



# United States Department of the Interior



FISH AND WILDLIFE SERVICE  
Pennsylvania Field Office  
110 Radnor Road, Suite 101  
State College, Pennsylvania 16801-4850

November 23, 2022

Maryalice Fischer  
Low Impact Hydropower Institute  
1167 Massachusetts Avenue, Office 407  
Arlington, MA 02476

RE: Belleville Project Comments

Dear Maryalice Fischer:

The U.S. Fish and Wildlife Service (Service) is responding to the Low Impact Hydropower Institute (LIHI) request for comments regarding the American Municipal Power (AMP) application for LIHI certification for the Belleville Hydroelectric Project (Project). The Project is co-owned by AMP and the City of Jackson, Ohio (licensees). The Service does not support LIHI certification for this Project for the reasons described below.

A Federal Energy Regulatory Commission (FERC) license was issued for the Project on September 27, 1989. License Article 404 required the licensees to prepare and implement a plan to monitor any potential project-induced fish mortality after consulting with the U.S. Army Corps of Engineers, the Service, the West Virginia Department of Natural Resources (WVDNR) and the Ohio Department of Natural Resources (ODNR). License Article 404 also required a provision to compensate the WVDNR and ODNR for fish losses occurring during the fish mortality monitoring, and a discussion of the licensee's proposal to install fish protection devices such as screens, bypass facilities or other structures or devices during initial construction to minimize fish entrainment.

On November 30, 2001, AMP filed a request to have the remaining License Article 404 requirements for a fish mortality study and possible compensation deleted from the license. The request cited changed circumstances including the non-construction of numerous projects in the upper Ohio River basin and a substantial change in the FERC's policy regarding fish studies and compensation since the license was issued in 1989. AMP also cited the FERC's 1988 Final Environmental Impact Statement (FEIS [FERC 1988]), specifically referring to the FEIS's reference to an entrainment study that found that 10% mortality in the upper Ohio River basin did not significantly affect Ohio River populations of juvenile and adult gizzard shad and freshwater drum. However, the citing of this conclusion by AMP was inaccurate, as the FEIS also included the following:

(1) the results of in-field entrainment studies resulted in [turbine] passage estimates that have not been universally accepted by the USFWS and state agencies as a basis for regulation; (2) methodological problems in studies at Racine (WAPORA, Inc. 1987) made [turbine] passage estimates highly debatable and inconclusive; (3) attempts to quantify turbine-induced mortality at operating facilities on the Ohio River system have been unsatisfactory, despite considerable effort; (4) no reliable, quantitative estimate of [turbine] passage rates for sites on the upper Ohio River is available; (5) serious questions remain about population effects on larger fishes; (6) damage to larger fishes, particularly gamefishes, will be greater than 10 percent of those entrained, and the loss of a percentage of those damaged could be significant for fishable populations depending on the numbers that pass through the turbines and the survival percentages; and (7) in the absence of well-defined fish passage rates [through turbines] at existing projects, monitoring at new projects will be necessary to determine these rates (FERC 1988).

AMP was selective in the conclusions it pulled from the FEIS to support its request to relieve the Project of having to conduct the fish mortality study and provide compensation to the WVDNR and ODNR.

The 1985-1986 study at Racine (WAPORA, Inc. 1987) was not acceptable to the resource agencies or to the Electric Power Research Institute (EPRI). Problems with this study included: (1) surveys were conducted only during August 1985, and June and August 1986 (e.g., these brief time periods completely miss the timing of American eel downstream migration); (2) many sport fish species and species that serve as hosts for freshwater mussels were excluded from the study or were extremely underrepresented in the study because they were not captured at all or in significant numbers during these summer months; (3) hydroacoustic sampling was conducted during 110 days from May 19 through September 6, 1986, but sampling on only 77 days of this effort was found to be usable to compute fish passage; (4) the upper 10 feet of the water column was not sampled as part of the hydroacoustic survey due to turbulence and air bubbles; (5) the water column was divided into four depth intervals (excluding the top 10 feet), and each interval was only sampled for a small portion of the 110 days (15, 24, 12, and 26 days for each of four depths); (6) the partial recovery net used to capture fish exiting the powerhouse did not cover the entire draft tube outlet; (7) injuries to fish documented during the fall of 1985 were not analyzed due to the opinion that they may have been net-induced; (8) problems with the study in 1985 combined to make survival data invalid; (9) a statement that “sampling procedure improvements in 1986 included lower flow through velocities” suggests that the Project deviated from representative operations to improve reliability of results; and (10) net efficiency was poor (< 4 percent).

Despite the above known issues, AMP also cited a 1996 court decision (*New Martinsville v. FERC*), that relied on the WAPORA studies, as a reason for requesting deletion of the requirements of license article 404. That court decision also focused very narrowly on gizzard shad and freshwater drum. The New Martinsville decision established a negative precedent on the Ohio River. Despite knowing that the WAPORA studies were highly flawed and that they were rejected by the resource agencies (and by the EPRI for inclusion in their entrainment study database used as a reference in conducting desktop entrainment studies), and despite the above findings of the FEIS, the licensees chose to seek relief from the requirement to evaluate the

impact of their project on fisheries. Until an acceptable entrainment monitoring study is conducted at the Belleville Project, the Service does not support LIHI certifications for this Project or other Ohio River projects that have used the above court decision as a reason for not conducting such studies or mitigating their impacts.

