139 E. Fourth Street
Cincinnati, Ohio 45202

August 19, 2022

Ms. Tanowa M. Troupe
Secretary
Ohio Power Siting Board
180 East Broad Street, 11th Floor
Columbus, OH 43215-3716

Re: OPSB Case No. 22-746-EL-BNR
Duke Energy Ohio, Inc., Muddy Creek Emergent Pole Replacements Project
Ohio Department of Natural Resources Letter

Dear Ms. Troupe:

Please see attached Ohio Department of Natural Resources letter relating to the above-referenced case.

This letter satisfies condition 3 of the Staff Report in this case.

Please do not hesitate to contact me with any questions.

Sincerely,

*/s/ Emily A. Olive,* CP

Emily A. Olive
Certified Paralegal

**Office of Real Estate**
*John Kessler, Chief*
2045 Morse Road – Bldg. E-2
Columbus, OH 43229
*Phone: (614) 265-6621*
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August 19, 2022

Aaron Geckle
V3 Companies
312 Walnut Street, Suite 1600
Cincinnati, OH 45202

**Re:** 22-0788; Duke Energy F6885 Emergency Wood Pole Replacements Project

**Project:** The proposed project involves the emergency replacement of seven existing structures due to severe damage.

**Location:** The proposed project is located in Delhi and Green Townships, Hamilton County, Ohio.

The Ohio Department of Natural Resources (ODNR) has completed a review of the above referenced project. These comments were generated by an inter-disciplinary review within the Department. These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), the National Environmental Policy Act, the Coastal Zone Management Act, Ohio Revised Code and other applicable laws and regulations. These comments are also based on ODNR's experience as the state natural resource management agency and do not supersede or replace the regulatory authority of any local, state or federal agency nor relieve the applicant of the obligation to comply with any local, state or federal laws or regulations.

**Natural Heritage Database:** A review of the Ohio Natural Heritage Database indicates there are no records of state or federally listed plants or animals within one mile of the specified project area. Records searched date from 1980.

Please note that Ohio has not been completely surveyed and we rely on receiving information from many sources. Therefore, a lack of records for any particular area is not a statement that rare species or unique features are absent from that area.

**Fish and Wildlife:** The Division of Wildlife (DOW) has the following comments.

The DOW recommends that impacts to streams, wetlands and other water resources be avoided and minimized to the fullest extent possible, and that Best Management Practices be utilized to minimize erosion and sedimentation.

The entire state of Ohio is within the range of the Indiana bat (*Myotis sodalis*), a state endangered and federally endangered species, the northern long-eared bat (*Myotis septentrionalis*), a state endangered and federally threatened species, the little brown bat (*Myotis lucifugus*), a state endangered species, and the tricolored bat (*Perimyotis subflavus*), a state endangered species. During the spring and summer (April 1 through September 30), these species of bats

predominately roost in trees behind loose, exfoliating bark, in crevices and cavities, or in the leaves. However, these species are also dependent on the forest structure surrounding roost trees. If trees are present within the project area, and trees must be cut, the DOW recommends cutting only occur from October 1 through March 31, conserving trees with loose, shaggy bark and/or crevices, holes, or cavities, as well as trees with DBH ≥ 20 if possible. If trees are present within the project area, and trees must be cut during the summer months, the DOW recommends a mist net survey or acoustic survey be conducted from June 1 through August 15, prior to any cutting. Mist net and acoustic surveys should be conducted in accordance with the most recent version of the "*OHIO DIVISION OF WILDLIFE GUIDANCE FOR BAT SURVEYS AND TREE CLEARING*". If state listed bats are documented, DOW recommends cutting only occur from October 1 through March 31. However, limited summer tree cutting may be acceptable after consultation with the DOW (contact Eileen Wyza at Eileen.Wyza@dnr.ohio.gov).

The DOW also recommends that a desktop habitat assessment is conducted, followed by a field assessment if needed, to determine if a potential hibernaculum is present within the project area. Direction on how to conduct habitat assessments can be found in the current USFWS "*RANGE-WIDE INDIANA BAT & NORTHERN LONG-EARED BAT SURVEY GUIDELINES*." If a habitat assessment finds that a potential hibernaculum is present within 0.25 miles of the project area, please send this information to Eileen Wyza for project recommendations. If a potential or known hibernaculum is found, the DOW recommends a 0.25-mile tree cutting and subsurface disturbance buffer around the hibernaculum entrance, however, limited summer or winter tree cutting may be acceptable after consultation with the DOW. If no tree cutting or subsurface impacts to a hibernaculum are proposed, this project is not likely to impact these species.

