

**Roanoke Rapids and Gaston Hydropower Project
American Eel Working Group Conference Call
18 June 2019**

FINAL Meeting Minutes

Present:

Dominion – Peter Sturke, Bob Graham, Taylor Allen, Corey Chamberlain, Tom Effinger

NMFS – Fritz Rohde, Bjorn Lake

USFWS – John Ellis

NCWRC – Jeremy McCargo

NCDMF – not present

VDGIF – Scott Smith

Additional – Lucas Stiles and Jesse Waldrip (Kleinschmidt), Justin Krebs and Fred Jacobs (AKRF)

18 June 2019 American Eel Working Group Meeting – Agenda Draft

- 60% Design Review of Upstream Eel Passage Facilities at Gaston Dam (Kleinschmidt)
- Discuss conceptual ideas for Downstream Eel Passage Study from 2019-2022 (AKRF)

The call began with an update on eel trap and transport numbers at the Roanoke Rapids Eelways and Gaston Dam Eel Trap. The Roanoke Rapids Eelways have caught a total of 31,860 eels while the Gaston Dam South Eel Trap has caught a total of 960 eels thus far in 2019.

60% Design Review of Upstream Eel Passage Facilities at Gaston Dam

The discussion began with a brief overview of the timeline for the review as well as the next steps. Pete noted that the reviews or comments on the 60 percent design are due to Dominion by the end of June. It was stated that the opinions and review of the fishway engineers from each the National Marine Fisheries Service (Bjorn Lake) as well as the United States Fish and Wildlife Service (Brett Towler) are critically important to the success of the project. John Ellis will be in touch with Brett Towler to collaborate on any comments.

After comments are received and compiled, they will be sent to Kleinschmidt for inclusion in the 90 percent design package which is due to Dominion the first week of August 2019. Once received by Dominion, the AEWG will be asked to review and approve the final plans before submittal to FERC. These 90 percent reviews will be due by the end of August 2019. Pete also mentioned that there will likely be an in-person Eel and Shad meeting in August/September of 2019 at Roanoke Rapids for more detailed discussions on various topics.

Pete then introduced Lucas Stiles and Jesse Waldrip from Kleinschmidt to review the 60% design package. Lucas discussed briefly the overall assumptions for the eel trap designs which included the use of Milieu elver substrate, angle of ramps, flow considerations, and other factors that meet the USFWS guidelines for upstream eel passage. The following are comments received during the conference call and will be addressed in the 90% design:

- Question regarding the location of the supply water pump on the South Eel Trap. Preference to move the pump well away from the entrance of the eel ramp.
- Include conditional safety measures in the eelway operations and maintenance manual. This comment was directed at the method for checking the North Trap considering the usual means for access is via boat. The new eel trap on the North side of Gaston may be accessed via foot, truck, or boat and considerations should be made for safety during the operational season.

- Concerns about fluctuating tailwater level and how that may change the catch rates. Jesse Waldrip discussed a design specific about the trough for the attraction flow which should maintain attraction flow to encourage upstream movements regardless of tailwater level. He added that the plans include installing concrete in between the interstitial spaces below and at the entrance of each ramp. This would decrease the possibility of an eel to “miss” the ramp when trending along the bank. Bob also stated that Dominion does not see this as a concern as long as the ramp is in contact with the substrate.
- Question about a circular tank on the North Trap and a square tank on the South Trap. Pete and Bob addressed this and will prefer a square tank to aide in removal of trapped eels during normal operations. Bob mentioned that we have not seen any physical issues with the eels at Roanoke Rapids in the square tanks typical of what you would see for an American Shad or the like.
- Concerns about construction sequencing with the coffer dams in proximity to Gaston discharge. Discussions surrounding this included maintaining minimum flows downstream of Roanoke Rapids Dam while not dropping lake level below minimum allowed. Dominion informed the AEWG that the permitting group in Environmental is in the loop on the project and will be assisting with those details.

Downstream Eel Passage Studies 2019-2022

Pete updated the AEWG with the current status of the Downstream Eel Passage Efforts. He reminded the group that the amended Article 401 schedule details a decision on downstream eel passage implementation to be made in 2023. This delay was necessitated and approved by the AEWG in 2018 because we need to increase our knowledge base before we make a decision that could impact the station operations. Pete informed the AEWG that Dominion Energy is in discussion with EPRI on the applicability of fish friendly turbines from around the world. Dominion is obligated to perform due diligence on the possibilities outside of the Alden turbine. EPRI will likely be supplying Dominion with a report in 2019/2020 and will help inform the next steps necessary to determine if a fish friendly turbine replacement is feasible at Roanoke Rapids. The second part of these studies is more biologically focused with an emphasis on the size distribution of adult American Eels within Roanoke Rapids Lake in addition to tracking the outmigration timing and potential environmental cues. Pete introduced Justin Krebs and Fred Jacobs from AKRF as the lead consultants on designing these studies and informed the AEWG that AKRF and Dominion will have a draft study design for comment/review by July 15th, 2019.

Justin and Fred introduced themselves and gave a brief background of their experience. Justin then described the study plan as it stands right now which includes a population estimate based on the passage efforts over Roanoke Rapids Dam, age and growth studies (completed by Dr. Jesse Fischer), and assumed natural mortality. Pete informed the group that Jesse Fischer is up to speed on the project and will be plugged in going forward in development and inclusion of their data. Jesse should have a rough draft of the ageing manuscript by July with intentions of finalizing it by the end of August 2019. Justin mentioned these timings work out well for inclusion in the study design. He continued the description of the conceptual design which will include tracking adult American Eels in Roanoke Rapid Lake using VEMCO acoustic tags and receivers. The plan is to order this equipment and start the study this fall. Fritz mentioned that he is happy to see this study taking shape and that it seems like a short and ambitious schedule. No more comments were discussed on the study plan as the AEWG will be reviewing the study design mid-July.

Call ended with discussion of next steps and likely August/September in person eel and shad meeting.