



American Electric Power
1 Riverside Plaza
Columbus, OH 43215
aep.com

Via Electronic Submittal

May 23, 2023

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

**Subject: Niagara Hydroelectric Project (FERC No. 2466-037)
 Response to Comments, Recommendations, and Preliminary Terms and
 Conditions**

Dear Secretary Bose:

Appalachian Power Company (Appalachian or Licensee), a unit of American Electric Power (AEP), is the Licensee, owner, and operator of the run-of-river, 2.4-megawatt Niagara Hydroelectric Project (Project) (Project No. 2466), located on the Roanoke River in Roanoke County, Virginia.

The Project is currently licensed by the Federal Energy Regulatory Commission (FERC or Commission); the current license expires on February 29, 2024. On February 28, 2022, Appalachian submitted its Final License Application (FLA) in accordance with 18 CFR § 5.17(a). On February 7, 2023, FERC issued its Notice of Ready for Environmental Analysis (REA) for the license proceeding. In response to the REA, the following organizations submitted comments and recommendations: Department of Interior (DOI) and its agencies the National Park Service (NPS) and U.S. Fish and Wildlife Service (USFWS); Roanoke County, Virginia; Roanoke Outside Foundation; Roanoke Valley Blueway – Alleghany Regional Commission; Roanoke Valley Greenway Commission; Town of Vinton, Virginia; Virginia Department of Wildlife Resources (VDWR); and, Virginia Tech. Appalachian hereby provides the following comments related to topics addressed in these filings.

Continued operation of the Project is not likely to adversely affect Roanoke Logperch, so a Roanoke Logperch Enhancement Plan is unwarranted.

Both DOI and VDWR recommend Appalachian develop and implement a Roanoke Logperch Enhancement Plan. Appalachian believes this is unwarranted for a number of reasons, including

but not limited to USFWS's December 2022 recommendation for de-listing of Roanoke Logperch (USFWS 2022)¹.

Appalachian conducted robust and resource-intensive relicensing studies to evaluate Project effects on Roanoke Logperch including a larval drift study, one of the first such studies for a hydroelectric relicensing project. These studies demonstrate the presence of multiple life stages and that there are naturally reproducing Roanoke Logperch both upstream and downstream of the Project. No evidence of larval Roanoke Logperch entrainment at the dam or powerhouse was identified. These studies also documented an increased number and distribution of Roanoke Logperch in the Project area in comparison to numbers and distribution previously observed in the relicensing studies performed in the 1990s. Although Appalachian is not proposing to develop a Roanoke Logperch Enhancement Plan, the Licensee is proposing an increased continuous minimum bypass flow that will enhance habitat for Roanoke Logperch, as further discussed below.

Based on documentation (through Appalachian's study) of Roanoke Logperch larvae occurring upstream of the Project reservoir and downstream of the dam and Project, Virginia Tech in its comments provided an estimated "take" of Roanoke Logperch at the Project in 2022. The assessment and estimate they provided does not substantiate claim of an adverse effect to this presently listed endangered species for the following reasons:

- Virginia Tech's analysis is speculative and may be based on an overestimate of larval survivability. The author acknowledges this by stating, in general, that less than 10 percent of stream fish larvae survive to adulthood. Larval survivability rates are known to express ranging variability by species, and both spatially and temporally, that may be attributable to innumerable environmental factors and are well documented in the scientific literature.^{2,3,4} Despite the lack of data, the commentor provided an opinion that the "conservative" survivability of Roanoke Logperch is approximately 5 percent, which is half the percent survival rate assigned to general fish species.
- Roanoke Logperch is currently classified as an endangered species and, by the nature of its classification, considered a rare species occupying a minimal proportion of the local fish assemblage. The natural survivability rate of Roanoke Logperch is likely considerably less than the estimated projections provided by Virginia Tech. Roanoke Logperch population growth rates vary considerably on an annual basis.⁵ Consequently, the baseline, empirical prediction of natural survivability for fishes, including Roanoke Logperch, are not reliably

¹ USFWS. 2022. 5-Year Review of Roanoke Logperch (*Percina rex*): Summary, Evaluation, and Recommendation for Delisting. USFWS, Virginia Field Office, Gloucester, Virginia. Signed December 12, 2022.

