



BLACK RIVER HYDRO LIMITED PARTNERSHIP



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April 30, 2017

Secretary Kimberly Bose
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

**Re: Project No. 11730 Alverno Project (Black River Hydro Limited Partnership) –
Black Lake Levels Update**

Dear Secretary Bose:

The purpose of this letter is to provide the Commission with an update on the ongoing issue of high levels at Black Lake. Black River Hydro LP (“BRLP”) has provided the Commission with letters on October 31, 2016, December 13, 2016 and January 31, 2017 regarding the levels of Black Lake in relation to the Alverno Project. In our January 31, 2017 letter, we committed to providing an update no later than April 30, 2017 and another by July 31, 2017.

On February 2, 2017 BRLP hosted a public meeting and gave a presentation on the dam and lake, the issue at hand, historical data and documentation and thoughts moving forward. A copy of this presentation is included as a PDF with this submission. We did not capture names of personnel present but we estimate that approximately 60 to 75 people were in attendance. Further entities that were represented included: the Michigan Department of Natural Resources (“MDNR”), Black Lake Association (“BLA”), Black Lake Preservation Society (“BLPS”), the Cheboygan County Commissioners and Cheboygan County Drain Commissioner. Of course, numerous citizens who reside on both the lake and the river, downstream of the lake and downstream of the Alverno plant were in attendance.

In addition to Black River LP's Nelson Turcotte speaking and going through a PowerPoint presentation, Mr. Rick Scherer, non-member of BLPS but representing BLPS, did speak about the issue as did Mr. Bob Dunston (a cottage owner on Black Lake). Further a Ms. Beverly Haas, representing BLPS, spoke at the meeting and finally a Mr. Ron Dulak, representing BLA addressed the attendees. A copy of the PowerPoint presentation given at this meeting is included with this submission.

In general, the only issue we saw from the meeting was one particular attendee who was fairly vocal in citing that he did not believe our point of view of Smith’s Rapids control of the lake levels in Black Lake and continued to ask the question: "what has changed?". Upon not being satisfied with our answer, that particular attendee left the meeting early. In general, the meeting went well and there were no extraneous requests made of Black River LP at the meeting.

BRLP has committed to running various tests at the Alverno dam to better understand our influence on the level of Black Lake and whether we can, in the winter, have more effect on its level and drainage. In previous letters, BRLP has gone into much detail about the restriction at Smith's Rapids, the factors affecting lake drainage and filling, and the history of the area regarding Black Lake.

The main test discussed with the BLPS, BLA, MDNR and members of the public was to drastically lower the headpond down to 608.5ft, which is one foot lower than what we are generally able to safely lower the headpond to without risking cavitation damage to the older mild steel turbine runner blades. We garnered approval from the MNDR, the Michigan Department of Environmental Quality ("MDEQ") and the FERC to conduct this test. The hope of this test was to increase the water level differential between the Alverno dam headpond and the Black Lake level as much as possible so that we might, in theory help to pull more water out of Black Lake and through the Smith Rapids. BRLP agreed to run this test with the support of the above-mentioned groups and members of the public that we have been corresponding with on this issue. The test began on March 5, 2017, in the morning, and by 6:30PM that day, the spillgate was open 13 inches with two units running at 60% and cavitating. Total flow was at approximately 760 cubic feet per second (cfs). On the Upper Black River, above Black Lake, the Kleber dam was running approximately 450cfs into the river which flows into Black Lake. That night, we experienced warm weather and rain, which dramatically increased inflows to the lake. Flows through the Kleber dam increased to over 1,000cfs, and Black Lake water level continuously rose from 611.72ft on March 5th to 612.00ft on the morning of March 8th. The Alverno headpond was maintained at 608.5ft throughout this time frame, passing on average of 750cfs. The powerhouse tripped off on the evening of March 7th because the turbines were starving for water due to the headpond being too low. We do not have an automated control to keep the headpond level at 608.5ft, and so it actually lowered to 608.3ft. Nearing the end of this test we could not pass more than 750cfs without dropping the headpond even lower.

Drawing conclusions from this test, we can state that Smith's Rapids is restricting water from Black Lake despite the increase in water level differential between the Alverno headpond and Black Lake. The table (showing Smith's Rapids flows versus Black Lake levels), from the 1983 report titled "Winter Drawdown" by Black River Hydro Co. (included in our October 31, 2016 filing) stated that Smith's Rapids can only pass approximately 700cfs when Black Lake is at 612.00ft. This table is included below as Table 1. This directly correlates with how much water we had been passing at the Alverno dam, and yet we still saw an increase in the level of Black Lake. If the restriction was not present, the Alverno headpond would have risen aggressively during this time instead of lowering. BRLP believed it to be futile to continue with this test or pull the headpond any lower after March 8th. Since then, we have been running at or near a normal Alverno headpond elevation of 610.2ft, since running it at 609.5ft and 608.5ft did not have a positive effect on the level of Black Lake.

<u>DISCHARGE RATE OF SMITH'S RAPIDS</u>	
<u>LAKE LEVEL</u>	<u>DISCHARGE CAPACITY</u>
611.00' M.S.L.	325 CFS
611.80	450
612.00	700
612.20	800
613.00	1400

Table 1: Discharge Rate of Smith's Rapids (Black River Power Co., 1983)

Recently, over the course of the last 10 days, we have been conducting other experimental work in an attempt to lower the Black Lake level. We have run the plant at an impoundment level of between 609.5ft and 611.5ft to determine what impact we have on levels at Smith's Rapids (at the base of the rapids, in the middle of the rapids section and at the upper end of the rapids (i.e. Bridge just upstream of the rapids). We have taken survey shots throughout various headpond elevations at the Alverno dam. This work is not completed and will be reported on in our summary due July 31, 2017. However, initial results provide the evidence that at lower Alverno pond elevations (below approximately the 611.2ft elevation), moving the pond lower will only cause us to starve of water and will not reduce the elevations of water in the river at the upper end of the falls and hence, Black Lake levels. Because water volume of the river between the Alverno dam and the bridge just upstream of the Smith's Rapids, but downstream of the Lake, is significantly less than the volume of water in lake, it would not take us long to see a reduction in water elevation at these river cross-sections when lowering the Alverno headpond. What we are noticing is that the elevation at the base of the rapids (lower end of the rapids) does come down and go up consistently with the fall and rise of water elevations at the Alverno pond. However, just upstream above the Smith's Rapids, nothing happens. This again provides quick evidence that Smith's Rapids is a bottleneck, as the U.S. Army Corps of Engineers ("USACOE") reports and science have stated in the past.

We believe the following conditions are required so that the Alverno dam can successfully lower Black Lake, despite Smith's Rapids providing a significant restriction; low fall inflows followed with cold weather beginning in November, sustained through the winter with minimal to no warm periods during the winter. This information is also stated in our FERC license application. We will elaborate on the data provided within our license application in greater detail during our next update letter due July 31, 2017.

We have discussed, with the stakeholders, the possibility of beginning the drawdown period on October 15th this year rather than November 1st. This is still under consideration but it is likely that we will be requesting this change in our next update letter due July 31, 2017. We would be sure to notify all residents around the lake and river of this change so that they may prepare for this early drawdown. We also want to ensure there are no strong dissenters on this request before we put it into action in the fall of 2017. We do want to cite, in advance, that starting earlier will only help if we have a dry fall and will only help to a certain elevation. Again, we

see that to a certain elevation (i.e. around the 611.2 mark), that as we draw down, in the fall from our 612.2 pond elevation, we will have direct effect on the Black Lake level because we have, in effect, flooded out the Smith's Rapids. After that elevation is reached, it becomes tremendously difficult to lower Black Lake since the Rapids takes over as a control, unless we are in dry conditions. Under dry conditions, it isn't the Rapids that "allow" the lake to come down further, but simple hydrological impacts (i.e. running out of water from less inflow, evaporation, less ground water) and of course the entire levels in the watershed system will come down.

