

Illinois Environmental Protection Agency
Bureau of Water, Permit Section
(IEPA)

1021 North Grand Avenue East, Post Office Box 19276, Springfield, Illinois 62794-9276, 217/782-3362

The IEPA has issued a Public Notice of a request for a Clean Water Act Section 401 water quality certification that would allow the issuance of a federal permit for the discharge of pollutants to waters of the State.

Public Notice Beginning Date:

Thursday, October 24, 2024

Public Notice Ending Date:

Friday, November 22, 2024

Agency Log No.: C-0129-24

Federal Permit Information: Federal permit/license no. LRL-2023-00313 is under the jurisdiction of Louisville District, Regulatory Branch U.S. Army Corps of Engineers

Name and Address of Discharger: Responsible Energy Operations, LLC, Kevin Houston - 625 N 9th St, Petersburg, IN 47567

Discharge Location: In Section 4 of Township 1-South and Range 13-West of the West 2nd Principal Meridian in Wabash County. Additional project location information includes the following: east of CR700 E and northeast of the intersection of CR1540N and CR700E, Mount Carmel, IL 62863

Name of Receiving Water: Unnamed Tributary to Fordice Creek

Project Name/Description: Friendsville Phase III - Surface Mine and Reclamation Project

Construction Schedule: Not identified

The Public Notice period will begin and end on the dates indicated in the heading of this Public Notice. Interested persons are invited to submit written comments on the project to the IEPA at the above address. Commenters must provide their name and address along with comments on the certification request. The IEPA Log number must appear on each comment page. Commenters may include a request for public hearing. Only hearing requests and comments that pertain to Clean Water Act Section 401 authority will be considered. This authority provides consideration of whether the permit or license would be consistent with Sections 301, 302, 303, 306, or 307 of the CWA, as well as "any other appropriate requirement of State [or tribal] law". Requests for additional comment period must provide a demonstration of need. The final day of comment acceptance will be on the Public Notice Ending date shown above, unless the IEPA grants an extended notice period. The attached Fact Sheet provides a detailed description of the project and the findings of the IEPA's antidegradation assessment.

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 see the contact information below.

Name: Darren Gove

Email: Darren.Gove@illinois.gov

Phone: 217/782-3362

Post Document. No. C-0129-24-10242024-PublicNoticeAndFactSheet.pdf

Responsible Energy Operations, LLC (REO) proposes to expand surface mining operations within the Jurisdictional Determination (JD) Boundary of 819 acres (Ac) for carbon recovery. The proposed project area includes 491 acres within the JD Boundary in Sections 4, 5, 8, and 9, Township 1 South, Range 13 West; west of Mt. Carmel, IL and approximately 2.6 miles north of State Route 15, just west of County Round 1560 North, in Wabash County.

REO is proposing to place fill material in waters of the U.S., including jurisdictional wetlands and streams in order to recover coal from the Friendsville Phase III Mine. The mineable seams of interest are the Friendsville and Friendsville Upper coal seams.

The active mining operation is projected to last seven years with reclamation activities lasting another one to two years. The surface mining will include complete removal and replacement of surface material, topography, drainage features, and other waterbodies. This permit proposes to offset impacts with onsite and offsite stream and wetland mitigation.

The proposed permit area drains to several unnamed tributaries of Fordice Creek. The mining activities are expected to impact 15,781 linear feet (LF) of intermittent stream and 1.11 Ac of wetlands. Stream & wetland mitigation will be conducted onsite, offsite, in-kind, and out-of-kind. Intermittent stream impacts will require 15,781 LF of mitigation and wetland impacts will require 2.0 Ac of wetland mitigation.

Information used in this review was obtained from the application documents dated March 10, 2023, May 9, 2023, August 24, 2023, August 29, 2023, October 16, 2023, and June 27, 2024.

