

IEPA Log No.: **C-0091-18**
CoE appl. #: **2018-602**

Public Notice Comment Ending Date: **April 25, 2019**

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: Dynegy Midwest Generation, LLC, 1500 Eastport Plaza Drive, Collinsville, IL 62234

Discharge Location: Section 20, T20N, R12W of the 2nd P.M. in Vermilion County near Oakwood

Name of Receiving Water: Middle Fork Vermilion River.

Project Description: Middle Fork Vermilion River Stabilization.

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 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.

Please find attached or online at <https://www2.illinois.gov/epa/public-notices/Pages/section-401-notices.aspx> a notice for a public hearing regarding this application for Section 401 water quality certification to be held March 26, 2019 at 6:00 pm at:

Danville Area Community College (Gymnasium)
2000 East Main Street
Danville, Illinois

The Public Notice period will end on the date indicated in the heading of this Public Notice. Commenters shall provide their names and addresses along with comments on the certification application. The certification and notice number(s) must appear on each comment page. Written comments must be received at IEPA headquarters in Springfield or emailed by 11:59 p.m., April 25, 2019, when the hearing record closes (emails must specify "Dynegy Midwest Generation 401" or "COE 2018-602" in subject line). Email comments originating on third party systems or servers intended for submittal of multiple emails of the same or nearly the same content will not be accepted without prior written approval from the hearing officer. The IEPA welcomes substantive written comments. Comments need not be notarized and should be sent to:

Hearing Officer Dean Studer, Mail Code #5
Dynegy Midwest Generation 401
Illinois Environmental Protection Agency
P.O. Box 19276
Springfield, IL 62794-9276
Phone 217- 558-8280
E-mail epa.publichearingcom@illinois.gov
TDD (hearing impaired) 866-273-5488

If a Section 401 water quality certification is issued, responses to relevant comments will be provided concurrent with the certification issuance. For further information, please contact Darren Gove at 217/782-3362.

Fact Sheet for Antidegradation Assessment
Dynegy Midwest Generation, LLC – Middle Fork Vermillion River – Vermilion County
IEPA Log No. C-0091-18
CoE# 2018-602
Contact: Brian Koch 217-558-2012
February 7, 2019

Dynegy Midwest Generation, LLC (“Applicant”) has applied for a 401 Water Quality Certification for impacts associated with an erosion mitigation and streambank stabilization project along 2,000 linear feet of the right descending bank of the Middle Fork Vermillion River near Oakwood, Illinois. The purpose of the project is to protect the streambank from erosion and minimize the downstream sedimentation associated with the 2.3 feet per year erosion rate. The project would require a layback of existing embankments to construct an access bench at the toe of the embankment for construction access. During construction, the existing gabions baskets that were initially installed for stabilization along the central portion of the project area would be removed. Stabilization methods would include a combination of stone toe protection, embedded toe boulders, void-filled rip rap, and live stake and live brush layering. Approximately 2,130 cubic yards of stone toe protection boulders and 20,240 cubic yards of void-filled riprap would be placed below the Ordinary High Water Mark of the Middle Fork Vermillion River.

Identification and Characterization of the Affected Water Body.

Segment IL_BPK-07 of the Middle Fork Vermillion River is a General Use water with 3.1 cfs of 7Q10 flow existing near the project location. The water body is fully supportive of aesthetic quality and aquatic life uses but is listed as impaired for primary contact recreation (cause given as fecal coliform) according to the 2016 Illinois Integrated Water Quality Report and Section 303(d) List. The water body is considered enhanced in regards to the dissolved oxygen water quality standard. This portion of the Middle Fork Vermillion River is not listed as a Biologically Significant Stream but has been given a C integrity rating according to the 2008 Illinois Department of Natural Resources (IDNR) publication *Integrating Multiple Taxa in a Biological Stream Rating System*. The downstream portion of Segment IL_BPK-07, beginning at a point approximately 8 miles downstream of the project location, is listed as a Biologically Significant Stream and has been given a B integrity rating. Additionally, a 17.1 mile stretch of the Middle Fork Vermillion River, including the location of the riverbank stabilization project, is designated as a wild and scenic river under the National Wild and Scenic Rivers System.