Granger and Porter's Survey

BRLP has recently received the full results of the survey done by Granger and Associates. After comparing the results with those of Porter's Survey, completed in November 2016, we found several inconsistencies in the data. Both survey reports are included with this submission for reference. Granger's results at the Alverno headpond showed our staff gage sitting 0.4ft too low in the water (i.e. its reading too high) while Porter's showed it 0.15ft too low. At the Black Lake marina, Porter's survey, in November 2016, said the lake level was 0.3ft lower than the Black Lake marine chart recorder was actually indicating and so an adjustment was made in the positioning of the gage. Even after this adjustment was made, Granger's survey results, from February 2017 still indicated that the marina gage was off by 0.3ft from the lake level. In other words, even Granger's survey results were still showing that Black Lake levels were still 0.3ft lower than we thought they were from our indication on the Black Lake marine chart recorder. Therefore, before the completion of the surveys, we were actually running the headpond (and the lake) lower than we thought we were.

However, due to the discrepancies between the two surveys, BRLP reached out to both Granger and Porter's Survey to start or facilitate a conversation between the two survey companies so that we may determine, conclusively which readings we should be relying upon, if any.

On Thursday, April 27, 2017, we received reply from Brad Porter of Porter Survey, via email. We are still corresponding with Mr. Brad Porter of Porter Survey. We will file an addendum to this filing on or before the next filing deadline in July to confirm where we are actually sitting with the Marina Chart Recorder and Staff Gage. Initial indication shows we are still thinking that the lake is higher than it actually is; by lesser amounts though. I would hope that we can get you an addendum to this April 2017 Black Lake Level report, with respect to closing of the survey issue, on or before May 31, 2017.

USACOE Report

BRLP has recently been consulting with the USACOE concerning this issue. On March 6, 2017, BRLP met with two USACOE representatives, from their Detroit, Michigan office, to discuss this issue at length and determine possible next steps regarding an updated hydraulic study done by the USACOE. The minutes from this meeting are included in Appendix A below. The study we have referenced several times, conducted by the USACOE, was from 1965 and it has been suggested, by the BLPS, that this study be redone at least partially to reflect current conditions and to redo the Smith's Rapids flow versus Black Lake elevation measurements and theoretical calculations. BRLP is in full support of this idea, as long as the federal government would provide, at no cost to BRLP, the resources necessary to complete this work and wanted to discuss this directly with the USACOE. Our position is that the science is the science has not changed and why redo the work. However, if the USACOE wanted to help the stakeholders out by redoing some of the work, we would support that with provision of data and access to our project. It was determined, in the meeting with the USACOE that a Letter of Request be filled out and submitted to the USACOE regarding the proposed investigative works. In this case, the County or the State must submit this letter and apply for funding/resource assistance. BRLP has approached the Cheboygan County Drain commissioner to further investigate their willingness to submit a letter to the USACOE. We are currently working with Cheboygan County to produce that letter. Further, BLPS and BLA and other state agencies will be consulted on the wording of the letter and the requested scope of the work, to be highlighted in the County supported letter before it is submitted in its final form to the USACOE. We anticipate that the letter will go out no later than June 15th, 2017. The USACOE did cite that it is likely that this work, if it is approved, may not actually be carried out until 2018.

We will update the Commission on the status of this subject in our next letter regarding Black Lake levels.

POSSIBLE FUTURE LICENSE AMENDMENT REQUEST

We are still undecided as to whether we will request a License Amendment or not. That said, given the information that has been developed over the course of the last 9 months or so, it is becoming evident to us that it is virtually impossible, but under conditions which occur intermittently and with numerous years between the events (i.e. long cold winters), for the Black River LP to draw the Black Lake down to the 610.2 (license target elevation) or the Court ordered winter elevation of 610.5 for Black Lake. In affect it is never Black River LP and its dam drawing the lake down, it is situation that water is so low in the drainage basin because of dry conditions and, in the winter, that the levels come down naturally. Most certainly, we can affect levels in the Summer - since the Smith's Rapids is affectively flooded out when the lake is higher and our pond is higher.

We also want to stress and we will re-make this point in our July 2017 submission, that the County judge in his 1960's court order made that order under the context that Smith's Rapids was to be dredged (and paid for by the tax payers of the County) and made when the County

owned the dam and powerhouse. The County, when they owned the project between 1965 and the early 1980's never operated the powerhouse and opened the spillgate at the Alverno dam fully so as to pass any flows that came into the headpond of the dam. It is interesting to note that even during these years, spring Black Lake levels reached very high numbers even though the dam was free flowing through the spillgates.

So, we feel that the Court Order was made under very different conditions and when it was given, it was made in the context that the Smith's Rapids would be dredged. We see that the Court Order is meaningless and serves no purpose since, without a dredged Smith's Rapids, we have no control over the lake levels below certain lake and pond elevations.

In short, what we are saying, initially and in advance of our July 2017 report submission on this issue is that if we ask for an amendment, it will be to add the wording "target elevation" and to change the winter "target" from 610.2ft to something greater that can be reasonably achieved. Past experiences show us that a level of 611ft or greater in the lake during the winter may be reasonably achievable. Further - we can see that even if winter conditions allow for a winter drawdown to the 610.5 elevation or perhaps lower, past spring events, and many of them, have shown that regardless of what you do at the dam, with the powerhouse and/or the spillgate, the lake will increase aggressively with melting events and precipitation events through the winter and of course in early spring.

Should we decide that an amendment request is in order, we will draft that request and submit it to the agencies (MDNR, USFWS, MDEQ) before submitting to FERC. We see that an amendment request would be provided to FERC no earlier than our July 31, 2017 report filing on this issue.

Should you require any additional information on this matter, please do not hesitate to contact the undersigned by email or telephone. Many of the appendices are included separately in this submission.

Sincerely,

Tiffany Heon
Environmental Officer
Black River Hydro LP
tiffanyheon@hotmail.com
647-220-4476

cc.

FERC eFile
via email Nelson Turcotte – Northwoods Hydropower, Inc. (General Partner/Manager BRLP)
via email TJ Lovullo – FERC
via email Jeremy Jessup – FERC
via email Kelly Houff - FERC
via email Kyle Kruger – DNR
via email Mr. Gary Kohlhepp – MDEQ

via email Mr. Burr Fisher – USFWS

via email Jim Tucker – Tuck Energy Services, LLC (Lead Operator for BRLP)

via email Brett Trepanier – BLA

via email Rusty Gowland – BLPS

via email Jason Chrumka – USACOE Detroit

via email James Luke – USACOE Detroit

via email Cameron Cavitt – Cheboygan County Drain Commissioner

APPENDIX A – U.S. ARMY CORPS OF ENGINEERS MEETING MINUTES

MEETING

Black River LP – Alverno Plant (P-11730)
March 6, 2017 – 1:00PM – 2:30PM
Conference call

ATTENDEES

Nelson Turcotte – BRLP Owner/Manager
Jim Tucker – BRLP Operator
Tiffany Heon – BRLP Environmental Officer
James Luke – USACOE
Jason Chromka – USACOE

AGENDA

1. Introductions.
2. Ask Jason and James if they have had a chance to review any of our (BRLP) correspondence.
3. Description of the layout of Black Lake/Smith's Rapids/Black River and Alverno Dam.
4. Context setting description of concern and issue.
5. Draft Scope of Request to USACOE and "Re-opening" of the 1965 Study.
 - a. Perform review of 1965 studies and work and pull up old drawings/surveys/maps.
 - b. Perform review of recent correspondence from Black River LP to FERC on the issue, including review Feb 2, 2017 PowerPoint presentation made to the public at Onaway Town Hall.
 - c. Hold initial conference call with Jim Tucker and Nelson Turcotte of Black River LP to receive further information and to review scope of work request from BRLP, BLPS and BLA.
 - d. If agree to work scope, then:
 - i. Complete studies of Smith's Rapids and re-survey the rapids area to determine relationship between Black Lake levels and flow discharge at the rapids under various Black Lake levels.
 - ii. Provide opinion as to when, if at all, Alverno dam can directly positively affect lowering of Black Lake levels and when it cannot.
 - iii. Recommend a new winter target elevation for Black Lake (i.e. something reasonably achievable given new found information).
 - iv. Provide expert testimony/support letter in support of a POTENTIAL REQUEST by BRLP to FERC on license amendment and to Cheboygan County court for abolishing court order levels.