Identification and Characterization of the Affected Water Body

The impacted streams are all General Use unnamed tributaries of Fordice Creek where zero cfs of flow exits upstream during critical 7Q10 low-flow conditions. The unnamed tributaries of Fordice Creek 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* or given an integrity rating in that document. The unnamed tributaries of Fordice Creek, tributaries to Waterbody Segment IL_BCB, are not listed on the draft 2020/2022 Illinois Integrated Water Quality Report and Section 303(d) List as impaired, since they have not been assessed. The unnamed tributaries of Fordice Creek are not designated as an enhanced water at this location pursuant to the dissolved oxygen water quality standard.

The area is composed predominately of row crop agriculture, field/pasture, and development. Local landforms are the result of runoff from Illinoian and Wisconsinan glaciations, and normal degradation processes such as weathering, mass wasting, and stream erosion. The permit area is drained by Fordice Creek tributaries flowing to the west. Intermittent and ephemeral streams occur within the JD boundary. They are a combination of channelized agriculture streams and forested or partially forested streams. The streams found on this site provide the function of delivering water and allochthonous material down gradient through the drainage system to a receiving stream. A significant amount of the streams has compromised geomorphology as shown in stream assessments conducted in March 2019. They contain eroded beds and banks due in large part to channelization.

The USGS topographic map shows the project area beginning at or near the top of the watershed. Upper hillsides are dissected as ephemeral channels begin in forested areas or from sloping ag fields shaped to drain as a single thread. As ephemeral branches grow deeper and pick up increased watershed runoff, they become intermittent streams that make their way to Fordice Creek that runs east to west along the north of

the project boundary. The landscape of the region is made up of low sloping topography with rolling hills and streams with broad floodplains. Slope in the region is frequently not steep enough to develop a complex system of dissected side slopes and stream features. Surrounding land use is dominated by row crop agriculture, reclaim mine land and blocks of forest on land not suitable for agriculture.

According to aerial imagery dating back as far as 1938, approximately 80-90% of the 819-acre site was cleared of trees and has been in continuous ag production. This is a typical example of land use evolution in this watershed, as approximately 83% of the land area is either row crop or pasture/grassland. Over eighty percent of this location is still actively farmed today. The remaining areas consist of wooded areas where most of the water features were found during delineation. Agricultural practices have infringed upon these waters as more and more of the land has been cleared and farmed. Of the 819 Ac in the proposed permit area, 21 Ac. are developed, 724 Ac. are agricultural, and 74 Ac. are forested.

There are a total of 21 wetlands onsite of which 52% are forested. The largest wetland is 0.49-acres, while most are less than a quarter acre. There is a mixture of hard and soft mast species, however soft mast makes up the majority with species such as maple, gum, ash, and elm. The most common oak species found in these wetlands is pin oak. The herbaceous understory in these wetlands varies slightly, but Riverbank Wildrye and Slender Wood Reed are two of the most dominant throughout. The impacted wetland types include 1.33 Ac. of PFO wetlands, 0.24 Ac. of PSS wetlands, 0.87 Ac. of PEM wetlands and 0.28 Ac. of PUBG wetlands.

There are 17 streams onsite. Many of the larger streams are those that had characteristic changes received multiple assessments. The majority of channel length within the project boundary were classified as either Rosgen A, B, or G channels meaning they are moderately entrenched to entrenched. The average EPA Rapid Bio-assessment Protocol (RBP) II score across all streams was ~90 which is qualitatively marginal.

Identification of Proposed Pollutant Load Increases or Potential Impacts on Uses

The impacts from the proposed project are expected to be an increase in total suspended solids as a result of permanent fill to wetlands and tributaries to Fordice Creek. Impacts will not significantly alter the quality of Fordice Creek.