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

The streambank stabilization project would not create instream water quality standard violations during or following construction. Short-term increases in suspended solids would likely occur during construction activities, but these loadings would not impact the existing uses of the waterbody. Upon completion, the project would significantly reduce future sediment loadings via streambank stabilization. Construction activities would permanently modify the existing benthic habitat of the project area and temporarily displace aquatic life inhabiting these areas. However, given that the benthic habitat currently consists of deteriorating gabions and unstable sediment, the incorporation of clean stone fill as well as live stakes in the bankfull zones would likely improve the benthic habitat available to aquatic life. Additionally, the newly fortified bank would improve the aesthetics of this stretch of river, as the gabions and unpleasant sediment accumulations would be removed and replaced with riparian cover.

Fate and Effect of Parameters Proposed for Increased Loading.

The increase in suspended solids would be local and temporary and would be minimized to the greatest extent possible. Any short-term increases in suspended solids would eventually be incorporated into the downstream streambed and would have a negligible effect on the existing uses of the river.

Purpose and Social & Economic Benefits of the Proposed Activity.

The project purpose is to provide streambank stabilization along this stretch of the river and deter advancing erosion towards the adjacent ash pond berms that have not yet undergone closure operations. The stabilization project would also provide a social benefit to the community at large by decreasing downstream sedimentation, improving the aesthetics of this reach, and preserving the recreational uses of the water body.

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

The Applicant provided several alternatives that were considered for stabilizing the streambank, which consisted of the following: Alternative 1: No Action; Alternative 2: Stone Toe with Live Branch Layering (Preferred Alternative); Alternative 3: Buried Riprap Trench; Alternative 4: Sheet Pile Wall; and Alternative 5: River Relocation. Each streambank stabilization alternative was assessed in regards to efficacy, resultant pollutant loadings, and the amount of instream and/or riparian impacts. Details of each alternative from the Applicant's *Antidegradation and Habitat Assessment* document are provided below.

- Alternative 1: No Action
 - Description:
 - No Action
 - Impacts:
 - Erosion would continue to occur along the streambank (at an estimated average rate of 2.3 feet per year), resulting in sedimentation downstream of the project site, and a reduced width between the Middle Fork Vermilion (MFV) River and the adjacent embankments. For this reason, this alternative is not preferred.
- Alternative 2: Stone Toe with Live Branch Layering (preferred alternative)
 - Description:
 - Install riprap scour protection at the toe of slope (keyed into channel bottom) up to the bankfull elevation, and install soil lifts wrapped in coir fabric with live branches and other native vegetation above the riprap.
 - Impacts:
 - Reduces risk of future toe erosion and associated downstream sedimentation.
 - This treatment is suitable for high stream velocities with erodible soils and has proven to be successful in other similar project settings.
 - Enhances riparian zone functions and provides natural aesthetics once vegetation is established. Proposed native vegetation will be consistent with surrounding area along this section of river.
 - Vegetation establishment in the live branch layering will typically take up to two growing seasons. Use of containerized trees and shrubs in addition to live stakes and whips can provide more rapid revegetation of the riverbank, which once fully established will aid in the erosion mitigation. Once the vegetation establishes, it requires little maintenance.
 - Requires work in the channel during construction.
- Alternative 3: Buried Riprap Trench
 - Description:
 - Install buried riprap in an excavated trench within the streambank, offset a specified distance from the top of the exposed bank. The toe trench is built such that the base is below the predicted scour depth and extends to a height of the current bankfull flow.