ACTION LIST

ITEM NO.	TASK	ACTION REQUIRED	ASSIGNED TO	TARGET DEADLINE
1	Email documents to USACOE	Nelson to email License Order and Court Order (for Black Lake levels) to James and Jason	Nelson	ASAP

NOTES

**The points below are highlights of the meeting and do not necessarily include or represent everything said*

-Jason: I have looked at the most recent letters you submitted to the FERC on this issue and started to dive into the main USACOE report.

-Nelson: The Corps researched this in detail decades ago – see 1965 USACOE Report. The restriction (rapids) was highlighted in this report and other historical documents. There is a court order that originally read a target of 610.5ft for the lake, which later changed to 610.2ft, so that the spring melt could be handled better. This may have been based on the proposal of dredging the rapids. Every so often we have someone in the public who is new to the area who comes to us with the concerns of the lake levels without understanding the historical patterns with the lake rising and the reasons for this. We are trying to experiment with levels and running down the headpond at Alverno. We have approval from DNR to do this. We record hourly flow at all our hydroelectric plants.

-Nelson: there are two Black Lake groups, the BLA and BLPS. Jim Tucker is a member of the BLA. We have also been contacted several times with concerns from members of the public like Rick Scherer. We have chaired several meetings with Rick and others over the last two months.

-We have been asked to pull the headpond down as far as we can, even though we have expressed that we cannot go below a certain level or else we will face potential mechanical problems or damage.

-We are worried about doing this during winter. We agreed to it now because there has been a warm spell.

-We started the experiment yesterday and it has not had a positive effect yet (we pulled the headpond down to 608.5ft as of Sunday morning).

-With the units running where they are at Alverno, and the tainter gate is at 10inches, the pond is at 608.5ft and we are running about 950cfs through the dam. We wonder how that value differs from the total inflow to the lake.

-USACOE: have you contacted the USGS yet? We have partnerships with them and they may be able to help in this regard, this sounds like their specialty.

-USACOE: we have a couple authorities that may be able to help here. Under our Section 205 of

the Continued Authorities Program we have Small Risk Management Projects. We would have a feasibility study done, it would be similar to what was done in 1965. Some of the projects are cost-shared and others are 100% federally funded. We are not sure if we would be able to do a study by this summer, but it may be possible to go out to the river and collect some data. The lake vs. Smith's Rapids vs. Alverno dam, etc.

-Nelson: I think that is all we need, that data that you suggested.

-USACOE: you would need to fill out a Letter of Request. Send us a letter that you would like to request/seek funding for program A or B and provide background information, and we follow up from there. For us to cost share we need the county or the state, a government entity, to apply.

Under Section 205 Small Flood Risk Management Project – 100% federal funding up to 100,000\$ is possible and following that, we would make a recommendation on the rapids.

-Nelson: to clarify, we write a letter and it is targeting a Section 205 program. What if the study costs 30,000 for engineering and study costs, and then is any amount after that available for the construction project? Anything over \$100,000 begins the cost sharing.

-USACOE: you are not required to go to the construction phase after feasibility phase.

-Nelson: in our letter, if we outline the scope of the study or proposed construction in bullet form, we could ask about the costs?

-USACOE: we would call you back on the program details. The letter must come from the county or the state, if it came directly from you guys that would be a non-starter. We will send you a sample letter.

-Nelson: I think the BLA and BLPS will want to weigh in on the details of the application letter.

-Jim: some of the damage is from ice and high water, most from erosion of the beaches. It has (the damage) gotten up to the cabins in some years and caused some structural damage.

-Nelson: email USACOE copy of license and court order.

APPENDIX B – PUBLIC MEETING RECORD

MEETING

Black River LP – Alverno Plant (P-11730)
February 28, 2017 – 10:00AM – 11:30AM
Conference call

ATTENDEES

Jim Tucker – BRLP Operator
Tiffany Heon – BRLP Environmental Officer
Nelson Turcotte – BRLP Owner/Manager
Rick Scherer – Public representative
Ron Doulac – BLA representative
Roger Selvig – BLA representative
Bob Dunston – Public representative
Rusty Gowland – BLPS representative

AGENDA

1. Status of Lake and plant flows
2. Discuss results of 5-day test at Alverno during freezing weather
3. USACOE correspondence
4. Communications protocol going forward
5. If reject idea of agreement - Nelson to explain why
6. Data submission to BLA and BLPS - every two weeks
7. Status of Staff Gage installation at two bridges
8. Communications during spring transition - through Jim and BLA and BLPS

ACTION LIST

ITEM NO.	TASK	ACTION REQUIRED	ASSIGNED TO	TARGET DEADLINE
1	Draft public notice for drawdown	Draft the drawdown notice and email it to all participants on this call. It will be an explanatory notice. Once the final draft is complete, post in the newspaper and online for comments.	Tiffany	March 20, 2017 (notice ASAP)

2	Send biweekly data	Jim will send to BLA and BLPS via email or text message.	Jim	ONGOING
3	Scope of involvement document	Circulate a scope of involvement document so everyone's concerns are addressed when we meet with the USACOE representative(s).	Nelson	March 17, 2017

NOTES

The points below are highlights of the meeting and do not necessarily include or represent everything said

Item 1:

-Nelson: the weather around the lake is mild right now and we are about to get some rain. There are about 7-10 days of cool weather coming where it will stay 13-18 degrees at night and then mid 30s during the day. It appears that some snowfall might be on the way also. We are running considerable water at the dam trying to keep it at 609.5ft Black Lake is high but we suspect it might come down a bit in the next little while because of the forecasted weather.

-Jim: at Kleber both units are running at full load and the flood gate is open about 8 inches as of this morning. That water is going into the lake and contributes to total inflow of the lake. The lake filling has slowed down in the last couple days. An important factor is getting the water coming in to slow down.

-Rick: how many cfs is going through Kleber?

-Jim: 750cfs through with the gate open. Depending on where we have the gate during the day, that has varied slightly. Right now, on average, there is 600-750cfs running through during recent days with both turbines and the flood gate open.

-Rick: Alverno is maintaining at 609.5ft, correct?

-Jim: we are at 95% on one turbine and 80% on another.

-Rick: As far as I understand Jim was gone a week or two ago and James was running it. Do you usually have alternating shifts (day/evening)?

-Jim: We usually both operate them during the day, we switch sometimes to offset day and afternoon quite frequently.

-Rick: As I understand it from the data, the headpond would go up over 610ft overnight and then James would have to pull it down in the morning?

-Jim: It is because we are in a transition period from running one unit to two. Sometimes it takes about a week to transition into running two turbines, it is normal for it to go up and back down.

-Nelson: It looks like there will be about ½ inch of rain tonight. Precipitation this weekend looks

like 2-3 inches each day. Probably around 6 inches (with rain and snow) over the next week. After that, nothing major for the long range (from accuweather.com).

-Jim: usually the cold weather slows the rising of the lake down.

-Rusty: you are holding it at 609.5ft for now. Is that as low as you can hold it?

-Jim: that is as low as we want to hold it mechanically, otherwise it poses risks to equipment below that such as cavitation.

-Nelson: if accuweather.com is accurate, it looks like beginning around the 22nd or 23rd of March the spring melt will be upon us. Anything that is on the ground will start going into the lake. Although what is happening now with regards to the weather is a good thing because this does not happen every year where we are running this much water through late February. This will likely help us.

-Rusty: the weather is on our side but if we are still over the winter target level there is still risk there.