Fate and Effect of Parameters Proposed for Increased Loading

Sediment basins and diversions will be placed as close to the coal extraction area as possible. Sediment control will be provided through sediment control structures constructed in advance of mining in order to protect downstream features from excessive sedimentation. Additionally, when backfilling is complete in an area, topsoil will be redistributed, and re-vegetation will begin. Jurisdictional features will potentially receive a significant ecological lift over existing conditions by being held to current regulatory mitigation standards. Channelization, heavy sedimentation, and reduced riparian areas as a result of agricultural influence will be reduced extensively through the creation of riparian buffers and isolating the majority of the mitigation from the impact area and from heavily farmed sites. No adverse impacts to the receiving stream or downstream waters would occur, as all water quality standards are expected to be met in the receiving water.

Of the 819 Ac project area, impacts are expected in approximately 654 Ac. The mining activities are expected to impact 15,781 LF of intermittent stream, and 1.11 Ac of wetlands. Avoidance and Minimization totals are 18,873 LF of stream and 53 Ac of Wetland. Stream & wetland mitigation will be conducted onsite, offsite, in-kind, and out-of-kind. Intermittent stream impacts will require 15,781 LF of mitigation and wetland impacts will require 2.0 Ac of wetland mitigation.

A detailed compensatory mitigation plan (CMP) was submitted as part of the application and has been proposed to offset impacts as a result of the project. Mitigation sites include the Super 60 and S7. The Super 60 is a culmination of two existing mitigation watersheds and will provide mitigation within a 23.9 Ac area. The riparian zone will be restored into PFO wetland and serve as the floodplain during periods of overbank flooding. S7 is a 36.8-acre site that will provide mitigation for two permits: LRL-2018-156 & LRL-2023-313. The mitigation for this permit will be oriented on the lower end of the watershed.

Impacts to jurisdictional waters on the mitigation site include removal and replacement of the surface to a depth of approximately 125 feet. Ancillary impacts include diversions, fills, and temporary instream impoundments. The goal of the CMP is to mitigate similar functions and values as those lost by the activity, and result in no net loss. This is achieved by conducting the mitigation in the same watersheds as the impacts. The mitigation streams are designed as stable habitat by means of well-vegetated riffle-pool morphology with a riparian buffer.

Stream & wetland mitigation will be conducted offsite, in-kind and out-of-kind. Mining impacts are to the agricultural valley extending from the buffer along Fordice Creek, south partway up the side slopes. Impacts include the lower straightened intermittent ditches along with several ephemeral streams and gullies. Fordice Creek and its adjoining wetlands and riparian zone will be avoided. The watershed sizes being impacted range from 1 Ac. to 128 Ac, with the average size being 43 Ac.

The negative impacts of this project are considered to be short-term and minor. The vegetation lost during the operation is predominantly nontarget, and erosion is always controlled according to SMCRA standards. The positive impacts are more than adequate to result in no net loss. This project will contribute to the ongoing economic and energy security of the region and the nation. This project also considers and will enhance the aquatic integrity of the watershed.

Required mitigation for the stream impacts total 15,781 LF. A strong intermittent stream will be created within S7 which will provide 7992 LF of mitigation. This calculation ($3996 \text{ LF} \times 2$) was determined by the 770 Ac watershed size of S7. The remaining stream mitigation will be performed in the Super 60 by creating 3020 LF of perennial stream ($3020 \text{ LF} \times 3$). The calculation was determined as result of consideration of flow regime and watershed size (2300 Ac). This will yield a surplus of 1271 LF for a total of 17,052 LF of stream mitigation.

Impacts to wetlands include 0.23 Ac of PFO wetland, 0.86 Ac of PEM wetland, and 0.02 Ac of PUBG wetland for a total of 1.11 Ac. Those impacts will require 0.69 Ac, 1.29 Ac and 0.02 Ac respectively, totaling 2.0 Ac of mitigation. The wetland mitigation will be performed in the Super 60 area.

Creation of riparian buffer in both the Super 60 (10.6 Ac) and S7 (11.2 Ac) areas will provide 21.8 Ac of riparian buffer mitigation.

