

FEDERAL ENERGY REGULATORY COMMISSION  
Washington, D.C. 20426

OFFICE OF ENERGY PROJECTS

Project No. 2611-074 & -075--Maine  
Hydro-Kennebec Project  
Madison Paper Industries

Mr. David W. Lovley  
Hydro Supervisor  
Madison Paper Industries  
3 Main Street, P.O. Box 129  
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March 22, 2010

Subject: Interim downstream fish passage issues

Dear Mr. Lovley:

We received two letters from the Friends of Kennebec Salmon (FOKS) and Friends of Merrymeeting Bay (FOMB), both dated February 1, 2010. The first letter alleges non-compliance with the timing of installation of interim downstream fish passage at the Hydro-Kennebec Project on the Kennebec River. The second letter addresses requirements for downstream salmon passage effectiveness studies at the project.

#### LICENSE REQUIREMENTS AND BACKGROUND

Requirements for interim downstream fish passage at the Hydro-Kennebec Project are contained primarily in Exhibit B (Agreement)<sup>1</sup> of the Lower Kennebec River Comprehensive Hydropower Settlement Accord (Settlement), which was filed with the Commission May 28, 1998, and the Commission's September 16, 1998 order that approved the Settlement.<sup>2</sup>

Under Part IV(B)(4)(a) of the Agreement, the licensee is to consult with federal and state agencies to develop an approved plan for interim downstream fish passage facilities and/or operational measures to minimize impacts on downstream migrating fish. The interim downstream passage facility at the Hydro-Kennebec Project was installed in 2006, as approved in an April 21, 2006 Commission order.<sup>3</sup> The approved interim downstream

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<sup>1</sup> Agreement between Members of the Kennebec Hydro Developers Group, the Kennebec Coalition, the National Marine Fisheries Service, the State of Maine, and the U.S. Fish and Wildlife Service.

<sup>2</sup> Order Approving Settlement, Transferring License, and Amending Fish Passage Requirements, 84 FERC ¶ 61,227 (1998).

<sup>3</sup> 115 FERC ¶ 62,096 (2006).

passage facilities were designed to facilitate passage of Atlantic salmon, American shad, and alewife. The facilities consist of a 10-foot-deep, angled Kevlar fish guidance boom in the project forebay that guides fish to a bypass slot, leading to a downstream plunge pool area. The facilities use the equivalent of 4 percent of turbine flows passing through the bypass slot, and are operated April 1 through December 31.

According to Part III (F) of the Agreement, the licensee is to conduct effectiveness studies of all newly-constructed interim and permanent upstream and downstream fish passage facilities. The Settlement specifies that plans for the effectiveness studies will be approved by the resource agencies, and that, if the studies show that passage does not meet targeted efficiency goals, the agencies may seek funding for trap-and-truck passage of fish, or other mitigative measures.

## FEBRUARY 1, 2010 ALLEGATIONS

### Interim Downstream Fish Passage Operation

In their first February 1, 2010 letter, the FOKS and FOMB indicate that the protective fish boom at the Hydro-Kennebec Project was not installed at the project until May 20 in 2007, and May 29 in 2008. The FOKS and FOMB write that it is critical that the boom be in place by April 1 in order to protect downstream-migrating salmon smolts and kelts in April and May, to meet the downstream migration periods for these fish in Maine rivers. The FOKS and FOMB request that the Commission require the licensee of the Hydro-Kennebec Project to install and operate the boom beginning April 1, 2010, to protect Atlantic salmon migrating downstream in April and May of 2010.

### Downstream Fish Passage Effectiveness Studies

In their second February 1, 2010 letter, the FOKS and FOMB address the need for quantitative studies of downstream through-turbine passage of Atlantic salmon at the Hydro-Kennebec Project, as well as three other projects on the Kennebec River.<sup>4</sup> The FOKS and FOMB cited text from Part IV(B)(4)(a)(2) of the Agreement, which addresses the need for site-specific, quantitative, injury and/or mortality studies of turbine passage in the event that adult American shad and/or adult Atlantic salmon begin to inhabit the impoundment above the project, and to the extent that the licensee desires to use passage through turbines to achieve interim downstream passage.

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<sup>4</sup> The Lockwood Project (FERC No. 2574) licensed to Merimil Limited Partnership; and the Shawmut Project (FERC No. 2322) and Weston Project (FERC No. 2325), licensed to FPL Energy Maine Hydro LLC.

In their letter, the FOKS and FOMB state that Commission records show the Hydro Kennebec Project licensee has not conducted site-specific, quantitative through-turbine passage studies for adult Atlantic salmon, as required when adult salmon have access to the project turbines. The groups again reference the late installation of the fish guidance boom in 2007 and 2008, stating that installation in those years was after Atlantic salmon kelts migrate past the project dam in the spring.

The FOKS and FOMB indicate that Commission records show that, since 2006, Atlantic salmon have annually been transported above the project without implementation of any effective measures to keep the fish from entering the project turbines, and without doing the required studies, resulting in violations of the license. The FOKS and FOMB wrote that records from the Maine Department of Marine Resources show that approximately 22 adult salmon were transported to the Sandy River, above the project, in 2009, and that these fish will migrate downstream past the project from April to June this year, with a high risk of injury or mortality in passing through the project turbines.

The FOKS and FOMB assert that the licensee's failure to conduct studies, and the state and federal agencies' failure to enforce highly specific license conditions, greatly limits the remedies they can request, and they assert that the only "real-world" remedy available for 2010 is to require the licensee to suspend generation April through June in 2010, and in the same period in following years, until proven, effective barriers have been installed, which prevent salmon from accessing the turbines.