Item 2:

-Nelson: we were planning on running this test, a 5-day test, where the headpond was at 609.5ft consistently to see if the lake behaved any differently.

-on February 14th. it was colder but we have not really had a major cold spell since.

-Rick: is it too late in the season to expect the Gaylord watershed to completely freeze up? We have still had water running into Kleber full tilt. Is it too late to run the cold-water test? Because the ground has basically thawed right now.

-Nelson: we have been constantly running the "test" because we have been making every effort to hold the headpond at 609.5ft. The lowest flow we got in February at Alverno was 450cfs from February 13-16. At Kleber during February 14-16 we were at 212 and 210cfs.

-Nelson: next fall we will try to hold the headpond around 609.ft for the transition period (November 1 – 30) to see if there is a greater effect on Black Lake. If it gets cold for 3-4 days in the coming weeks that is about the best we will get for the remainder of this year for that test cold weather test.

Item 3:

-Nelson: I have not had the conversation yet (with Army Corps of Engineers) but have emailed him to ask him for time to have a conversation. It looks like we will likely speak tomorrow.

-Contact for USACOE is Jason Chrumka: 313 226 7762, Jason.A.Chrumka@usace.army.mil, Flood Risk Manager.

Item 6:

-Nelson: the original plan was to submit data until May 30, 2017 every two weeks, then after that once a month beginning in June this year. The period from November 1 through May 15th we will provide data/information to BLPS and BLA every two weeks and in the other time once a month.

-Rusty: there was a suggestion that Nelson offered up in the October 31, 2016 letter, to start the drawdown earlier (October 15 instead of November 1 yearly). Do we need to do that along with keeping the headpond at 609.5ft during the drawdown period?

-Nelson: during the last call we chaired, it was raised that there may be concerns people around the lake. An earlier drawdown would impact them, it would impact all fall boaters.

-Rick: most people have boats on lift early October. If it was moved up before November 1st we would have to communicate that clearly to all residents. It is not a big deal on a boat launch but it could be on the shoreline.

-Nelson: experimentally, in November, we do not have a strong correlation for holding at 609.5ft and having the lake go down. The test has not showed promise yet. If we did it this year, 609.5ft on November 1st, get the results of that test and then going into the following year if it looked beneficial we can at that point try something a little earlier. If we try something earlier now, at what point is that benefitting that lake that early in the fall?

-Rusty: if we try the start the drawdown on October 15, and our test would just be how quickly can we lower the lake, we may decide that we do not need to start earlier in following years. If it still does not lower the lake significantly faster, then we put ourselves at risk for the next spring.

-Nelson: we will put out a newsletter (online, in the local papers) to everyone on the website saying this is what would happen this fall (the earlier drawdown).

-Rick: Jim, do you think people on the lake who use boat launches will be ok if we start earlier?

-Jim: it depends on how fast the lake drops. You could start it then and be in a rainy period and it will not move. Last year was very dry and the first foot dropped quickly.

-BLA received many calls about low water last year.

-Nelson: we can ask residents to provide input on a possible October 15 start?

-If people object we can talk it over with them. Can they forgo a week of late season fishing?

-Rusty: much of the excitement last fall was because they were concerned it was going to come down very low and too fast.

-Nelson: in terms of media that we use to get this message out, do we just rely on the website or the newspaper? Including it in the paper is wise (Onaway and Cheboygan newspapers).

-Tiffany will draft the drawdown notice. We will email it to all participants on this call. It will be an explanatory notice, explaining that we are drawing the lake down early. It may help us manage through the winter, we want to try to begin October 15 at 8am. Once the final draft is complete, we can post it and put it in the paper. In terms of comments, can we just have them sent to Tiffany via email or people can post comments to the BLA Facebook page. Even if one strong objection comes in we will know who it is and we can get in touch with them.

-BLA holds meetings and we can discuss it at the meetings and word gets around from that.

DATA SUBMISSION:

-Rick: every two weeks, what exactly will be sent out?

-Jim: it will be a summary of Monday, Wednesday and Friday levels of those two weeks including: flows, at both dams and the lake. It will be a summary and not a huge datalogger download. It will likely be in the form of a quick email or text message sent to Ron and Rusty of BLA and BLPS.

-BLA: the average person only cares about how high the lake is. We do not need to overwhelm them with information and endless data. Some people do not even know about the dam. They do not need all the detailed dam data.

-Nelson: we can share the flow data for those who would like it and request it. Otherwise, a one sentence comment on what we are doing to manage. There will be 2 levels of information, Black Lake and the headpond, and two flows (Alverno and Kleber).

-Rusty: There are rumors and frustrations going around, generally there is a lack of understanding of the lake level and what affects it. I would still like to post lake level every two weeks in the summer. In the summer months, I would like to know lake level every two weeks, as well as through the drawdown period. Some people want to get a feel for what is happening and we all want to be able to anticipate what will happen. I would like to at least offer up the info more often than once a month.

-Nelson: In this summer, let's commit to sending it once every two weeks.

Item 5:

-N: I do not want to get into signing an agreement.

-We can pass on this item, as we have a very productive dialog going and its not really needed.

-N: the FERC is our superior in these matters with regards to running the dam.

-We promised the FERC another update letter soon (no later than April 30).

Item 7:

-Staff gages: Jim talked to Cheboygan Country Road Commission get the approval to put the staff gages on. We will have them made we just need their approval. We will also contact Presquil County Road Commission as we need their approval in addition to Rainy River bridge, we need approval for that too.

-Jim: we will have those gages made up and put out as quickly as possible.

-Nelson: they will basically be vinyl glued to aluminum, we can easily put new vinyl on it over time. We can hang them with structural steel.

-Bob: During the past fall, did the headpond not get set at 609.5ft or even 610ft? With all the discussion that we have had so far – there is no way the lake can even get to 610.2ft if the headpond is higher than that level. I do not care what it takes, you need to do all you can. It may need 609ft or under plus the flood gates open. Here we are today where in 3 weeks we are into spring and we are 1.6ft higher than we are supposed to be. What are we doing extra at this point?

-Nelson: a while back you thought the lake was running at 613ft (in the summer), the surveys and the data are disputing that claim.

-Bob: the survey point on the two houses of reference turned out to be almost a foot off. Based on the results of the surveys and the data, the lake was slightly higher than it was supposed to be.

-Nelson: we are not in full blown spring yet, but we will be soon.

-Bob: you are right, but we are not at the winter level yet. We have not reached the winter level been all season.

-Nelson: at some point, we will open the gate up. The county had the spillgate fully open for many years (see historical data from the February 2nd presentation) and it still flooded almost every spring. All I can do it go with the data right I have right now. Sure, we can open the gate but nature and Smith's Rapids have the biggest influence so it will likely not help us.

-Bob: everything right now is all hypothetical and reactive, and the lake is many inches above where it is supposed to be, so we will likely see very high levels this spring.

-Rusty: we all agree and understand that there is some degree of restriction at Smith's Rapids. If

we manage the dam at 609.5ft, or if it is possible to go lower, maybe we need to do that. There is a delay and we are almost always just by design always going to be out of compliance. My request would be to, in communication with the USACOE, to understand that if the lake is at 612ft and the pond is at 610ft, there is a certain flow that is allow through the rapids. What is the difference in the rate of flow if the dam pond were lower. How much can we accelerate through Smith's Rapids by increasing the different between the dam pond and the lake. I would like an authoritative source to say whether it is better to keep a foot lower than the lake or many feet lower than the lake.

-Rick: I agree with Bob and Rusty. I know we are 1/10 of an inch below where we were last spring. We need to try everything we can.

-Rusty: What are the variables and how much control do we have over those variables? What is the impact of dropping the pond lower? How much does that increase the flow? I would like an authoritative voice to weigh in here. What is the goal for managing the variables?

-Nelson: I would like to know where the figure came from, the original mark/goal of 610.2ft, when the historical data shows that it is not achievable regularly. We would like to know where that number came from as it is clearly not achievable based on the lack of control we have now and historically have had.