The project is within the range of the following listed mussel species.
Federally Endangered
fanshell (*Cyprogenia stegaria*)
pink mucket (*Lampsilis orbiculata*)
rayed bean (*Villosa fabalis*)
sheepnose (*Plethobasus cyphyus*)
snuffbox (*Epioblasma triquetra*)

State Endangered
butterfly (*Ellipsaria lineolata*)
ebonyshell (*Fusconaia ebena*)
elephant-ear (*Elliptio crassidens crassidens*)
long-solid (*Fusconaia maculata maculata*)
monkeyface (*Quadrula metanevra*)
Ohio pigtoe (*Pleurobema cordatum*)
wartyback (*Quadrula nodulata*)
washboard (*Megalonaias nervosa*)

Due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size, this project is not likely to impact these species.

The project is within the range of the following listed fish species.
**State Endangered**
bigeye shiner (*Notropis boops*)
lake sturgeon (*Acipenser fulvescens*)
northern madtom (*Noturus stigmosus*)
popeye shiner (*Notropis ariommus*)

shoal chub (*Macrhybopsis hyostoma*)
shortnose gar (*Lepisosteus platostomus*)
shovelnose sturgeon (*Scaphirhynchus platorynchus*)

**State Threatened**
blue sucker (*Cycleptus elongatus*)
channel darter (*Percina copelandi*)
mountain madtom (*Noturus eleutherus*)
paddlefish (*Polyodon spathula*)
river darter (*Percina shumardi*)

The DOW recommends no in-water work in perennial streams from March 15 through June 30 to reduce impacts to indigenous aquatic species and their habitat. If no in-water work is proposed in a perennial stream, this project is not likely to impact these or other aquatic species.

The project is within the range of the Kirtland's snake (*Clonophis kirtlandii*), a state threatened species. This secretive species prefers wet meadows and other wetlands. Due to the location, the type of habitat within the project area, and the type of work proposed, this project is not likely to impact this species.

The project is within the range of the cave salamander (*Eurycea lucifuga*), a state endangered species. Due to the location, the type of habitat within the project area, and the type of work proposed, this project is not likely to impact this species.

The project is within the range of the American bittern (*Botaurus lentiginosus*), a state endangered bird. Nesting bitterns prefer large undisturbed wetlands that have scattered small pools amongst dense vegetation. They occasionally occupy bogs, large wet meadows, and dense shrubby swamps. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of May 1 through July 31. If this type of habitat will not be impacted, this project is not likely to impact this species.

The project is within the range of the trumpeter swan (*Cygnus buccinator*), a state threatened bird. Trumpeter swans prefer large marshes and lakes ranging in size from 40 to 150 acres. They like shallow wetlands one to three feet deep with a diverse mix of plenty of emergent and submergent vegetation and open water. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of April 15 through June 15. If this habitat will not be impacted, this project is not likely to have an impact on this species.

Due to the potential of impacts to federally listed species, as well as to state listed species, we recommend that this project be coordinated with the US Fish & Wildlife Service.

**Geological Survey:** The Division of Geological Survey has the following comments.

**Physiographic Region**
The proposed project area is in Green Township, Hamilton County. This area is in the Outer Bluegrass physiographic region. This region is characterized by a high-relief, dissected plateau of Ordovician- and Silurian-age dolomites, limestones, and calcareous shales. Caves and other karst features are relatively common. Thin drift capped ridges are common in the western portion of the region (Ohio Department of Natural Resources, Division of Geological Survey, 1998).

**Surficial/Glacial Geology**
The project area lies within the glaciated margin of the state and includes several Pre-Illinoian-age glacial features. The majority of the project area is covered by dissected ground moraine mixed with weathered bedrock (Pavey et al, 1999). Glacial drift throughout most of the study area is between 10 and 20 feet thick. Drift is thickest on ridge tops (Powers and Swinford, 2004).

**Bedrock Geology**
The uppermost bedrock unit in the project area is the Waynesville Formation and Arnheim Formations Undivided. This unit is Ordovician-age and consists of interbedded shale and limestone. The formation is bluish gray and contains planar and irregular bedding. Underlying the Waynesville Formation and Arnheim Formations Undivided is the Ordovician-age Grant Lake Formation. This unit is characterized by interbedded gray to bluish gray limestone and shale. Bedding may be planar, wavy, irregular, or nodular throughout. Underlying the Grant Lake Formation is the Ordovician-age Miamitown Shale-Fairview Formation Undivided. This unit is characterized by blueish gray interbedded limestone and shale with planar to nodular bedding. Underlying the Miamitown Shale-Fairview Formation Undivided is the Ordovician-age Kope Formation. This unit is characterized by gray to bluish gray interbedded limestone and shale. Thick to planar bedding outcrops of Kope Formation are susceptible to severe surface weathering and landslides. Bedrock may be exposed in outcrops and roadcuts within the boundary of the project area (Slucher et al, 2006).