Purpose and Social & Economic Benefits of the Proposed Activity

Approximately 80-90% of the production from the Friendsville Mine is sold to Duke Energy's Gibson Station, which is the largest power plant in their portfolio. It is a 5-unit plant with plans to begin decommissioning the units over time. However, the last 2 units are not scheduled to come offline until 2035. Duke admits that this timeline is a moving target as challenges to alternative energy persist. REO currently has a contract with Duke thru the end of 2024 and is currently negotiating contracts thru 2025 & 2027. Additionally, the Friendsville coal seams are low in chlorine and arsenic content, and very important to the Gibson Stations ability to remain compliant with environmental air regulations. The remaining 10 - 20% of REO's production goes to industrial customers in Missouri, Indiana and

internationally into Asia and Europe where they currently suffer a shortage of coal due to the war in Ukraine. Local industrial customers include cement and chemical producers. The proposed mine size of 2.7-million tons is necessary to meet this demand over the life of the mine.

The proposed activity will utilize conventional area surface mining methods to recover the Upper Friendsville and Lower Friendsville coal seams and would allow for continued employment at the facility as well as provide a demand for local goods and services to support mining activities.

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

Mining methods are reviewed on the basis of geography, geology, economics and surface/mineral rights control. Those methods include underground, auger/highwall, and surface area mining, potentially with combinations of two or more methods of mining. As these methods were eliminated from consideration, the applicant did not quantify potential stream impacts associated with the underground or auger/highwall mining methods but did for the surface area method. The following alternatives were considered for the proposed project:

Underground Mining: To determine the feasibility of utilizing the underground mining method, the applicant analyzed the Friendsville and the Friendsville Upper coal seams against a set of criteria established specifically for this method (Table 1). Adequate seam thickness, geologic conditions expected to provide safe roof conditions, and 120 feet of cover, are fundamental criteria. Based on this analysis, the coal seams to be mined do not meet the criteria for underground mining and underground mining was eliminated as a practical alternative for either seam.

Auger/Highwall Mining: Alternative mining methods to recover the coal reserve are always considered during the planning and permitting process. However, in most cases, a coal reserve is essentially either suitable for surface mining or underground mining but alternative methods such as highwall mining or augering are considered.

Auger mining will be used around the periphery of the pits to partially recover coal that underlies jurisdictional waters, thus reducing impacts. However, it is not a feasible alternative to replace surface mining due to overall low resource recovery, elevation changes and rolls in the Friendsville coal seam, and the general configuration of the mine plan. Augering recovery is typically less than 50% of the coal seam in the block that is augered. Also, the maximum auger length of penetration from an open pit ranges from 400-1000 feet, thus severely limiting the amount of coal that would be recovered by this method. If the reserve were augered from only one open pit, less than 30% of the coal would be recovered from the reserve. The delays and costs of pit backfilling and reclamation to allow augering would far exceed the revenue and/or coal production associated with augering.

The criteria used to determine the feasibility of highwall/auger mining includes seam height consistently over 3 feet, cover greater than or equal to 100 feet, less than 2 feet parting thickness, 50 percent recovery, and a minimum of 40 feet of competent rock to the mineable seam above. Based on the available information, Auger/highwall mining is not a viable practical alternative for the entire reserve.

Area Mining: Surface mining methods are limited to reserve areas where the coal is located at relatively shallow depths below the ground surface. The maximum depth that a surface mining operation can proceed is dependent on the amount of material that must be removed to recover the coal. In the mining industry, the feasibility of using surface mining methods is related to the stripping ratio. The stripping ratio is defined as the proportion of overburden that must be removed to the amount of coal recovered. Although there are several units in which this proportion can be defined, the most common in the industry is the in-situ tons of overburden removed to recover one ton of clean coal. Thus, a stripping ratio of 10