## DISCUSSION

We have carefully reviewed the February 1, 2010 FOKS and FOMB letters regarding fish passage at the Hydro Kennebec Project. We also reviewed the relevant parts of the May 28, 1998 Settlement, the Commission's September 16, 1998 and April 21, 2006 orders, and the licensee's annual reports on downstream fish passage and passage studies that include resource agency consultation.

### Interim Downstream Fish Passage Operation

In the April 21, 2006 order, the Commission approved the licensee's plans for interim downstream fish passage facilities at the Hydro Kennebec Project. Through consultation with the resource agencies, it has been determined that the facilities should operate April 1 through December 31.

According to the annual reports that have been filed regarding downstream fish passage operation, the fish guidance boom was not installed at the project until late May in 2007 and 2008. According to the reports, this was due to high river flows that made it

difficult to impossible, and unsafe, to install the boom any earlier. The report for 2009 is not yet due to be filed, but the licensee did provide an email on March 9, 2010,<sup>5</sup> indicating that, in 2009, the bypass gate was adjusted to pass 4 percent of station flow on April 1, and the fish guidance boom was not installed until May 19 because river flows again did not allow for safe installation earlier. It was also indicated that a second guidance boom had been purchased so that, if the curtain is damaged by above-normal river flows, a spare would be readily available.

The licensee has consulted annually with the resource agencies regarding interim downstream passage operation and reporting. During these consultations, the agencies have expressed concern regarding the installation of the fish boom in the spring. For example, in the May 13, 2008 report on downstream fish passage operation in 2007, comments on a draft version of the report from the U.S. Fish and Wildlife Service (FWS) noted that the boom was not installed until May 29 because of high flows. The FWS noted that salmon smolts migrate downstream April through May, and late installation of the boom leaves smolts more susceptible to turbine entrainment. The FWS indicated that modifications to the installation process, the boom itself, or to project operations needed to be considered to ensure effective operation starting in April. The licensee responded to the FWS concerns in the report, indicating that it was unsafe to install the boom during periods of high flows and when the project's gates were open, but that alternatives would continue to be considered for earlier installation, and that the boom would continue to be installed as early as conditions allow.

The licensee noted in the report that, during high-flow periods when boom installation was delayed, the high flows provided favorable downstream passage for salmon past the dam gates and through the fish bypass slot. The licensee indicated that, based on studies of downstream salmon passage at the Weldon Dam Project (FERC No. 2520), which is located on the Penobscot River, very few smolts migrate downstream in April in Maine.

#### Downstream Passage Studies

As reviewed above, in compliance with Part IV(B)(4)(a) of the Agreement, the licensee consulted with federal and state agencies and developed plans for interim downstream fish passage at the Hydro-Kennebec Project, and the passage facilities were installed in 2006, after approval in the April 21, 2006 Commission order. Each spring

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<sup>5</sup> March 9, 2010 email communication from David Lovley, licensee's representative, to B. Peter Yarrington, Commission staff. Copy filed with the Commission March 18, 2010.

beginning in 2007, the fish passage slot has been opened, the fish guidance boom installed, and interim passage effectiveness studies have been conducted in consultation with the resource agencies. These studies have been conducted pursuant to Part III (F) of the Agreement, which requires effectiveness studies of all newly-constructed interim and permanent fish passage facilities. Annual reports on the studies, including agency comments on the studies and results, have been filed each year with the Commission.

The FOKS and the FOMB referenced Part IV(B)(4)(a)(2) of the Agreement in their discussion of downstream fish passage requirements at the Hydro-Kennebec Project. This part of the Agreement requires that site-specific quantitative studies be conducted in the event that adult shad and/or adult salmon begin to inhabit the impoundment above the project, and the licensee desires to achieve interim downstream fish passage through the turbine(s). This part of the Agreement applies to licensees who desire to achieve interim passage through the project turbines, not licensees that have constructed interim passage facilities. However, the FOKS and the FOMB apparently referenced this part because of their concern that the difficulties in timely installation of the fish guidance boom allows salmon to access the project turbines, allowing the turbines to be used as a passage route during an important part of the downstream passage season.

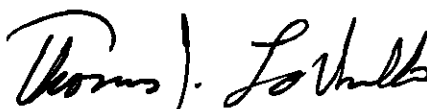
## CONCLUSIONS AND REQUESTED ACTIONS

Our review of the available information indicates that the issue of timely installation of the fish guidance boom at the Hydro-Kennebec Project needs further attention. Currently, timing of boom installation hinges on rates of springtime river flows, involving the balancing of timely passage protection and worker safety issues. Therefore, please include, in your annual report due March 31, 2011, copies of consultation with the resource agencies regarding this issue, and descriptions of any modifications to the interim downstream fish passage facilities that are discussed. Please include a discussion of the feasibility of any modifications that are discussed, and, if determined to be appropriate through agency consultation, a draft plan and schedule for the installation and use of such modifications.

We do not believe that site-specific, quantitative studies of fish passage through the turbines, pursuant to Part IV(B)(4)(a)(2) of the Agreement, are necessary at the Hydro-Kennebec Project at this time. However, should it be determined through consultation with the resource agencies that satisfactory interim downstream fish passage that diminishes entrainment is not being provided and cannot be reasonably achieved, further actions to ensure compliance with the agreement and the Commission's September 16, 1998 letter will need to be addressed.

We look forward to reviewing your next annual reports, to include, in the report due March 31, 2011, the information described above regarding any modification to the interim downstream fish passage facilities.

Sincerely,



*for*

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