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Mr. John Ragonese  
Relicensing Project Manager  
TransCanada Hydro Northeast Inc.  
4 Park Street, Suite 402  
Concord, NH 03301

Re FERC Project 1892

Dear Mr. Ragonese,

I am the owner of a 14 acre± field with Connecticut River frontage in New Hampshire just north of the bridge that crosses from Lyme to East Thetford, Vermont. I will attend the public scoping meeting in West Lebanon, NH on Monday evening, January 28<sup>th</sup> 2013 in order to comment upon water level management practices and their relationship to riverbank erosion. The Pre Application Document synopsis of studies by Simons, et al (1979), and Kleinschmidt (2011) is not based upon any quantitative measurements of erosive activity. Thus the contention by abutting landowners that daily fluctuations in water levels resulting from the project cause significant amounts of bank erosion cannot be judged true or false on the basis the information presented. The contention by those writing the Document that such daily fluctuations in river levels are not important causes of such erosion cannot be accepted in the absence of quantitative studies.

The Document does present information concerning the presence of moderate to highly erosive soils near the river. These are precisely the soils that have conferred on the Connecticut River Valley a world class rating for the agricultural potential of its soils. It is these qualities that have induced farmers to farm it, and before they can be tagged with major blame for riverbank erosion better information than that in the Pre Application Document is required

A competent study should be designed and conducted that addresses the effects of water level changes on erosion and siltation around the Wilder Pool. Without going into various methodologies that could be employed to develop the answers, I will simply list several questions the study should answer:

1. What is the rate and amount of dewatering per unit of selected riverbank soils that occurs when the river level falls?
2. What, if any, relationship exists between the amount of drop and amount of dewatering?

3. How does dewatering relate to the *rate* of fall in the water level and to the duration of a raised water level.
4. How much soil is removed by dewatering per unit of soil and what is its distribution subsequently as a result of a given amount and rate of dewatering?
5. On the basis of these studies an estimate of siltation from the Wilder Lake source will be possible. It can then be compared with siltation as a result of input from upstream dams, and that arising from the four main and smaller tributaries in the intermediate drainage area above Wilder. When coupled with information concerning silt passed by Wilder to the river below the dam, an estimate of the useful lifetime of the Wilder Pool will be possible, and can be compared with other methods of estimating its useful life.

One might have imagined that at least we would already have the results of slump tests on various soil types at different water level exposures. Even these have not been done.

Once completed, a well-done study will allow allocation of the sources of siltation of the Wilder Lake, a matter of concern to the operators of the Project as well as to the community in which the Project is based. Quantitative information may suggest improved strategies for water level manipulation that will diminish erosion of the riverbank.

The benefits of hydropower are increasingly important as renewable energy becomes a national priority. The value of the Project to the operators as well as to the community will best be served by insuring that the useful life of the project is not compromised by a preventable loss of reservoir capacity.

On page 3-14 the statement is made that *“The project is operated in a daily cycle “run of the river” mode where daily inflow matches daily outflow. This may result in modest daily pond fluctuations due to upstream Project-related generation, mainly at the downstream end of the Wilder Reservoir due to the “pitch” of the river, but relatively constant water levels are maintained.”* I paddled my canoe on the Connecticut River in 1949, prior to the closure of the Wilder dam, and I find this statement outrageous. Current Wilder Lake levels are not a run of the river situation, and it is fortunate for the applicant to be able to blame the upstream dams if it isn't. A rise or fall of one or two feet during a single day prior to the presence of dams on the river would have signified a major meteorological event. The words “relatively constant” used to denote changes of a foot or more in water level in 24 hours could only be used by a person wishing to obfuscate the effects of water level changes and the statement should be removed from the Document. No unbiased person walking the river bank on even an occasional basis could agree that the river levels are “relatively constant”.

Conclusions: The Pre Application Document references work by consultants who have offered the opinion that changes in water levels in the Wilder Lake are not important causes of riverbank erosion. This opinion is not supported by any quantitative study. Some of the abutters of Wilder Lake believe that fluctuations in water levels in Wilder Lake are largely responsible for erosion of the shoreline. They have not offered any quantitative information to support their opinion. It is in the interest of the operator of Wilder Dam, the abutters to the Project and to the public at large to have a means of allocating responsibility for erosion and the resulting siltation of the reservoir. If the suggested study shows that such erosion is a substantial component of siltation it is in the

interest of the public for the Regulators to take reasonable steps that could diminish it and to allocate responsibility and costs for such steps.

The words “relatively constant” used to denote changes of a foot or more in the Wilder Lake water level in 24 hours should be deleted from the Pre Application Document.

Please inform me if clarification on any points I raise above is necessary and I will be pleased to respond.

Sincerely yours,

O. Ross McIntyre, M.D.