-Rick: dredging the Smith's Rapids was discussed at the meeting. Does anyone remember who said that? Someone spoke at the meeting about it.

-Nelson: there is cobblestone over the bedrock. We can ask the court to consider that and ask for an assessment.

-Ron: I do not agree, at this time, to dredge Smith's Rapids. The dam is very important to the lake. We know that in past years, almost every spring there has been an ice dam in Smith's Rapids. If there is an ice dam there and we clean that out so there are no obstructions, that ice dam is going to hit the Alverno dam. We need to do some good analyzing as to what is going on first.

-Nelson: it might be a good idea to have a couple representatives ourselves and meet with the USACOE representatives to talk about what they may be able to do for us. We can see how far they are willing to go and do for us. When it comes to flood control it probably does not get better than the Corps. Let me get in touch with them this week and get back to the group.

-Nelson: Frazil ice (submerge ice) can plug up the intakes. We are not sure what sort of ice jamming we would get from Smith's Rapids.

-Jim: ice builds up and almost shuts down the water flow. For most dams, the ice is directly in front of dam. Some chunks will flow under the spillgate and it can plug up the intake. If the chunks are big enough they can plug it up and it can be a problem during some years. Generally, it happens at least a little bit every year. We are always on the watch for that surge of water that comes down after the ice moves.

-Can we circulate a scope of involvement document so everyone's concerns are addressed.

-Nelson to send a document with bullet points to Jim and to everyone so they can add to it and we can approach the USACOE with that.

-Bob: is there any reason right now besides the equipment damage to take the levels lower?

-Nelson: will take this question into consideration and get back to you.

APPENDIX C – EMAIL CORRESPONDENCE

AGENCY (MDNR, MDEQ)

From: Koren Carpenter <CarpenterK5@michigan.gov>
Date: Tuesday, February 28, 2017 at 2:09 PM
To: Kyle Kruger <KRUGERK@michigan.gov>, Nelson Turcotte <hydro@eastlink.ca>, Thomas Lovullo <Thomas.Lovullo@ferc.gov>, "Kohlhepp, Gary (DEQ)" <KOHLHEPPG@michigan.gov>, 'Kelly Houff' <Kelly.Houff@ferc.gov>
Cc: 'Tiffany Heon' <tiffanyheon@hotmail.com>, James Tucker <tuckerjkgam@aol.com>
Subject: RE: P-11730 - Alverno Dam - Black Lake Level - working through issues with concerned stakeholders

Hi Nelson,

The MDEQ concurs with MDNR.

Please let us know the outcome/situation as you work through the testing period.

Regards,
Koren

Koren Carpenter, Senior Environmental Engineer
Surface Water Assessment Section
Michigan Department of Environmental Quality
(517) 284-5541

From: Kruger, Kyle (DNR)
Sent: Tuesday, February 28, 2017 12:45 PM
To: Nelson <hydro@eastlink.ca>; 'Thomas Lovullo' <Thomas.Lovullo@ferc.gov>; Carpenter, Koren (DEQ) <CarpenterK5@michigan.gov>; Kohlhepp, Gary (DEQ) <KOHLHEPPG@michigan.gov>; 'Kelly Houff' <Kelly.Houff@ferc.gov>
Cc: 'Tiffany Heon' <tiffanyheon@hotmail.com>; 'James Tucker' <tuckerjkgam@aol.com>
Subject: RE: P-11730 - Alverno Dam - Black Lake Level - working through issues with concerned stakeholders

Hi Nelson,

Yes, I agree with what you have included in the e-mail below to test the effect of lowering Alverno to 608.5 temporary period of time to test the effect on lowering levels in Black Lake.

Kyle

From: Nelson [<mailto:hydro@eastlink.ca>]
Sent: Tuesday, February 28, 2017 12:39 PM
To: 'Nelson'; 'Thomas Lovullo'; Kruger, Kyle (DNR); Carpenter, Koren (DEQ); Kohlhepp, Gary (DEQ); 'Kelly Houff'
Cc: 'Tiffany Heon'; 'James Tucker'
Subject: RE: P-11730 - Alverno Dam - Black Lake Level - working through issues with concerned stakeholders
Importance: High

Hi Kelly and Mr. Lovullo:

Please see request below.

If you can provide your response - hopefully concurrence this afternoon, then we can get back to the stakeholders.

Kyle Kruger will be emailing his approval later today and Koren Carpenter and Gary Kohlhepp with MDEQ are pondering this and wanted to make sure you were in the loop, which, of course you are.

thx
Nelson

From: Nelson [<mailto:hydro@eastlink.ca>]
Sent: Tuesday, February 28, 2017 12:07 PM
To: 'Thomas Lovullo'; 'Kruger, Kyle (DNR)'; Carpenter, Koren (DEQ)
Cc: 'Tiffany Heon'; 'James Tucker'; 'Nelson'
Subject: P-11730 - Alverno Dam - Black Lake Level - working through issues with concerned stakeholders
Importance: High

Good Morning Kyle, Koren and Mr. Lovullo:

I just got off the phone with Kyle at the DNR and explained to Kyle the results of a formal 1 1/2 hour conference call that I just chaired with the Black Lake Association and the Black Lake Preservation Society. It was quite productive and we will provide details of that meeting at our end of March 2017 update on the Black Lake Levels issue.

One of the outcomes of the meeting was a request to us to try to pull the lake down from a current level of 611.79. Recent very mild weather and rains have created an early pre-spring melt and though we believe this to be good as the water is going now in lieu of early April, we do have a request to aggressively manage the lake from the dam, if at all possible.

The proposal is to take the pond, at the dam, down to the 608.5 mark from where we are running now at 609.5. Actually, we have been running at 609.5 all winter, for the most part, and this is lower than we have ever normally ran the pond at 610.2 - though this is costing us commercially with a decreased head we had hoped it would help - but to no real avail.

With that, then - we would like to now try this experiment late in the season where our spill gate won't ice up when open and where our powerhouse won't freeze up with the shutting of the units down at the 608.5 level. The next warm days will be Saturday and Sunday where the nighttime temperature won't go below 25 degrees. We propose, to, beginning at about 8:00am this Saturday morning (March 4th) to take the pond down to 608.5 and given that we can't safely run the units at that level (i.e. extreme cavitation), then we will open the spill gate.

You and I agreed, to this on our telephone call just now Kyle. If that has positive effect on the lake level - then we would discuss another experiment when we get another early spring warm spell to safely do this again - for the units and environment in late March. We will do this until Monday afternoon/evening assuming the temperatures into Monday stay mild - we anticipate that the nighttime temperatures on Monday will drop significantly into the teens and we don't want the powerhouse off or the spill gate open at that point.

Kyle - can you confirm, with a responding email that you are good with this and that you, too, Koren are fine with this.

Mr. Lovullo - given that our license does not have a specific set point for the pond at the dam, I felt that you might be good with it as long as the agencies were good with it - but definitely wanted to let you know we are planning this and wanted to make sure you were good with this.

I wanted to get back to the group with an approved plan, this afternoon.
thx so much.

Nelson Turcotte - Black River LP 807-768-4034

PUBLIC

From: James Tucker <tuckerjkgam@aol.com>
Date: Friday, April 28, 2017 at 6:53 AM
To: "mille76532@yahoo.com" <mille76532@yahoo.com>, "b3collision@yahoo.com" <b3collision@yahoo.com>, "rustygowland@gmail.com" <rustygowland@gmail.com>, "SDulak@SRC-MILP.com" <SDulak@SRC-MILP.com>, "blacklakeassociation@gmail.com" <blacklakeassociation@gmail.com>, "bhaas1000@gmail.com" <bhaas1000@gmail.com>, Nelson Turcotte <hydro@eastlink.ca>, "tiffanyheon@hotmail.com" <tiffanyheon@hotmail.com>, James Tucker <tuckerjkgam@aol.com>, "rick.scherer@edwardjones.com" <rick.scherer@edwardjones.com>
Subject: Black Lake Level Update

4/28/17

Black Lake Level 612.75
Alverno Head Pond Level 610.35
Alverno Total Flow 1102 cfs
Kleber Dam Total Flow 507 cfs

BRLP

From: Rick Scherer
Sent: Wednesday, April 26, 2017 1:06 PM
To: Jim Tucker, Nelson Turcotte
Subject: RE: Black Lake Level Updates 4/26/17

Thanks for the reply. Couple questions I have, the head pond levels since April 19th through today is at 610 - 611.29. When do you lower the head pond again to 609.5?