- Impacts:
 - The buried riprap does not provide immediate bank protection or stability; rather, it is intended to become active once the bank has eroded to the location of the riprap. At that time, the rock from the riprap trench acts as a resisting force to erosion of the stream and provides a stable base for the above bank. Sediment between the trench location and existing streambank would therefore be allowed to erode further, resulting in conveyance downstream.
 - Areas with a narrow bench between the MFV River and existing embankments are not suitable for this treatment without excavating the embankment.
 - This method would require less disturbance to the river channel than Alternative 2 (Stone Toe with Live Branch Layering); however, it is only suitable if the stability of adjacent embankments will not be jeopardized during installation.
 - Riparian vegetation will need to be cleared for this work, removing the natural bank stabilization of riparian vegetation. Once the stream bank has eroded to the buried riprap, the banks above the rock toe will be bare, but the rock toe will provide stabilization. Vegetation will then need to be re-established on exposed streambank above the riprap toe.

- Alternative 4: Sheet Pile Wall
 - Description:
 - Driving interlocking steel sheet piling along the bank, separating the bank from the river to prevent exposure of the bank to river flows.
 - Impacts:
 - Provides bank protection to flows with stages below the top of the sheet pile wall. The sheet pile wall becomes an impermeable barrier between the river and bank and eliminates erosive forces along the bank soil.
 - Once in place, the sheet pile wall offers low maintenance and high flow protection.
 - Placement by precision mechanical means can lead to high construction costs.
 - Installation requires the removal of riparian vegetation.
 - Sheet pile wall has an unnatural look and is inconsistent with the surrounding area along the MFV River.

- Alternative 5: River Relocation
 - Description:
 - Relocating the river involves constructing a new channel to the east of the current channel, pulling the river away from the property.
 - Impacts:
 - The newly constructed channel would provide the benefits of a healthy system ranging from riparian vegetation, bank stabilization, access to the floodplain, and proper pattern and grade control.
 - This is a costly method due to the large amount of design and construction required to develop a new hydrologically stable channel.
 - This alternative would disrupt a significant amount of existing vegetation and require extensive earthwork. With the river being a National Scenic River, it is unlikely that the necessary permits to perform this work would be attainable.

The Agency has considered all of the alternatives provided by the Applicant. The least intrusive alternative would be to not complete the project (Alternative 1: No Action), but this is not acceptable due to the current rate of streambank erosion and the proximity of the streambank to adjacent embankments. Alternative 3 (Buried Riprap Trench) does not provide immediate bank protection or stability and may not be feasible along the entire project reach due to site constraints. Further, this alternative would allow for continued erosion and suspended

solids loadings to the river before becoming fully functional. Alternative 4 (Sheet Pile Wall) would provide an impermeable barrier which would prohibit further erosion and groundwater intrusion but may not be aesthetically appropriate due to the designation of the river as a National Wild and Scenic River. No other streambank stabilization alternatives were identified that would provide an impermeable barrier from groundwater intrusion, but a latter project would be developed to manage groundwater intrusion from upland areas. Alternative 5 (River Relocation) is not preferred due to the significant disturbances that would result from construction of the project, which would have a high likelihood of disrupting the aquatic life uses of the river.

As stated in this document, the Applicant's preferred action is Alternative 2 (Stone Toe with Live Branch Layering). Alternative 2 meets the goals of the project, which are to reduce the risk of future erosion and provide riparian and river function benefits. Increased loadings of suspended solids would be minimized to the greatest practical extent. The work area would be isolated from the openly flowing river via a diversion berm or another temporary structure. Excavated materials would be stockpiled, dewatered, and disposed of off-site, thus minimizing sediment laden runoff. Stabilization activities (e.g. seeding, straw blankets) would be initiated as soon as possible and structural practices including silt fences and a temporary cofferdam would further minimize sediment loadings to the river. Following construction, a planting and maintenance plan with greater planting densities and enhanced success criteria would be employed in both the bankfull and upland zones. All technically and economically reasonable measures to avoid or minimize the extent of pollutant loadings associated with the streambank stabilization project have been incorporated into the proposed project. The least intrusive alternative would be the "No Action" alternative, but this alternative does not meet the purpose and need of the project.