**Oil, Gas and Mining**
ODNR has no record of oil and gas wells within one mile of the proposed project area.

ODNR does not have record of any mining operations within the project area. The nearest mines to the project area are two abandoned gravel pits located 1.2 miles to the southwest (Ohio Department of Natural Resources, Division of Mineral Resources, Mines of Ohio).

**Seismic Activity**
Several small earthquakes have historically been recorded near the site. The three events closest to the site are listed in the chart below (Ohio Department of Natural Resources, Division of Geological Survey, Ohio Earthquake Epicenters):

| Date | Magnitude | Distance to Site Boundary | County | Township |
|---|---|---|---|---|
| December 26, 1936 | 2.9 | 6.8 | Hamilton | Cincinnati |
| December 26, 1936 | 2.9 | 7.6 | Hamilton | Cincinnati |
| October 17, 1937 | 2.9 | 8.7 | Hamilton | Cincinnati |

**Geologic Hazards**
Outcrops of the Kope Formation are susceptible to landslides. Although there are no documented landslides in the project area, there are areas where the soil is thin or absent and outcrops of Kope Formation are present. Landslides can occur where one or more of the following conditions exist: steep slopes, jointed rocks, fine-grained and permeable rock or sediment, the presence of clay or shale units, and large amounts of water (Hansen, 1995 and USGS Landslide Inventory). Developers should be cautious of unstable slopes within the project area.

**Karst**
Karst features usually form in areas that are covered by thin or no glacial drift and the bedrock is limestone or dolomite. Karst features and sinkholes are common in Hamilton County. Although the nearest sinkhole is one mile away, the underlying limestone is susceptible to the formation of

sinkholes especially where drift is thin. Engineers and project managers should be aware of voids and sinkholes in the bedrock when setting footings and take the necessary engineering precautions if encountered. (Ohio Department of Natural Resources, Division of Geological Survey, Ohio Karst).

**Soils**
According to the USDA Web Soil Survey, the project area consists primarily of soils derived from residuum and loess. Eden and Ava are the most common soil series found within the boundaries of the project area. The Eden which makes up over 41% of the project area has a silty clay loam texture. Over 45% of the project area is evaluated as urban land (USDA Web Soil Survey).

There is a moderate risk of shrink-swell potential in these soils. Slope is variable, with slope exceeding an 18% grade (Lerch et al, 1982 and USDA Web Soil Survey).

**Groundwater**
Groundwater resources are limited throughout the project area. The interbedded sedimentary rocks beneath the project area are a poor aquifer. Wells developed in bedrock are likely to yield up to five gallons per minute (Walker, 1986 and Ohio Department of Natural Resources, Division of Water, Bedrock Aquifer Map, 2000). Unconsolidated material in the project area is generally too thin to be used as an aquifer. Wells developed in unconsolidated material are likely to yield up to five gallons per minute. Thick deposits of alluvium adjacent to Muddy Creek may produce limited quantities of groundwater (Ohio Department of Natural Resources, Division of Water, Statewide Unconsolidated Aquifer Map, 2000).

ODNR has record of 10 water wells drilled within one mile of the project area. These wells range in depth from 56 to 120 feet, with an average depth of 80 feet. The most common aquifer listed is limestone and shale. There are three monitoring wells less than 20ft deep that are completed in the silt and clay. Of the remaining wells two are completed in sand-and-gravel deposits. The remaining five wells are completed in the interbedded limestone and shale bedrock. Sustainable yields of 10 to 20 gallons per minute have been reported for three wells within one mile of the project area (two bedrock one sand-and-gravel wells). The average sustainable yield of these wells is 17 gallons per minute (Ohio Department of Natural Resources, Division of Geological Survey, Ohio Water Wells).

**Water Resources:** The Division of Water Resources has the following comment.

The local floodplain administrator should be contacted concerning the possible need for any floodplain permits or approvals for this project.

ODNR appreciates the opportunity to provide these comments. Please contact Mike Pettegrew at mike.pettegrew@dnr.ohio.gov if you have questions about these comments or need additional information.

Mike Pettegrew
Environmental Services Administrator

Summary: Correspondence Ohio Department of Natural Resources Letter regarding Duke Energy Ohio, Inc., Muddy Creek Emergent Pole Replacements Project electronically filed by Mrs. Tammy M. Meyer on behalf of Duke Energy Ohio Inc. and D'Ascenzo, Rocco and Kingery, Jeanne and Akhbari, Elyse Hanson and Vaysman, Larisa