (0.27) and forested wetlands (0.35) will be completed at a ratio of 1:1 (0.30 acres) and 2.5:1 (0.90 acres), respectively. The addition of the undetermined sized final-cut lake will result in a net gain of aquatic resources located on site after completion of the surface mining.

Identification of Proposed Pollutant Load Increases or Potential Impacts on Uses.

The pollutant load increases that would occur during this project include possible increases in suspended solids during the proposed project. Prior to active mining on site, the Applicant will reconstruct approximately 2,840 lf of stream to reconnect site drainage to Walkers Creek. The collection channel will utilize riprap in the stream bends and quick germinating vegetation on stream banks to minimize soil erosion. During reclamation of the site, a forested riparian habitat, varying between 50' and 100', will be established along either side of the stream. Erosion control methods to be utilized include seeding, mulching, dikes, terraces, silt fences, straw bales, and erosion control fabric.

The project will eliminate approximately 1,972 lf of ephemeral streams, unnamed tributaries to Walkers Creek, a tributary to Beaucoup Creek. Approximately 0.62 acres of emergent and forested wetlands will be eliminated by the proposed mine expansion.

Fate and Effect of Parameters Proposed for Increased Loading.

The increase in suspended solids in the project area will be local and temporary. Erosion control measures mentioned above will be utilized to minimize any increase in suspended solids. All releases from the existing sedimentation basin will be regulated by Section 402 of the Clean Water Act and subject to NPDES effluent discharge limits for this location. On-site ephemeral stream relocation (1,972 lf) and on-site wetland construction (0.62 acres) will be completed prior to mining and during reclamation. The relocation of the ephemeral stream and its associated riparian zone will create a drainage network on-site that will be utilized to accommodate runoff from the site and limit downstream sedimentation loading. A 100 foot forested riparian buffer will be established on the portion of the constructed stream within the IBRs boundaries (2,063 lf); a 50 foot buffer will be established on the remaining 777 lf of stream located in the Permit No. 400 boundary. A total of 6,793 credits would be required to mitigate the adverse impacts caused by the proposed stream diversion based on the Illinois Stream Mitigation Method. The proposed stream restoration and riparian buffer

establishment will generate 12,193 credits resulting in a surplus of 5,400 mitigation credits. On-site mitigation for the emergent and forested wetlands will be completed at a ratio of 1:1 (0.30 acres) and 2.5:1 (0.90 acres), respectively and will occur after active mining and reclamation activities have been completed. The addition of the undetermined sized final-cut lake will result in a net gain of aquatic resources located on site after completion of the surface mining.

Purpose and Social & Economic Benefits of the Proposed Activity.

The purpose of the proposed IBR is to surface mine approximately 60 acres adjacent to RHM Permit # 400 that was mined prior to the enactment of current State and Federal regulations. The Applicant has expended several million dollars to develop RHM in Perry and Jackson counties in preparation for the continued mining operations. The 258,000 tons of coal generated from the additional IBRs will utilize the on-site coal processing plant and sedimentation pond and allow RHM to remain open an additional 3 years. This will allow for the continued employment of 33 Red Hawk Mine employees and provide tax revenues to nearby Perry County, a depressed area of the state where according to the Bureau of Labor Statistics (January 2014), approximately 17.1% of the population lives below the poverty level and unemployment is 12.3% compared to the Illinois average of 9.4%. The mining operation would provide an affordable and reliable fuel source for the region. Nearly 50% of Illinois' electricity is generated from coal, the production of Illinois coal helps keep the cost of electricity low and provides affordable energy to Illinois' citizens and businesses. The top five utility users of Illinois coal in 2010 were the Tennessee Valley Authority, Dayton Power and Light Company, Northern Indiana Public Service Company, Tampa Electric Company, and Springfield City Water, Light & Power. The exportation of coal to these out-of-state companies emphasizes the importance of the product to Illinois' economy.

Assessments of Alternatives for Less Increase in Loading or Minimal Environmental Degradation.

The Applicant has completed an assessment of the economic and environmental advantages and disadvantages of four alternatives including a review of all reasonable stormwater treatment methods. The results of the analysis are listed in Table 1 and 2 below. The preferred action alternative is the addition of RHM IBRs 1-3 due to land ownership and utilization of the existing coal processing plant, sedimentation pond, and mineral and property rights. Other alternatives would result in significant and substantial company expenditures and/or economic losses. The no action alternative would result in company losses and a lack of foreseeable returns due to prior investments in land and equipment and no mining activities at the proposed site.

Table 1: Project Alternatives for Knight Hawk Coal LLC Red Hawk Mine

No Action Alternative	Preferred Action Alternative - Construction of RHM IBRs 1-3
Disadvantages	
Fails to meet Applicant's purpose and need of recovering approximately 258,000 tons of coal from Herrin #5 coal seam	Loss of function of the disturbed streams and wetlands located in the project footprint
Threatens necessary coal supply for electric utilities-nearly 1/2 of the electricity produced in Illinois comes from coal	Advantages to construction of Red Hawk Mine IBRs 1-3
Loss of ~33 direct mining jobs and the resulting spin-off jobs associated with the mine operation	Disturbance of site minimized to maximum extent through an approved Drainage Control Plan, Good Mining Practices and using Best Management Practices to insure compliance
Loss of annual tax revenue for surrounding counties and state	Maximizes coal recovery of the previously mined Herrin #5 seam and minimizes disturbances by utilizing coal processing facilities and sedimentation pond located on site
Loss of revenue for purchases of goods and services in a depressed area	Retention of ~33 direct mining jobs with an annual payroll of \$2.1 million and the resulting spin-off jobs associated with mine operation
Continued degradation of jurisdictional waters from agriculture	Provides revenue through the purchase of goods and services and annual tax revenue for the surrounding counties and state
No assurance of disturbance to site without regulated requirements	Allows for the full utilization of the resource and supplies an energy source to regional utilities resulting in affordable electricity for consumers
Loss of acquisition investments	Low potential for significant environmental or economic damage in event of failure
Advantage	
Eliminates disturbances of streams and wetlands from mining operations	