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

The IDNR EcoCAT system was consulted on September 18, 2018 in regards to the proposed activities, whereupon the Illinois Natural Heritage Database determined that the following protected resources may be in the vicinity of the project location: Kennekuk Cove County Park INAI Site, Middle Fork of the Vermilion River INAI Site, Orchid Hill INAI Site, Vermilion 040 INAI Site, Kickapoo Hill Prairie Land and Water Reserve, Orchid Hill Natural Heritage Landmark, Bluebreast Darter (*Etheostoma camurum*), Clubshell (*Pleurobema clava*), Fibrous-Rooted Sedge (*Carex communis*), Little Spectaclecase (*Villosa lienosa*), Northern Riffleshell (*Epioblasma torulosa rangiana*), Purple Wartback (*Cyclonaias tuberculata*), Salamander Mussel (*Simpsonaias ambigua*), and Wavy-Rayed Lampmussel (*Lampsilis fasciola*).

Due to concerns of state and federally endangered/threatened mussels potentially inhabiting the construction area, a survey to determine the presence and density of mussel species within the vicinity of the project location was conducted on September 16 and 17 of 2018. The survey collected 33 live individuals representing eight species. Additionally, 140 weathered (dead) or subfossil specimens were identified, representing an additional 16 species. Species of note collected during the survey included six live state-endangered Wavy-Rayed Lampmussels (*Lampsilis fasciola*) and one weathered shell of the state and federally-endangered Northern Riffleshell (*Epioblasma rangiana*). As a result of these findings, IDNR has determined that a high likelihood of "take," as defined under the *Illinois Endangered Species Protection Act [520 ILCS 10/2]*, exists for Wavy-Rayed Lampshell and potentially the Northern Riffleshell due to the presence of a translocated population upstream. Thus, IDNR has recommended that the Applicant seek an Incidental Take Authorization (ITA) for these species' pursuant to *Part 1080* and *Section 5.5* of the *Illinois Endangered Species Protection Act*. However, due to the federally-endangered status of the Northern Riffleshell mussel, IDNR cannot issue an ITA until the U.S. Fish and Wildlife Service (USFWS) has issued a federal Incidental Take Permit for the species pursuant to *Section 10* of the federal *Endangered Species Act*.

During the mussel surveys the state-endangered Bluebreast Darter (*Etheostoma camurum*) was observed in the project area. Additionally, upon further review of the habitat, location, and existing data, the IDNR has determined that the state-endangered Bigeye Chub (*Hybopsis amblops*) and state-threatened Eastern Sand Darter (*Ammocrypta pellucida*) are also likely to be in the vicinity of the project. Thus, IDNR has recommended that the Applicant also pursue an ITA for Bluebreast Darter, Bigeye Chub, and Eastern Sand Darter.

Consultation on the part of IDNR is closed unless the Applicant desires additional information or advice related to this proposal. However, in accordance with 17 Ill. Adm. Code 1075.40(h), the Applicant must notify IDNR of their plans regarding these recommendations. The Applicant has a draft Conservation Plan that will soon be submitted to IDNR for approval. The Conservation Plan will include a protocol that requires an additional mussel survey to be conducted immediately prior to construction, upon which mussels would be relocated. Any additional comments from IDNR regarding this plan, or any other aspect of the project, will be considered prior to authorization of construction.

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 and was based on the information available to the Agency at the time this assessment was written. We tentatively find that the proposed activity would result in the attainment of water quality standards; that all existing uses of water body would be fully protected; 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 local community at large by providing streambank stabilization, decreasing downstream sedimentation, improving the aesthetics of this reach, and preserving the recreational uses of the water body. Comments received during the 401 Water Quality Certification public notice period will be evaluated before a final decision is made by the Agency.