² Nagel, C., Mueller, M., Pander, J., Stoeckle, B. C., Kuehn, R., and J. Geist. 2021. Going with the flow: Spatio-temporal drift patterns of larval fish in a large alpine river. *Freshwater Biology* 66(9): 1765-1781.

³ Lechner, A., Keckeis, H., and P. Humphries. 2016. Patterns and processes in the drift of early developmental stages of fish in rivers: a review. *Reviews in Fish Biology and Fisheries* 26:471-489.

⁴ Humphries, P. and P.S. Lake. 2000. Fish larvae and the management of regulated rivers. *Regul. Rivers: Res. Mgmt.* 16:421-432.

⁵ Roberts, J. H., Angermeier, P. L., and G. B. Anderson. 2016. Population viability analysis for endangered Roanoke logperch (*Percina rex*). *Journal of Fish and Wildlife Management*. 7:46-64.

known; therefore, assigning an unsupported, quantifiable impact using unverified experimental assumptions should be used with caution.

- Virginia Tech’s “take” estimate for this single lifestage (larval) of Roanoke Logperch is based on an impact that, if occurring, would result entirely to the existence of the Niagara reservoir and dam, which have been in existence for over a century. The Niagara reservoir, which is required to operate the Project, is the baseline for the Commission’s environmental analysis and constitute the environmental baseline as defined by Endangered Species Act regulations (50 CFR § 402.02).
- The December 2022 USFWS recommendation for de-listing of Roanoke Logperch suggests the species has recovered from historical losses. The conclusion of the studies performed by Appalachian supports USFWS’s de-listing recommendation and demonstrates continued operation of the Project is not likely to adversely affect Roanoke Logperch.

Appalachian’s proposed minimum bypass flow will enhance habitat in the Niagara bypass reach for Roanoke Logperch and other aquatic species and balance power and non-power values at the Project.

Both the DOI and VDWR recommended a minimum flow regime based on ten percent of the Project inflow on a monthly basis rather than Appalachian’s proposal to increase minimum flows to the Niagara bypass reach from the current license requirement of 8 cfs to 30 cfs.

Appalachian conducted a robust relicensing study to develop a site-specific model to evaluate aquatic habitat in the Niagara bypass reach under a variety of flow conditions. The study informed Appalachian’s proposed minimum bypass flow of 30 cfs, rather than defaulting to an arbitrary percent of inflow which would not be feasibly controllable or practical to operationally implement at a small project like Niagara. As discussed in Section E.9.2.1 of Exhibit E of the FLA, most incremental habitat gain occurred between the lowest modeled flow (7 cfs) and 24-33 cfs. Above approximately 30 cfs, additional flow increases habitat for all guilds, but at a lower rate as compared to the rate of gain for the 8 to 30 cfs change. In other words, above 30 cfs, there is a diminishing amount of habitat gain per MW of lost energy generation due to bypass flows. Appalachian’s proposed 30 cfs minimum flow appropriately balances aquatic habitat enhancement against Project power production. As presented in the FLA, this increase in the licensed minimum bypass flow is expected to result in a 5.9% decrease in annual renewable, zero emissions generation at the Project. In contrast, the agencies’ recommended flows would reduce annual renewable, zero emissions generation at the Project by 12.4%.

There is no demonstrated need for an Operations and Compliance Monitoring Plan or an impoundment refill procedure.

Both DOI and VDWR recommended Appalachian develop and implement an Operations and Compliance Monitoring Plan as well as an impoundment refill procedure. Both recommendations

are unnecessarily complex and unwarranted given the lack of demonstrated need for either. As presented in Exhibit H, Section H.15 of the FLA⁶, Appalachian is unaware of non-compliance situations with the existing license. Further, USGS Gage 02056000 located immediately downstream of the Project can be accessed remotely to monitor Project flow releases. Given Appalachian's proposal to operate the Project in a run-of-river mode and no planned (or recent historic) drawdowns, if a reservoir drawdown were required in the 40-year new license term to address major Project maintenance or other unplanned circumstance, Appalachian recognizes this would necessitate a variance request, likely in the form of a non-capacity license amendment. Such requests would require agency consultation, during which the refill procedure could be developed in consultation with impacted stakeholders at that time.