How did you measure the level of each end of smith rapids?

How long did this test take? I can expect your findings at the beginning of the test but a few days later at 609.5 I would have expected both ends to level out.

Is lake side of smith rapids normally higher than the dam side of smith rapids?

Thanks in advance for a reply.

Rick

From:
Sent: Wednesday, April 26, 2017 11:56 AM
To:
Cc:
Subject: RE: Black Lake Level Updates 4/26/17

Rick - we won't be there, at this point, for long

We are trying various things to get the lake down and have been down, in the past week to the 609.5 level at the dam (at that level have now the evidence, we believe) that we do not affect Lake Level at that level and the evidence that Smith Rapids is the only control of the lake level

The results of our testing over the course of the last week to week and a half will be published in our July report to the FERC.

We are pumping out tremendous water at Alverno and much less going in at Kleber and Lake is coming down. We see that at 609.5 at the pond at the dam - as compared to 611 at the pond - the upper end of the rapids DOES NOT DROP WHEREAS THE LOWER END DOES - this says the hold up is the rapids - simple experiment but we are beginning to create the field data that the USACOE has predicted in its science from 1965 - this information will be released in July when we file our final report for the year on this matter.

Nelson

Jim - please send this to BLA and BLPS

From: Rick Scherer
Sent: Wednesday, April 26, 2017 11:32 AM
To: Jim Tucker, Nelson Turcotte
Subject: RE: Black Lake Level Updates 4/26/17

Jim: Is it true that the head pond is at 611.3?

Rick

From: James Tucker <tuckerjkgam@aol.com>
Date: Wednesday, April 26, 2017 at 6:53 AM
To: "mille76532@yahoo.com" <mille76532@yahoo.com>, "b3collision@yahoo.com" <b3collision@yahoo.com>, "rustygowland@gmail.com" <rustygowland@gmail.com>, "SDulak@SRC-MILP.com" <SDulak@SRC-MILP.com>, "blacklakeassociation@gmail.com" <blacklakeassociation@gmail.com>, "bhaas1000@gmail.com" <bhaas1000@gmail.com>, Nelson Turcotte <hydro@eastlink.ca>, "tiffanyheon@hotmail.com" <tiffanyheon@hotmail.com>, James Tucker <tuckerjkgam@aol.com>, "rick.scherer@edwardjones.com" <rick.scherer@edwardjones.com>
Subject: Black Lake Level Updates 4/26/17

4/24/17

Black Lake Level- 612.96
Alverno Pond Level 611.29
Alverno Total flow 1389 cfs
Kleber Dam Flow 657 cfs

4/26/17

Black Lake Level 612.80
Alverno Pond Level 611.27
Alverno Total flow 1318 cfs
Kleber Dam Flow 402 cfs

BRLP

From: James Tucker <tuckerjkgam@aol.com>

Date: Friday, April 21, 2017 at 8:03 AM

To: "mille76532@yahoo.com" <mille76532@yahoo.com>, "b3collision@yahoo.com" <b3collision@yahoo.com>, "rustygowland@gmail.com" <rustygowland@gmail.com>, "SDulak@SRC-MILP.com" <SDulak@SRC-MILP.com>, "blacklakeassociation@gmail.com" <blacklakeassociation@gmail.com>, "bhaas1000@gmail.com" <bhaas1000@gmail.com>, Nelson Turcotte <hydro@eastlink.ca>, "tiffanyheon@hotmail.com" <tiffanyheon@hotmail.com>, James Tucker <tuckerjkgam@aol.com>, "rick.scherer@edwardjones.com" <rick.scherer@edwardjones.com>

Subject: Black Lake Level update 4/21/17

Black Lake Level updates

4/19/17

Black Lake Level 612.98

Alverno Head Pond Level 610.00

Alverno Total Flow 1240 CFS

Kleber Dam Total Flow 1082 cfs

4/21/17

Black Lake Level 613.14

Alverno Head Pond Level 610.12

Alverno Total Flow 1245 CFS

Kleber Dam total Flow 840 cfs

BRLP

From: "Scherer,Rick" <Rick.Scherer@edwardjones.com>

Date: Tuesday, April 18, 2017 at 4:12 PM

To: "undisclosed.for.privacy" <undisclosed.for.privacy@edwardjones.com>

Subject: RE: Black Lake Levels

Nelson: I'm not asking you to "give on something that won't do any good". Why would the public spend the money to hire a hydrologist so we can help solve this problem if the one who has control of the dam process is not willing to make the changes to help.

The next item I would like to address is what your position is. If you are trying to say that lowering the Alverno head pond level 1" will not lower the Black Lake levels 1". I agree. As far as having no affect on water flow increases, that's why the public was talking about hiring a hydrologist to see if it did increase water flow. But once again if it did increase water flows we needed some promise from you that you will adjust your process (lower the head pond) to help obtain and maintain the winter levels.

"it is virtually impossible - as the data shows to get to 610.2". I'm not saying you can hit the winter level every year. It's still unknown. What I do know is that on November 1st every year is the start of the winter draw down period. On November 1, 2015 through November 18, 2015 the Alverno head pond was at levels of 611.4' (except for a couple days when both turbines were running at 60%, changing from turbine 1 to turbine 2). How did you ever expect to obtain a winter level by the end of November when the head pond was over 14 inches above it. Also during this period 60% into the winter drawdown period, the Black Lake level was 612.4', over 2" above the SUMMER level

As you know I'm not against pursuing dredging smith rapids. I mentioned it at the public meeting and the last conference call in February. First I feel we have to prove to the public that the winter level can NOT be reached. In order to do this as we have said since January " if you keep the head pond at Alverno dam at 609.5 (a level that you can operate and not damage your turbines) from November 1st through April 15th the public has nothing to complain about. After running the head pond at 609.5 for a full season then and only then should we address dredging smith rapids.

Your last point talks about it being inherently implied within the license order that it is virtually impossible to get to 610.2'. I would agree with the first point. The best time to lower the lake is when flows are lower. However, I'm not sure the license order implies that it is virtually impossible to get to 610.2. The license to me says you must operate the Alverno Dam to maintain the court ordered winter and summer levels of Black Lake. But, I will leave that up to ferc.

April 15th through May 15th is a transition period to go from winter level to summer level. Not winter level to above summer level back down to summer level. As of yesterday Black Lake is over 7 inches above the SUMMER level.

Thank You
Rick Scherer

From: Nelson Turcotte <hydro@eastlink.ca>
Date: Tuesday, April 18, 2017 at 2:27 PM
To: "Scherer,Rick" <Rick.Scherer@edwardjones.com>
Cc: James Tucker <tuckerjkgam@aol.com>, 'Tiffany Heon' <tiffanyheon@hotmail.com>, 'Jeremy Jessup' <Jeremy.Jessup@ferc.gov>, 'Kelly Houff' <Kelly.Houff@ferc.gov>
Subject: Black Lake Levels

Rick - it is a basic fact that as head differential increases, velocity will increase - and hence flow will increase - hence the USACOE curve - that shows increased flow when the Black Lake rises

You are asking me to cut a deal on something that is a basic age-old hydraulic fact - where do you think the USACOE curve came from - as head increases (i.e. Black Lake increases, velocity increase and for a given cross-sectional area, flow increases) - i.e. $Q=VA$ where v = velocity and A = cross-section of stream. You are asking me to give on something that won't do any good - why would I do that?