Table 2: Discharge Alternatives for Knight Hawk Coal LLC Red Hawk Mine

Retention of Stormwater without Discharge	Discharge of stormwater to publicly owned treatment plant	Alternative Treatment Technologies
Disadvantages		
Stormwater runoff from a rain event would require a large impoundment or a large cavity for deposition	The City of DuQuoin owns and operates the closest water treatment facility (8 mi east) to the proposed Red Hawk Mine	Reverse osmosis -large inputs of energy, variable volumes in stormwater flows would overload the system and dry out membranes during non-precip events, create higher concentration of pollutants to be disposed in landfill, cost prohibitive and time consuming
Not economically or technologically feasible to construct an impoundment large enough to retain stormwater events for life of mine	Current DAF for the plant is 2.4 MGD; designed to treat organic waste from the municipal sewer system	Filtration - discharge water passed through a physical barrier; some options would require additional land acquisitions, all would increase production costs, require increased supervision and maintenance, technologically impractical
Sedimentation pond already exists for RHM Permit # 400, increased impacts/disturbance to natural resources to create an impoundment large enough to handle all precipitation	Silt from stormwater would overload system; clarifying stormwater before transmitting to plant would result in redundant use of sedimentation pond	Bioremediation - methods applicable for fuel-derived toxic compounds not technically feasible or appropriate; tree box biofilter would require nearly 200 units to collect drainage-not practical; wetlands would require additional lands not available within or adjacent to the mine site
Underground cavity of sufficient size to accommodate runoff not available	Volume of stormwater would overload system and cause non-compliance discharges from the facility	Coagulation Precipitation -process is expensive, requires constant monitoring, chemicals harmful to worker's health and safety, sludge requires disposal as a hazardous waste; large precip events would negate benefits of technology and result in effluent exceeding permit limits
Increased impacts/disturbance to another site to produce the same amount of coal	Facility would have to be renovated/enlarged to handle additional volume of flow	Ion Exchange -appropriate for treatment of potable water not sediment laden mine drainage, resin would degrade, use of additional energy and expense; Vertical Filtration impractical based of volumes of flow and requiring additional costs and maintenance
Does not eliminate stream and wetland disturbance	Piped delivery system to treatment facility is beyond scope of services the city could provide	Cost Effective Sulfate Process -would require construction of a treatment plant, intense supervision, high operational costs, construction of holding ponds, and disposal of sludge in an approved landfill
	Mining operation non-viable if costs of renovation/pipe construction added to project	Manganese Treatment - not a reasonable alternative due to management of chemicals, health and safety concerns of workers handling chemicals, volume of waste sludge, lack of infrastructure for sludge, and variable concentrations of manganese in mine discharge
	Does not eliminate stream and wetland disturbance	Some options cause additional disturbance or do not eliminate stream and wetland disturbances
Advantages		
No known advantages to this option	No known advantages to this option	Some options listed above reduce stream and wetland disturbances from mining operations

Conclusion:

The construction of the proposed project will follow conditions set forth by the Agency and USACE. The mining of RHM IBRs 1-3 will provide an affordable, reliable and secure fuel source for Illinois and surrounding states and retain approximately 33 direct jobs, with a payroll of \$2.1 million annually. The mine will provide additional spin-off jobs, an influx of revenue from the purchase of various goods and services, and a continuation in the tax revenue base to an economically depressed area. The existing sedimentation basin is located downstream of the mine operation area allowing the drainage control structures to convey runoff from the coal processing area to the basin, thereby, minimizing the disturbance footprint and the effects to aquatic resources. Disturbance to ephemeral and intermittent streams and wetlands will be mitigated through the creation of a 2,063 lf ephemeral stream with a 100' riparian border within the project boundary, a 777 lf relocated stream with a 50' riparian border within RHM #400 Permit area, on-site mitigation for the emergent and forested wetlands at a ratio of 1:1 (0.30 acres) and 2.5:1 (0.90 acres), respectively, an undetermined area final-cut lake, and restoration of 27.9 acres (minimum) of forested habitat through the planting of approximately 1,500 Oak, Ash, Maple, Hickory, and Elm trees.

Summary Comments of the Illinois Department of Natural Resources, Regional Planning Commissions, Zoning Boards or Other Entities

An Eco-CAT endangered species consultation submitted on July 23, 2013 to the Illinois Department of Natural Resources resulted in no record of State-listed threatened or endangered species or protected natural areas in the vicinity of the project and consultation for IDNR Project #1501093 was immediately terminated.

Agency Conclusion.

This preliminary assessment was conducted pursuant to the Illinois Pollution Control Board regulation for Antidegradation found at 35 Ill. Adm. Code 302.105 (antidegradation standard) and was based on the information available to the Agency at the time the draft 401 Water Quality Certification was written. We tentatively find that the proposed activity will result in the attainment of water quality standards; that all technically and economically reasonable measures to avoid or minimize the extent of the proposed increase in pollutant loading have been incorporated into the proposed activity; and that this activity will benefit the community at large by providing for the continuation of approximately 33 jobs with an annual payroll of approximately 2.1 million, tax revenues for the surrounding counties and the state of Illinois, and affordable energy to Illinois's citizens and businesses. Comments received during the 401 Water Quality Certification public notice period will be evaluated before a final decision is made by the Agency.