Public recreation measures will be appropriately addressed in the Project Recreation Management Plan (RMP) to be developed in consultation with stakeholders.

A number of organizations recommended substantially similar measures related to public recreation. These are briefly summarized below along with Appalachian's replies.

- **Public Education:** Commentors recommend Appalachian undertake efforts to educate the public regarding recreational access to the Project. Appalachian agrees such activities are consistent with its license obligations and has proposed to include appropriate measures in its Recreation Management Plan, specifically additional signage and a public website about Project recreation facilities and downstream flow releases. No additional measures are warranted.
- **Canoe Portage Put-In:** The canoe portage put-in is currently located on NPS property downstream of the Project. Several organizations recommend Appalachian relocate the put-in upstream closer to the Project tailrace, citing public safety and site management concerns at its current location. Appalachian believes the proposed relocation of the put-in in the tailrace downstream of the powerhouse may not be a more desirable location as compared to the current put-in location. The proposed location in the tailrace is a steep, rip-rap bank making it a challenging put-in for paddlers carrying canoes and kayaks. Additionally, releases from the powerhouse make the site challenging for paddlers to safely enter the water given release volumes and turbulence.⁷ Appalachian is, nevertheless, in the process of further discussing potential options with stakeholders and has scheduled a site visit on May 25, 2023 with the NPS and other interested stakeholders. Appalachian will provide the results of this site visit and any applicable proposed portage improvements in the draft Recreation Management Plan, which Appalachian presently plans to distribute to stakeholders for review in the third quarter of 2023.

⁶ Appalachian Power. February 28, 2022. Final License Application Volume I of IV Exhibits A, E, F, G, and H Niagara Hydroelectric Project. FERC Accession No. [20220228-5371](#).

⁷ For additional discussion regarding this issue, see Appalachian's July 1, 2022, Response to Final License Application Additional Information Requests. FERC Accession number [20220701-5325](#)

- **RMP Updates:** Several organizations recommended Appalachian conduct Project recreation surveys every five years and use the results to modify the RMP as needed. While Appalachian acknowledges there may be a need to update the RMP during the term of the new license, doing so every five years is unnecessary and a significant financial burden for a small hydroelectric project with limited licensed recreational facilities and opportunities. FERC has acknowledged with its elimination of the Licensed Hydropower Development Recreation Report (FERC Form 80) requirements that monitoring recreation usage every five years is unduly burdensome and unnecessary⁸. As noted by FERC staff in support of that action, there are other more appropriate means of assuring appropriate recreational facilities are available at a Project including routine inspections and public requests to FERC staff. Given the limited amount of public recreation at the Project, Appalachian believes a recreation survey frequency of ten to twenty years would be adequate to identify additional, future recreation needs at the Project.
- **Recreation Flow Releases:** Several organizations recommended Appalachian provide recreational flow releases to support downstream paddling opportunities. Commentors also questioned the effect sediment accumulation within the reservoir has had on reservoir storage volume and whether potential changes in storage volume negate the desktop review of potential recreational flow releases done during relicensing.

Appalachian has proposed to operate the Project in a run-of-river mode with a narrow reservoir operating band and a continuous minimum flow release into the bypass reach. To accommodate recreation flow releases, Appalachian would have to deviate from the run-of-river mode and operate the reservoir over a wider range of elevations, potentially affecting upstream riparian, aquatic, aesthetic, and natural resources. These changes would be independent of sediment deposition within the reservoir, and if sediment accumulation has occurred in the reservoir, this is not impacting run-of-river operation. Further, as described in its July 2022 Response to FLA Additional Information Requests (July 2022 AIR Response), Project flow releases typically exceed 300 cubic feet per second (cfs) for long periods of time, thereby supporting downstream paddling during normal and wet hydrologic periods.⁹ Publishing information about Project operations and flow releases on the public website proposed by Appalachian as an element of the RMP will enhance the public's ability to take advantage of available flows.

