



United States Department of the Interior



FISH AND WILDLIFE SERVICE

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In Reply Refer To: FERC Nos. 1889 and 2485
FirstLight Power Resources/GDF Suez
Connecticut River
September 13, 2013
SUPPLEMENTAL COMMENTS ON REVISED STUDY PLANS:
CLARIFICATION OF SERVICE AUGUST 29, 2013 LETTER
IMPACTS OF CLOSURE OF VERMONT YANKEE
NUCLEAR POWER PLANT ON RESULTS OF
PROPOSED STUDY PLANS
ADDITIONAL INFORMATION FOR STUDIES 3.3.2 AND 3.3.7

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E., Room 1A
Washington, DC 20426

Dear Secretary Bose:

The following clarifications, additional information and requests supplement the U.S. Fish and Wildlife Service's (Service) Revised Study Plan (RSP) comment letter, dated August 29, 2013.

Clarification of the Service's August 29, 2013 Letter

We wish to provide further clarification on the intent of the opening general statements in our August 29, 2013 letter. In our letter, we stated that we were only able to review and provide comments on a limited number of studies where First Light Power Resources (FirstLight) did not adopt our recommendation and where we had supplemental information or responses to the changes in RSP study plans. Given the extremely short period to review and develop comments under the Integrated Licensing Process, there was insufficient time for us to review all study plans or to reiterate positions we had stated in our July 15, 2013 letter. As a result, the Federal Energy Regulatory Commission (Commission) should not assume that our lack of comments on these studies reflects a change in the positions stated in our July 15, 2013 letter. This approach is consistent with guidance on study plan review provided to the Service and other parties from the Commission's staff project manager in an August 16, 2013 email.

Additional Information for Studies 3.3.2 and 3.3.7

Study 3.3.2 - Task 2: Study Design and Methods

After filing our RSP comments, the Service was made aware that FirstLight modified part of the study methodology. This change (proposing to use Lotek radio receivers versus Orion receivers) was not indicated in the Responsiveness Summary, which the Service was using as a general guide for determining which studies/issues to review and respond to.

The Service has concerns with this switch in receiver types. The telemetry study calls for many tags with rapid transmission rates. Unless multiple frequencies are used, there is a substantial risk of missed detections caused by signal collisions. If multiple frequencies are used, the Lotek SRX receivers will have to scan through them, causing a reduction in detection efficiency (which will be inversely proportional to the number of frequencies scanned). This problem will be most acute in zones with rapid transit times and/or small detection areas (e.g., log sluice), but it can be expected to affect any receiver deployment.

One workaround would be to have one Lotek SRX receiver per frequency; that would offer the advantages of the narrow-band receiver without sacrificing efficiency (although if receivers are combined off of a single antenna, there will be a reduction in range).

Study 3.3.7 - Task 2: Quantification of Shad and Eel Entrainment

In our August 29, 2013 RSP comment letter, we provided additional justification for empirically quantifying impingement and entrainment of early life stages of American shad at the Northfield Mountain Pump Storage (NMPS) Project. In FirstLight's RSP, there was reference to a survival estimate of 0.0000182 percent from egg to juvenile stage. The Service has investigated the origin of this value and determined that it is inaccurate for two reasons:

- It is our understanding that the estimate was calculated using Z values published in the U.S. Environmental Protection Agency's (EPA) Regional Analysis Document (2004). While FirstLight states that the value of 0.0000182 percent is for survival from egg to juvenile stage, this actually is the survival rate from egg to Age 1+ stage.
- While FirstLight relied on published EPA mortality estimates, those are average estimates based on data from many power plants throughout the nation. Given that Savoy and Crecco (1988) published Z values for the life stages of interest based on data collected from the Connecticut River, those are the values that should be used in any overall survival rate calculation for the NMPS Project. For example, the Z value for juveniles in Savoy and Crecco is 1.286, whereas it is 7.4 in the EPA document. Those translate into large differences in juvenile survival rates (0.2764 for Savoy and Crecco versus 0.000611 for EPA).

Using the Savoy and Crecco (1988) life stage-specific mortality values leads to an egg to juvenile survival rate of 0.003539 and an egg to Age 1+ survival rate of 0.000978. Based on a start number of 100,000 eggs, the EPA survival fractions result in 2 shad surviving to Age 1+, whereas 98 shad survive to Age 1+ using the Savoy and Crecco estimates, a nearly 50-fold difference.

