UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
GREATER ATLANTIC REGIONAL FISHERIES OFFICE
55 Great Republic Drive
Gloucester, MA 01930

November 1, 2024

Debbie-Anne A. Reese, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, D.C. 20426

RE: Comments on Brookfield White Pine Hydro, LLC's Proposed Study Plan for the Brunswick Hydroelectric Project (P-2284)

Dear Secretary Reese,

On June 18, 2024, we submitted requests for four studies and the modification of one proposed study, consistent with the Integrated Licensing Process for Brookfield White Pine Hydro, LLC's (Brookfield) Brunswick Hydroelectric Project (P-2284)[1]. On August 2, 2024, Brookfield submitted its Proposed Study Plan[2]. Attached for filing, please find our comments on Brookfield's Proposed Study Plan. If you have any questions or need additional information, please contact Matt Buhyoff (Matt.Buhyoff@noaa.gov).

Sincerely,

Julia E. Crocker

Julia E. Crocker
Chief, ESA Fish, Ecosystems, and Energy Branch

Enclosure

[1] FERC Accession #: 20240620-5082
[2] FERC Accession #: 20240802-5123

NMFS Comments on Brookfield's Proposed Study Plan

1 BACKGROUND

On June 18, 2024, we submitted requests for four studies and the modification of one proposed study, pursuant to the regulations set forth in FERC's integrated licensing process (ILP) for the Brunswick Hydroelectric Project (Brunswick). On August 2, 2024, Brookfield White Pine Hydro, LLC. (Brookfield or BWPH) submitted its Proposed Study Plan (PSP). The PSP adopted four of our five study requests with some modifications and did not adopt one study request. On August 28, 2024 and again on October 8, 2024, we attended study plan meetings held by Brookfield to further clarify our information needs and discuss potential modifications to the PSP and our study requests.

We are continuing to request our *Downstream Fish Passage Effectiveness for Adult and Juvenile Alosines* study that Brookfield did not adopt, as outlined in our June 18, 2024 filing. We are supportive of Brookfield's adoption of our four other requested studies, except where noted in our comments below.

COMMENTS ON NMFS REQUESTED STUDY NOT PROPOSED BY BROOKFIELD

NMFS Study Request 5: Downstream Fish Passage Effectiveness for Adult and Juvenile Alosines

Brookfield is not proposing to gather any information on the effects of its project on downstream migrating alosines. In its PSP, Brookfield states that it "does not see the benefit in conducting extensive and costly studies on a *potentially* [emphasis added] outdated downstream passage system that *may* [emphasis added] end up being dramatically changed as a result of this licensing proceeding." In lieu of conducting our requested study, Brookfield states that it instead proposes to conduct a CFD flow modeling study and an up- and downstream passage alternatives study (Passage Alternatives Study), which "will be used to identify the appropriate PME measures, *if necessary* [emphasis added]."

There are several downstream passage routes at the project, including, but not necessarily limited to: three turbine routes, two spillway sections, and a surface sluice. Our June 18, 2024 Study Request noted that, consistent with FERC's study criteria[3], this study was necessary because there is **no** site-specific information on any downstream migrating sea-run species and lifestages other than juvenile Atlantic salmon, including information on: 1) the differential distribution of passage; and 2) the differential in survival/injury through the various downstream passage routes; and 3) whole-station passage effectiveness. Brookfield's PSP does not indicate how a flow-modeling study, or a study on various passage alternatives would fill these critical information gaps necessary to assess project effects.

Brookfield seems to imply that it will substantially modify the project, such that any contemporary study of existing downstream passage conditions will become outmoded post-

[3] Criteria 4: "Describe existing information concerning the subject of the study proposal, and the need for additional information."

relicensing. However, consistent with the non-committal language from the PSP emphasized above, Brookfield's Pre-Application Document includes no such proposal to modify downstream passage at the project nor does Brookfield's proposed Passage Alternatives Study specify which alternatives will and will not be considered. More specifically, Brookfield's proposed Passage Alternatives Study does not specifically eliminate from analysis: 1) a no-action alternative; or 2) any alternatives that would utilize existing downstream passage routes.

Given the above, we and the Commission must assume that any potential license application for this project could include a no-action proposal, or a proposal that includes use of existing downstream passage facilities/routes. Absent adequate information regarding how project facilities and operations affect downstream migrating fish, we do not see how the Commission could make an informed decision on any such license application. For these reasons, we continue to request our June 18, 2024, study: *Downstream Fish Passage Effectiveness for Adult and Juvenile Alosines*.