This is nothing novel.

What my position is - is that lowering the pond at Black Lake obviously doesn't lower the water level, incrementally, as much at the rapids and hence no effect on water flow increases.

And....it is virtually impossible - as the data shows to get to 610.2

The USACOE has said that - I won't refute their studies and our testing doesn't refute it as well.

If and when the USACOE shows - who knows - it may take them until the summer of 2018 to show - the letter has to be drafted by the County first requesting the help.

We are going around here in circles.

Here is what I have left to do:

1. Write a final report and recommendations to the FERC in July of 2017

2. Work with BLPS and BLA to work with the County(ies) to write to the USACOE for help to restudy and redo work they already have done and to re-create the flow curve for Smith Rapids
3. Put staff gages at Bridges, based on county approval
4. Get surveyors to agree by working together (Granger and Porter Survey)
5. Do a public survey to see who might have an issue with starting draw down on October 15th, 2017 in lieu of November 1, 2017
6. Work to draw the pond down, assuming no major complaints in "5." above beginning October 15th, 2017 - as to where we will bring our pond down in October to - that is to be determined
7. Write a final recommendation to the FERC in 2018 as to what else we can do - including setting a winter target at something higher than 610.2 or 610.5 given that it is futile to think we can ever reach those levels consistently.

I would like to remind you what is actually in the FERC license and why that would have gone in there like that. Quite simply - if the river flows are low - i.e. less than 245 cfs, this is the time of the year where we have a shot at getting the lake down to 610.2 - i.e. winter low flow conditions and extended cold weather with no winter thaws.

Anytime flows exceed that - it is inherently implied within the license order that it is virtually impossible to get to 610.2

(a) when there are more than 75 cubic feet per second (cfs) but less than 245 cfs available to operate the turbines, the Alverno Project may be operated in a limited store and release mode. During the limited store and release mode of operation, the licensee shall: (1) maintain Black Lake at an elevation of 612.2 feet from May 15 through October 31, and 610.2 from December 1 through April 15 with the periods of November 1 to 30 to transition from the summer to winter level and April 15 to May 15 to transition from the winter to summer level; (2) minimize the frequency and magnitude of turbine flow release changes; and (3) provide a minimum flow release from the turbines of at least 75 cfs.

Nelson

From: Scherer,Rick [mailto:Rick.Scherer@edwardjones.com]
Sent: Tuesday, April 18, 2017 1:34 PM
To: undisclosed.for.privacy
Subject: RE: Picture of shoreline on Black lake

Nelson: I have sent you the documents that states different discharge rates for smith rapids.

If the public does hire a hydrologist, and their findings do show that water velocity increases as the difference between the lake level and head pond level increases, do we have a commitment from you that you will lower the head pond during the entire winter season until 610.2 is obtained? Then operate at run of river until April 15th then bring the lake to the summer level of 612.2. I'm asking because we have to know what we have to gain from this.

The other question on this topic is, will the USACOE perform this study while they come out there. If the USACOE do come out there will they do flows at different head pond levels?

Thank You
Rick

From: Rick Scherer
Sent: Tuesday, April 18, 2017 11:38 AM
To: Nelson Turcotte (BRLP)
Subject: RE: Picture of shoreline on Black lake

Here is a summary of the differences between the two sets of data.

611'	325cfs	usacoe graph	425cfs
611.8	450cfs	" "	650cfs
612	700cfs	" "	750cfs
612.2	800cfs	" "	800cfs
613	1400cfs	" "	1150cfs

So when I asked "in November how can the lake be at 611 for over 2 weeks, the head pond stayed the same and cfs was consistent at 445cfs"? You would of thought the head pond would have lowered based on the 1983 report. However, looking at the graph from the 1965 USACOE graph numbers it makes perfect sense.

So what numbers are correct? Based on the above time framed study, I would say USACOE numbers are correct.

Thoughts?

Rick

From: Nelson Turcotte (BRLP)
Sent: Tuesday, April 18, 2017 11:14 AM
To: Rick Scherer (public)
Subject: RE: Picture of shoreline on Black lake

Rick - your text in red, below, you are referring to what flow rates previously published?

You quote the USACOE graph and then you refer to flows previously published - what ones previously published and by whom?

If you want to dredge Smith Rapids - I think that would be a good idea - but I'm sure the County would want to increase taxes to owners of property in both Cheboygan and Presque Iles Counties. I think they voted on this in the 1960's and turned it back.

thx
Nelson

From: Rick Scherer
Sent: Tuesday, April 18, 2017 10:46 AM
To: Nelson Turcotte
Subject: RE: Picture of shoreline on Black lake

Nelson: Thanks for the reply. I will disagree with the experiments not working. You decided to raise the head pond from 609.5 to 610.2 over a month ago because the previous owner was generating more power than you and that was your solution. This is when we were approaching the critical time of season, the spring melt.

As you recall I spoke to a hydrologist and explained our situation to him. I explained that smith rapids is half way between Black Lake and the Dam. He did say "the velocity of the water would increase as the difference of the Lake level and Head pond increases". So to me that means the water would flow quicker out of the lake. That's what we need.

Your comment that the experiments did not work is wrong. The lake was lower this year compared to last year. That's with 2 melts this year when there was only one melt at that time last year (I made that comment on the last conference call in February). That means the lake was lower with less ice on the lake. So lowering the head pond to 609.5 for 7 weeks did work.

I will agree that you have worked with us. Just do not agree with your decision to increase the head pond because of lower power generation.

As far as Smith Rapids, I do agree it does restrict the flows leaving the lake at certain levels. Looking at the USACOE graph from the 60's at 610 smith rapids flows are 225cfs. At a lake level of 611 smith rapids flows are 425cfs. At a lake level of 612 smith rapids flows are 725cfs. **These flow rates are higher than the flows previously published.** The USACOE flows answers a lot of questions like in my complaint to FERC.

If you remember at the public meeting, I was the one that asked what steps do we need to take to have smith rapids dredged out. A gentleman mentioned he went to a meeting a couple years ago and said their was a quote to do a partial dredging of smith rapids for \$80,000. This partial dredging would increase flows by 30%. I also asked the same question on the last conference call in February. We all know smith rapids is a pinch point. But does it prevent you from reaching the winter level and reducing damage in the spring. We don't know.

I have always said on November 1st, if you lower the head pond to 609.5 and keep it there for the winter season, we will know you have tried everything in your control. But you did not. We believe the key time frame is at the start of the winter drawdown period. The more time you have to discharge more water out of Black Lake the less water will be in the lake for the spring thaw.

Just like science has not changed, smith rapids has not changed. But as asked (not very politely) at the public meeting "what has changed"? Something is different. Why has our shoreline been reduced by so much? You saw my picture. A few years ago my beach used to be 30 foot wide. So what's changed?

Thank You
Rick

From: Nelson [mailto:hydro@eastlink.ca]
Sent: Tuesday, April 18, 2017 9:28 AM
To: 'Scherer,Rick'; Jeremy Jessup (FERC)
Subject: RE: Picture of shoreline on Black lake

As we have cited before - nothing we do at the dam will rectify the high water, at this time on Black Lake - when will anyone accept that Smith Rapids is, in fact the restriction.

We have tried the experiments at 609.5 and 608.5 - earlier in the year - and they don't work. This is not our fault.

Nelson

From: Scherer,Rick [mailto:Rick.Scherer@edwardjones.com]
Sent: Tuesday, April 18, 2017 9:10 AM
To: Jeremy Jessup (FERC); Nelson Turcotte (BRLP)
Subject: FW: Picture of shoreline on Black lake

Jeremy: Rick Scherer here. Thought you would like to see a picture of my shoreline last Friday. This beach a few years ago was 30 feet wide. Now as you can see it is about 2 to 4 feet wide. In an attempt to break the waves before it washes more shoreline away, I have put some cement blocks in the water.