- **Non-Project Recreational Facilities:** Several organizations recommended Appalachian take actions with respect to non-Project recreational facilities and resources including greenways, regional parks, and waterway debris. While Appalachian is supportive of such initiatives and may elect to support them consistent with its philanthropic and community outreach initiatives, inclusion of non-Project related recreation requirements in the License would be inconsistent with the Federal Power Act and FERC policy.

⁸ See 83 FR 67060.

⁹ July 1, 2022, Response to Final License Application Additional Information Requests. FERC Accession number [20220701-5325](#)

Appalachian's proposed Terrestrial Resources Protection Plan will include protection, mitigation, and enhancement (PME) measures for terrestrial resources to protect bald eagles, bats, migratory birds, and monarch butterfly.

USFWS and VDWR recommended measures to protect bald eagle, Indiana bat, northern long-eared bat, tricolored bat, migratory birds, and monarch butterfly. Appalachian agrees protection measures are needed as described below, but finds some recommendations unwarranted and unduly restrictive.

- **Bald eagle:** Appalachian agrees measures are needed to protect these species and intends to consult with the USFWS prior to construction-related activities that require clearing trees, consistent with the National Bald Eagle Guidelines developed by the USFWS¹⁰. Appalachian notes that no such activities are presently proposed or anticipated as part of Appalachian's relicensing proposal.
- **Bats:** Appalachian also intends to include bat protection measures in the Terrestrial Resources Protection Plan and expects those measures to be consistent with the measures below:
 - Appalachian may remove hazard trees when the Licensee has a reasonable basis to believe they pose a material threat to human life or property at any time, including to restore infrastructure after a weather event, without prior consultation with the VDWR and the USFWS. The Licensee will subsequently inform the VDWR and the USFWS of the activity and event.
 - Appalachian may remove and trim trees during the period October 1 through March 31 without prior consultation with, or notification to, the VDWR and USFWS.
 - Appalachian may remove trees <3 inches diameter at breast height (dbh) at any time without prior consultation with, or notification to, the VDWR and the USFWS.
- **Migratory birds and monarch butterfly:** The agencies recommended Appalachian refrain from vegetation management activities from spring through fall to avoid potential effects to migratory birds and monarch butterfly host plants. Such measures are unduly restrictive given there has been no demonstrated Project effects from vegetation maintenance on migratory birds or monarch butterfly host plants. Further, not mowing for an entire summer season is impracticable given routine mowing is necessary to manage facility grounds and to facilitate safe employee access on the lands. Appalachian has not proposed construction, other than possibly the potential construction associated with relocating the canoe portage put-in (on non-vegetated bank), or other activities that would affect migratory birds or monarch butterfly and the measures described above to protect for bald eagle and bats will also benefit migratory birds. Therefore, Appalachian believes no additional measures are needed.

¹⁰ USFWS. 2007. Post-delisting Monitoring Plan for the Bald Eagle (*Haliaeetus leucocephalis*) in the Contiguous 48 States, U.S. Fish and Wildlife Service, Divisions of Endangered Species and Migratory Birds and state Programs. Midwest Regional Office, Twin Cities, Minnesota.

Appalachian appreciates the continued involvement of relicensing stakeholders in the relicensing process and looks forward to developing the management plans it has identified in the FLA. Please do not hesitate to contact me at (614) 716-2240 or jmmagalski@aep.com with questions regarding this filing.

Sincerely,

A handwritten signature in black ink, reading "Jonathan M. Magalski". The signature is written in a cursive, flowing style with a prominent horizontal line across the middle.

Jonathan M. Magalski
Environmental Manager
American Electric Power Services Corporation, Environmental Services

cc: Elizabeth Parcell (AEP)
Sarah Kulpa (HDR)