implies that 10 tons of material must be removed to recover 1 ton of saleable coal. The removal of overburden, or stripping, is the most significant component of surface coal mining costs. Variations in mining ratio affect the scale of the equipment and the efficiency of its operation as far as overburden handling is concerned. As the overburden depth and saleable ratio increase, more money is spent on exposing the coal seam until a limit is reached when the value of the recovered material (clean coal) is just enough to pay for all the cost involved in mining, preparing and selling the material. This is referred to as the break-even stripping ratio, a point value beyond which the coal seam cannot be economically mined. The break-even stripping ratio is related to the selling price of coal. Thus, as the selling price of coal rises, areas with higher stripping ratios can be economically mined. The overall saleable ratio for the surface mineable tons in the proposed permit area is approximately 18 to 1.

One major advantage of surface mining alternative is that once the coal seam is exposed, essentially all of the in-situ coal can be recovered. Another advantage of surface mining is the ability to recover thin seams of coal otherwise inaccessible. Using proper management and current technology, coal seams as thin as one foot thick can be efficiently recovered. Both of these advantages result in maximizing the utilization of a limited natural resource. There are several factors that are considered when determining the appropriate mine plan to implement for any reserve. Those factors include but are not limited to depth to and thickness of the coal seam, geologic conditions, ratio of capital investment per ton recovered, and environmental impacts. The mine plan that was created for this reserve and that will be implemented sought to find the most appropriate balance of these factors. In other words, the proposed mine should maximize tonnage mined by the surface mining method to take advantage of higher coal recovery, favorable overburden ratios, and geologic conditions; while at the same time reducing environmental impacts from surface disturbance or mitigating for them at an acceptable ratio, recovering coal in higher overburden ratios, and expanding the total reserve base. Based on the anticipated production levels, the life of the mining operation is projected to be approximately two to three years, recovering more than 2 million tons of coal.

The criteria used to determine the feasibility utilizing the area mining to recover the Friendsville and Upper Friendsville coal seams includes a coal seam height over 12 feet, cumulative ratio (raw) of 23.0, greater than 100,000 mineable tons, and 90 percent pit recovery. The area mining method meets or exceeds all of the criteria required when determining the mining method for a coal reserve, therefore area surface mining is considered to be the most viable and preferred alternative.

No Action Alternative: The No Action alternative would involve abandoning the proposed project, therefore avoiding all impacts to JWOU. Although this alternative is the least environmentally damaging, it is not practicable due to many factors. The No Action alternative does not meet the purpose and need of this project, namely allowing REO to recover coal from the project site and deliver it to the marketplace, thereby satisfying future energy needs and stimulating the local economy.

One underlying presumption to this alternative is that the proposed activity is not necessary. Coal recovery is still necessary in this region of the United States, as coal burning power plants are the primary source of electricity production. Without the availability of coal recovered in an economically feasible manner, the region has the potential to suffer from a reduction in coal availability and reserves, which could create the scenario for higher electricity costs. Also, mining the coal from this area has the potential to supply trickledown benefits to the greater community as employees and support personnel disperse a portion of their pay for other products and services. When operating at capacity the Friendsville Mine employs between 70 and 90 miners with a total annual payroll of approximately \$6 million. REO has already invested over \$30 million in capital for infrastructure and equipment to mine, wash, and transport coal from this reserve. At today's market prices, the market value of this reserve is approximately \$167 million. Over \$600,000 in payroll taxes will be generated each year the mine operates, while

approximately \$3.8 million of federal black lung and reclamation taxes will also be paid on the coal that is proposed to be mined from the area included in this application.

If the No Action alternative were to be chosen, then the mining jobs that would be filled at the Friendsville Mine will no longer be available. This alternative will be financially detrimental to REO. It should also be noted that if this project doesn't proceed, the existing streams will continue to degrade from channelization related to historical agricultural projects. Stream bank instability is one of the major contributing factors to the sedimentation issue that is prevalent in this watershed. The project as proposed would significantly reduce sediment entering the stream related to this instability.