We also note that the other “changed circumstances” cited by AMP in their November 30, 2001, request (i.e., the non-construction of numerous projects in the Upper Ohio River) no longer apply, as there are now more than a dozen hydropower projects operating on the Ohio River and its major tributary, the Allegheny River, with another 11 licensed projects on the Ohio, Allegheny and Monongahela Rivers, 10 of which have received the necessary funding for construction. There are also three newly proposed projects on the Ohio River that have advanced beyond the preliminary permit stage and are now in FERC licensing processes, and there are additional proposals (preliminary permits) at other locks and dams on the Allegheny and Monongahela.

AMP also cited the meetings it participated in with the resource agencies, and extensive consultation, toward reaching agreement on an appropriate amount of compensation for fisheries losses due to entrainment. The WVDNR rejected the amount offered for compensation, deeming it inadequate. AMP stated that agreement on an appropriate level of compensation could not be reached and an alternative proposal was not made by the resource agencies. However, following AMP’s request to FERC to delete the requirements of License Article 404, the WVDNR filed a letter of protest (FERC accession #20020222-0466) to the FERC docket, objecting to the requested deletion. In their letter, the WVDNR stated that they did not know if the amount of compensation that had been offered by AMP would be adequate compensation for fish mortality at Belleville because the entrainment and mortality rates for the Belleville Project were unknown, and they pointed out that estimated rates at other projects resulted in compensation estimates that were an order of magnitude higher than what AMP was offering. The WVDNR reiterated the need for an assessment of fish entrainment and mortality at the Project, and made a number of valid legal arguments for why the FERC should not delete the requirements of License Article 404.

The Service also filed a comment letter in opposition to the proposed deletion of License Article 404 (FERC accession #20020226-0630), citing the continued need for site-specific studies and other factors, including the section of the Ohio River where the Belleville Project is located being selected as a focus area for mussel recovery efforts, and the need to protect the fish species that serve as hosts for these mussels. The Service pointed out that the federally listed endangered fanshell (*Cyprogenia stegaria*) and pink mucket (*Lampsilis abrupta*) were known to occur in the Belleville Pool, and expressed our concern that the Project could adversely affect the viability and recovery of mussel resources through entrainment-related mortality of host fish. Although the fanshell relies on small-bodied host fish (e.g., darters [*Etheostoma* spp.] and logperch [*Percina caprodes*]) that are less susceptible to entrainment injury than larger-bodied species, the pink mucket’s hosts include largemouth bass (*Micropterus salmoides*), smallmouth bass (*M. dolomieu*), spotted bass (*M. punctulatus*), and walleye (*Sander vitreus*). All but the spotted bass are also considered migratory (Wilcox et al. 2004), and therefore vulnerable to entrainment during their downstream migrations. The West Virginia Rivers Coalition also filed a letter of opposition to the license amendment (WVRC; FERC accession #20020314-0116).

In our letter, the Service also stated that the licensee's reliance on the City of New Martinsville court decision to support its proposed license amendment was misplaced, because the case deals with mitigation of harm, not studies to detect it, and the Service further stated that the FERC could not reasonably find that the question of Project impacts had been definitively settled beyond the need for further study. Despite the letters filed by the resource agencies and the WVRC in opposition to the requested license amendment, AMP did not withdraw its request but instead persisted in their efforts, filing a counter-argument response to the resources agencies' comments. This approach by a hydropower company is not consistent with the criteria for LIHI certification.

Despite the conclusions of its own FEIS (see above), on October 27, 2003, the FERC issued an order amending the Project's license to delete Article 404 and the requirement that the licensees implement the associated Entrainment Mortality Study Plan.

The Service also notes that AMP is the licensee for the Willow Island Project, for which the licensee was also successful in having entrainment monitoring and compensation license requirements deleted from its license through a requested amendment. The Service does not support LIHI certification of the Belleville Project until an acceptable entrainment monitoring study is conducted at the Project.

License Article 405 required the licensees to participate in the funding and development of a Bioengineering Test Facility (BETF) to be constructed and tested at one of the hydropower projects belonging to the Upper Ohio River Basin Hydropower Association (UORBHA). The administrative record shows that AMP filed annual reports stating that this license requirement remained unfulfilled because most of the original projects were not constructed. However, AMP's Willow Island Project (FERC No. 6902), an original member project of the UORBHA, was constructed and began operating in 2016. In addition, the City of New Martinsville is also an original member of the UORBHA and is the licensee for an operating hydropower project (FERC No. 3206) on the Ohio River. In the FERC's August 17, 1993, order modifying this license article, the FERC stated in ordering paragraph C that the licensees' proposal not to construct the BETF unless five UORBHA projects commence construction shall be deleted from the [BETF] plan, and that the licensees shall construct one BETF at a representative hydroelectric facility. The licensees have thus far not complied with this license article.

For the reasons outlined above, the Service does not support LIHI Certification for the Belleville Project or for any of the other hydropower projects on the Ohio River where AMP is a licensee.

Thank you for your consideration in this matter. If you have any questions, please contact Richard McCorkle at [richard\\_mccorkle@fws.gov](mailto:richard_mccorkle@fws.gov) or 814-206-7470.

Sincerely,



Sonja Jahrsdoerfer  
Project Leader

cc: Brian Bridgewater, WVDEP  
Jocelyn Phares, WVDNR

References:

Federal Energy Regulatory Commission (FERC). 1988. Hydroelectric development in the upper Ohio River basin. FERC Docket Number EL85-19-114. Ohio, Pennsylvania, West Virginia. Final environmental impact statement. Office of Hydropower Licensing. Washington, D.C.

WAPORA, Inc. 1987. Final Report: Fish Passage Studies at the Racine and New Martinsville Hydroelectric Projects. IV Volumes. Copyright 1987 by City of New Martinsville, West Virginia, American Electric Power Service Corporation.

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