Impacts of Closure of Vermont Yankee Nuclear Power Plant on Results of Proposed Study Plans

As you may be aware, on August 27, 2013, Entergy Corp. announced that it would be closing the Vermont Yankee Nuclear Power Station in the “4th quarter of 2014.” Vermont Yankee is located just upstream of the Vernon Dam in Vernon, Vermont and has the potential to influence the aquatic communities in sections of the Connecticut River within the boundaries of the Turners Falls and NMPS projects through two primary mechanisms: the discharge of heated effluent into the Connecticut River¹ and the impingement and entrainment of organisms at the system's cooling water intake structure.

Accordingly, the relevance of results obtained from some of the study plans proposed by FirstLight for the 2014 field season may not be valid moving forward. For example, results of studies examining migration and movement of adult and juvenile shad during 2014 (while Vermont Yankee is still operating and discharging thermal effluent) may be quite different from results obtained if these studies were conducted in 2015 (when Vermont Yankee will not be operating or discharging thermal effluent). As another example, Vermont Yankee entrains and impinges a large number of fish each year (an estimated 61.5 million larval fish entrained during a 26-week period [April 2006 to September 2006], and 38,604 fish impinged over a 20-month sampling period [March 2005 through November 2006]). Any fish assemblage study results may be influenced by the presence or absence of this source of impingement/entrainment, as it is likely that some of these fish would have moved downstream of Vernon Dam if they had not been impinged/entrained.

We are seeking Commission guidance on how to address this issue in the context of the Integrated Licensing Process timeline (which affords two years of study, beginning in 2014). Comments on FirstLight's RSP were due on August 29, 2013. The stakeholders only learned of Vermont Yankee's closing on August 27, 2013. This did not provide sufficient time to evaluate which proposed studies are most likely impacted by the Vermont Yankee closure, nor time to develop any recommended changes to the study timelines to address resource issues associated with the closing.

We respectfully request the Commission to consider these options: (1) allow stakeholders an additional two weeks to provide supplemental comments on the RSP relative to the impact of Vermont Yankee's closing on the study plan timelines; (2) convene a stakeholder meeting to discuss how best to address the impact of Vermont Yankee's closing on study plan timelines and then incorporating the results of those discussions in the Commission's Study Plan Determination

¹ Previous studies indicated that the influence of Vermont Yankee's thermal discharge extended as far downstream as Holyoke, Massachusetts.

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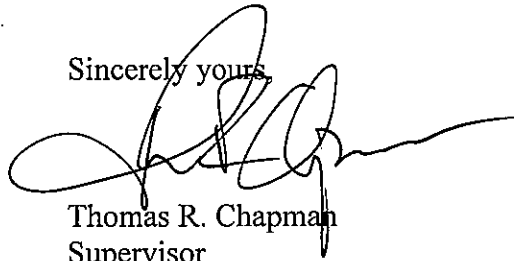
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letter; or (3) require that those studies most likely to be impacted by Vermont Yankee's operation be conducted for two years, which would provide data both with and without the operation of Vermont Yankee.

The ecosystem "baseline" in sections of the Connecticut River within the boundaries of FirstLight's Turners Falls and NMPS projects likely will change with the closure of Vermont Yankee. As a result, we have concerns about the long-term applicability of results from some of the studies proposed for 2014.

Thank you for the opportunity to provide these supplemental comments on FirstLight's proposed study plans. If you have any questions regarding these comments, please contact John Warner of this office at 603-223-2541.

Sincerely yours,

A handwritten signature in black ink, appearing to read 'T. Chapman', with a long horizontal flourish extending to the right.

Thomas R. Chapman
Supervisor
New England Field Office

Literature Cited

Savoy, T.F. and V.A. Crecco. 1988. The timing and significance of density-dependent and density-independent mortality of American shad, *Alosa sapidissima*. Fishery Bulletin 86(3): 467-482.

U.S. EPA (Environmental Protection Agency). 2004. Regional Analysis Document for the Final Section 316(b) Phase II Existing Facilities Rule. Part H: The Inland Region. EPA-821-R-02-003. February 2004.

Kimberly D. Bose, Secretary
September 13, 2013

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