Combination of Surface Area Method of Mining and Auger/Highwall Mining: Sometimes called "Pod" mining, this would consist of the excavation of smaller pits in between the aquatic resources. This technique would make mining economically unfeasible as mining costs would more than double while coal recovery would diminish dramatically. Furthermore, the aquatic resources are interspersed in such a fashion, that any excavated pit could not possibly avoid impacting aquatic resources. Each pit would have to be excavated to the lowest coal seam with lay backs on all sides to insure safe operating conditions. Additional lay backs would be needed to allow for construction of separate diversions and sediment basins for each pod area. The overburden from each pit would have to be stockpiled and then redeposited into the pit after coal removal, as opposed to conventional surface mining where pits advance continuously with overburden being deposited into the previous pit. Coal recovery would be lost under each aquatic resource, the related pit and drainage control lay back areas and overburden stockpile area. The extra costs associated with these factors, coupled with less recovery of the resource, eliminates pod mining as an option. This type of mining would result in an inconsistent supply of coal to processing facilities, transportation facilities and ultimately to the electric utilities. Capital intensive businesses cannot operate in such a manner.

Preferred Alternative: The applicant has chosen a Surface Area Mine with Auger Mining around the periphery as the least environmentally damaging practical and preferred alternative. The size of the mine has been reduced, and additional areas of jurisdictional waters have been avoided. This will be accomplished by auger mining under the jurisdictional waters that occur around the periphery of the open pit. The mine proposes a combination of open pits with auger mining. All other alternatives are not practicable due to issues listed above, therefore the Surface Area Mine Plan is the least environmentally damaging practicable alternative (LEDPA). This plan will maximize coal recovery and ensure re-disturbance does not occur in the future when coal demand is certain to increase.

The mining operation will use trucks and shovels/excavators. The mining operations will be performed in phases. The initial phase will consist of construction of the haul roads, mine management areas, sediment basins and the construction of the stream relocation (diversion ditch). Mining operations will begin on the southwestern portion of the proposed permit boundary. Mining will progress to the eastern extent of the proposed permit boundary and will expand with mining of the Friendsville and Friendsville Upper seams. There will be an additional box cut opened up on the northwestern portion of the permit at the crop line and progress west to the northeastern portion of the projected boundary. The open pit areas will be backfilled as mining progresses. When backfilling is complete in an area, topsoil will be redistributed, and re-vegetation will begin. Coal obtained using this preferred alternative will be transported to market via truck haulage.

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

On August 24, 2023, an IDNR EcoCAT consultation, Project #2403671 was initiated and determined that the Illinois Natural Heritage Database contains no record of State-listed threatened or endangered species,

Illinois Natural Area Inventory sites, dedicated Illinois Nature Preserves, or registered Land and Water Reserves in the vicinity of the project location. The consultation was automatically terminated.

A Section 7 consultation was initiated with the USFWS on August 29, 2023. The IPaC submission letter determined that the proposed action is not likely to result in unauthorized take of the northern long-eared bat (*Myotis septentrionalis*). The letter goes on to state that ESA-protected species and/or critical habitat that also may occur in the Action area include:

Fat Pocketbook (*Potamilus capax*) - Endangered
Indiana Bat (*Myotis sodalis*) - Endangered
Monarch Butterfly (*Danaus plexippus*) - Candidate
Rabbitsfoot (*Quadrula cylindrica cylindrica*) – Threatened
Tricolored Bat (*Perimyotis subflavus*) - Proposed Endangered
Whooping Crane (*Grus americana*) - Experimental Population, Non-Essential

Section 7 consultation was finalized under the SMCRA permitting process.

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 permit was written. We tentatively find that the proposed activity would result in the attainment of water quality standards; that all existing uses of the receiving stream would be maintained; 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 would benefit the community at large by providing extended employment and additional revenue to the area. Comments received during the public notice period would be evaluated before a final decision is made by the Agency.