COMMENTS ON NMFS REQUESTED STUDIES PROPOSED AND MODIFIED BY BROOKFIELD

NMFS Study Request 1: Evaluation of Stranding Risk/Bathymetry Study

In its PSP, Brookfield adopted our study request with some minor modifications. Brookfield's proposed study states that "the survey crew will make an explicit intent to search for, identify, and document and protect any sturgeons or salmon that may be affected by the study, and document any other fish species or other aquatic life that were notably impacted or stranded during the study." However, the methods proposed by Brookfield do not explicitly state how these observations will occur, given the company's historical reticence to access the bypassed reach due to safety concerns. During the August 28 Study Plan Meeting, the stakeholder group discussed possible methods to affirmatively observe/document stranding, given the difficulty of access to and limited viewpoints of the bypassed reach. The use of Unmanned Aerial Systems (UAS or "drones") is becoming a common method to characterize environmental attributes of dam-related effects (Alexandre, C.M., et al., 2023). We expect that the use of UAS to observe/document stranding at this site could reasonably provide empirical documentation of stranding with minimal additional cost or effort, while also safeguarding the safety of study participants. For these reasons, we recommend that Brookfield modify its methods to include the use of UAS.

Literature Cited

Alexandre, C. M., Quintella, B. R., Ovidio, M., Boavida, I., Costa, M. J., Palstra, A. P., de Lima, R. L. P., de Lima, M. I. P., de Lima, JLMP, & Almeida, P. R. (2023). Technologies for the study of hydropeaking impacts on fish populations: Applications, advantages, outcomes, and future developments. River Research and Applications, 39(3), 538–553. https://doi.org/10.1002/rra.4039

NMFS Study Request 2: Upstream and Downstream Passage Alternatives Study (Passage Alternatives Study)

As indicated in our comments above, regarding our requested, but not proposed, *Downstream Fish Passage Effectiveness for Adult and Juvenile Alosines* study, this information is an essential

element of any viable study of passage alternatives at the Brunswick Project. Before any stakeholders, or FERC, can analyze passage alternatives, including a potential no-action alternative, or any alternatives where existing downstream passage routes are maintained, it is imperative to understand how the project currently affects downstream migrating fish. As such, consistent with our June 18, 2024 study request, we continue to recommend both the adoption of our requested *Downstream Fish Passage Effectiveness for Adult and Juvenile Alosines* study, as well as the incorporation of those results into this proposed study of passage alternatives.

NMFS Study Request 3: Upstream Behavior, Movement, and Project Interaction Study

Timing:

As discussed extensively at the August 28 and October 8, 2024 Study Plan Meetings, we continue to have concerns regarding the proposed timing of the phases of the proposed *Upstream Behavior, Movement, and Project Interaction Study* (Project Interaction Study). Specifically, as proposed, Phase 1 of this proposed study is designed as a pilot study for the purpose of determining whether the use of the proposed technology/study design is feasible at this site. Assuming feasibility is confirmed, the proposed Phase 2 would collect the information that we requested. Currently, Brookfield does not propose to conduct Phase 2 of the study until the 2026 fish passage season (April-June). Information from this study will be essential to inform the proposed *Upstream and Downstream Fish Passage Alternatives Study*. However, Brookfield currently proposes to complete that study by January, 2026, well before this Project Interaction Study is complete. Therefore, we recommend that Brookfield modify the timing of this Project Interaction Study or Passage Alternatives Study to ensure that information from this study can and will be incorporated into any study of passage alternatives.

Sea lamprey:

Our June 18, 2024 letter included a request to study *Upstream Passage of Sea Lamprey* (NMFS Study Request #4). In its PSP, Brookfield proposed to include sea lamprey as a target species in the Project Interaction Study, in order to obtain the information we requested. We agree that Brookfield's proposed modification would provide the information that we had sought with our requested study. However, as with above, we note that this study is currently proposed such that Phase 1 will need to be successful to proceed to Phase 2, where the information on the project's effects on upstream passage of sea lamprey would be developed. Brookfield's PSP does not specify if and how it would provide/produce information on the project-related effects to the upstream passage of sea lamprey in the event that Phase 2 of this study does not proceed. Therefore, consistent with our June 18, 2024 study request, we request that Brookfield include a proposal for an independent study of upstream sea lamprey passage, request should Phase 1 of this Project Interaction Study indicate that Phase 2 is untenable.

Sample Size:

At the October 8, 2024 Study Plan Meeting, Brookfield requested that the resource agencies consider any recommendations for appropriate sample sizes of American shad, river herring, and sea lamprey for this study. We recommend that Brookfield conduct a study with sample sizes

that allow for statistically reliable inferences. We recommend that Brookfield review and apply (Molina-Moctezuma & Zydlewski, 2020) to define appropriate sample sizes for this study.

Literature Cited

Molina-Moctezuma, A., & Zydlewski, J. (2020). An interactive decision-making tool for evaluating biological and statistical standards of migrating fish survival past hydroelectric dams. *River Research and Applications*, *36*(7), 1024-1032.