## FEDERAL ENERGY REGULATORY COMMISSION



## Office of Energy Projects

Division of Dam Safety and Inspections - Chicago Regional Office 230 South Dearborn Street, Suite 3130 Chicago, Illinois 60604 (312) 596-4430 Office - (312) 596-4460 Facsimile

> In reply refer to: P-2644 NATDAM No. KS00033

January 30, 2009

Mrs. Sarah Hill-Nelson The Bowersock Mills & Power Company P.O. Box 66 Lawrence, Kansas 66044

Re: Follow-up to January 28, 2009 telephone conference regarding repairs to the Bowersock Mills and Power Dam

Dear Mrs. Hill-Nelson:

This is a follow-up to our telephone conversation of January 28, 2009 regarding the actions you are taking to re-install the flashboards at the Bowersock Mills and Power Co. Project No. 2644 with the intent to raise the reservoir level. The reservoir was drawn down in October of 2008 as a risk reduction measure until repairs could be made.

As discussed, it is our understanding that raising the reservoir prior to completing any repairs to the dam will significantly increase the likelihood of a failure of the dam and the uncontrolled release of the reservoir. We remind you that following their October 2006 inspection of the dam, the engineering consultant, Black and Veatch, concluded in their February 14, 2007 report that, "Based upon the visual observations made alone it is not possible to determine if the dam is in immediate danger of failing, as significant structural concerns exist." The wording of this conclusion requires that you prudently consider that Bowersock dam is in imminent risk of failing.

On Friday, January 23, 2009 we met with you, and representatives from B&V and the City of Lawrence, Kansas to review the condition of the dam and to facilitate finalization of repair plans. Nothing was observed during the inspection that would lead us to conclude that conditions have improved at the dam since the B&V inspection.

In your e-mail immediately following our telephone conversation you state that you have talked with engineering consultant, Mr. Mark Bushouse, P.E. of Black and Veatch who is preparing a letter report. He indicates that he has not seen any significant difference in the condition of the dam since their last inspection in 2006. You further

state that "...based on the conditions as they were observed last Friday, Black and Veatch will not recommend any change in the course of action that has already been proposed...". We consider raising the reservoir to normal operating levels prior to any repairs to the dam to be a significant change in the course of action which increases the likelihood of a dam failure.

Please have Mr. Bushouse specifically address in his engineering report the impact that raising the reservoir will have on the safety of Bowersock dam. Absent a finding by Mr. Bushouse that raising the reservoir to normal operating conditions will not significantly increase the likelihood of a dam failure, you should not raise the reservoir prior to completing repairs.

In addition, if you have not already done so, you should meet with the local emergency management agencies who are responsible for responding in the event of a dam failure. You should brief them on the condition of the dam and have them develop a flowchart of individuals to be contacted in the event of a dam failure. Please confirm you have completed this action within 15 days of the date of this letter.

As was discussed with you, we further suggest that you consider conducting a Potential Failure Modes Analysis (PFMA) of the dam with the FERC and with the City of Lawrence to more fully understand possible failure modes of the Bowersock dam and as a means of brainstorming other risk reduction measures that can be implemented until the work to repair the dam can be done. Please contact us if you wish to schedule the PFMA.

Finally, we note that you are using the leftmost gate of the dam. This gate is located in the shallow part of the river channel and as such would be more likely to scour versus the deeper, central part of the channel. Therefore, we recommend that you conduct soundings sometime in 2009 to ensure that detrimental scour has not taken place.

You should continue to coordinate these activities with the City, B&V, and the Kansas State Dam Safety Official. If you have any questions, please call Mr. Strat at (312) 596-4450 or me at (312) 596-4430.

Sinçerely,

Peggy A. Harding, P.E.

Regional Engineer

Cc:

Mr. Matt Scherer Water Structures Program Manager KS Department of Agriculture Division of Water Resources 109 SW 9<sup>th</sup> Street, 2<sup>nd</sup> Floor Topeka, KS 66612