Still, I have not had a reply from Nelson and Jim (the operator) why they don't lower the head pond to 609.5.

Friday I did call Jim and invited him to my house so he could look at the damage. But once again have not heard back from him either.

The level of Black Lake Friday was at 612.7, and yesterday it is at 612.8. So as of yesterday, the level of Black Lake is 7 inches over the SUMMER level.

Thank You
Rick Scherer

From: James Tucker <tuckerjkgam@aol.com>
Date: Monday, April 17, 2017 at 4:33 PM
To: "mille76532@yahoo.com" <mille76532@yahoo.com>, "b3collision@yahoo.com" <b3collision@yahoo.com>, "rustygowland@gmail.com" <rustygowland@gmail.com>, "SDulak@SRC-MILP.com" <SDulak@SRC-MILP.com>, "blacklakeassociation@gmail.com" <blacklakeassociation@gmail.com>, "bhaas1000@gmail.com" <bhaas1000@gmail.com>, Nelson Turcotte <hydro@eastlink.ca>, "tiffanyheon@hotmail.com" <tiffanyheon@hotmail.com>, James Tucker <tuckerjkgam@aol.com>, "rick.scherer@edwardjones.com" <rick.scherer@edwardjones.com>
Subject: Black Lake Update 4/17/17

4/17/17
Black Lake Level - 612.81
Alverno Head Pond Level - 610.07
Alverno Flow 1088 cfs

Kleber Flow 969 cfs

BRLP

From: James Tucker <tuckerjkgam@aol.com>
Date: Saturday, April 15, 2017 at 7:25 AM
To: "mille76532@yahoo.com" <mille76532@yahoo.com>, "b3collision@yahoo.com" <b3collision@yahoo.com>, "rustygowland@gmail.com" <rustygowland@gmail.com>, "SDulak@SRC-MILP.com" <SDulak@SRC-MILP.com>, "blacklakeassociation@gmail.com" <blacklakeassociation@gmail.com>, "bhaas1000@gmail.com" <bhaas1000@gmail.com>, Nelson Turcotte <hydro@eastlink.ca>, "tiffanyheon@hotmail.com" <tiffanyheon@hotmail.com>, James Tucker <tuckerjkgam@aol.com>, "rick.scherer@edwardjones.com" <rick.scherer@edwardjones.com>
Subject: Black Lake Level Updates

Wednesday 4/12/17
Black Lake Level 612.72
Alverno 610.17
Alverno Flow 1053 cfs
Kleber Flow 758 cfs

Friday 4/14/17
Black Lake el 612.70
Alverno 610.27
Alverno Flow 1055
Kleber Flow 756

BRLP

From: "Scherer,Rick" <Rick.Scherer@edwardjones.com>
Date: Wednesday, April 5, 2017 at 11:49 AM
To: Nelson Turcotte, Tiffany Heon, James Tucker
Subject: RE: Black Lake Level Update 4/4/17

Jim and Nelson: I would like to let you know that we are 1.9 feet lower than April 4th of last year. Last year we were at 614.2 and today we are at 612.31.

I would like to thank you for all your efforts this year.

Rick Scherer

From: James Tucker <tuckerjkgam@aol.com>
Date: Wednesday, April 5, 2017 at 6:22 AM
To: "mille76532@yahoo.com" <mille76532@yahoo.com>, "b3collision@yahoo.com" <b3collision@yahoo.com>, "rustygowland@gmail.com" <rustygowland@gmail.com>, "SDulak@SRC-MILP.com" <SDulak@SRC-MILP.com>, "blacklakeassociation@gmail.com" <blacklakeassociation@gmail.com>, "bhaas1000@gmail.com" <bhaas1000@gmail.com>, Nelson Turcotte <hydro@EastLink.ca>, "tiffanyheon@hotmail.com" <tiffanyheon@hotmail.com>, James Tucker <tuckerjkgam@aol.com>, "rick.scherer@edwardjones.com" <rick.scherer@edwardjones.com>
Subject: Black Lake Level Update 4/4/17

4/4/17 Black Lake Update

The level in Black Lake is at 612.31, it has continued to rise slowly with spring runoff and rain events. The Alverno head pond is at 610.36 and the flow is at 955cfs. with the plant full load and the tainter gate open to 10". The Kleber dam total flow is at 832cfs with the plant full load and the tainter gate open 13".

BRLP

From: "Scherer, Rick" <Rick.Scherer@edwardjones.com>
Date: Tuesday, April 4, 2017 at 10:28 AM
To: Nelson Turcotte, James Tucker, Tiffany Heon
Subject: RE: P-11730 - Alverno - Black Lake Levels - results of testing by running pond at 608.5 - status report on Wednesday, March 8, 2017

Nelson and Jim: In looking at the data for Alverno, could you tell me if you were spilling on March 1st, March 12th and March 19th. If so how much? I just want to look at all the variables before I let you know my findings. Once again, I am looking at Alverno dam turbines running the same percentage but how much the lake level or head pond level plays a factor.

Thank You
Rick Scherer

From: Nelson Turcotte <hydro@eastlink.ca>
Date: Monday, April 3, 2017 at 7:19 AM
To: "'Scherer,Rick'" <Rick.Scherer@edwardjones.com>, James Tucker <tuckerjkgam@aol.com>, 'Tiffany Heon' <tiffanyheon@hotmail.com>

Cc: Nelson Turcotte <hydro@eastlink.ca>

Subject: Black Lake Level - idea of Army Corps of Engineers Work -

Jim - please send this note onto BLA and BLPS

In fact, give me the emails at BLPS and BLA and I can send directly going forward to save you some time - but making sure they always go through you.

Rick - I will likely see a person or two from the County on Wednesday of this week and Jim and I will raise the subject of the idea of having the County write a letter in support of acquiring assistance from the US Army Corps of Engineers to do that study work in the field. So we will get that going.

They will likely want some context for the letter and we can either have Tiffany draft that or I will draft it.

Nelson

From: James Tucker <tuckerjkgam@aol.com>

Date: Saturday, April 1, 2017 at 5:28 AM

To: "mille76532@yahoo.com" <mille76532@yahoo.com>, "b3collision@yahoo.com" <b3collision@yahoo.com>, "rustygowland@gmail.com" <rustygowland@gmail.com>, "SDulak@SRC-MILP.com" <SDulak@SRC-MILP.com>, "blacklakeassociation@gmail.com" <blacklakeassociation@gmail.com>, "bhaas1000@gmail.com" <bhaas1000@gmail.com>, Nelson Turcotte <hydro@eastlink.ca>, "tiffanyheon@hotmail.com" <tiffanyheon@hotmail.com>, James Tucker <tuckerjkgam@aol.com>, "rick.scherer@edwardjones.com" <rick.scherer@edwardjones.com>

Subject: Black Lake Update for 3/31/17

Black Lake Water Level Updates for 3/31/17

Black Lake water level- 612.23

Alverno head pond level- 610.30
Alverno total flow 911 cfs

Kleber Dam total flow 663 cfs

BRLP

From: Nelson Turcotte <hydro@eastlink.ca>

Date: Friday, March 31, 2017 at 10:09 AM

To: "grangerandassociates@gmail.com" <grangerandassociates@gmail.com>, 'Porter's Survey' <ps@portersurvey.com>

Cc: Tiffany Heon <tiffanyheon@hotmail.com>, James Tucker <tuckerjkgam@aol.com>, "Scherer,Rick" <Rick.Scherer@edwardjones.com>, Nelson Turcotte <hydro@eastlink.ca>

Subject: Black Lake Level Issue - comparison of Surveys from Porter and Granger Surveying Firms - need to have Porter and Granger speak about discrepancies

Good Morning Brad and Alan

I am attaching the survey reports from Granger and from Porter for your work to check out Black Lake levels against the Marina gage and against our staff gage at our powerhouse at the Alverno dam.

Brad - can you give Alan, at Granger a call, next week and discuss your procedures and why you might be out. If necessary, if you need to go to the field together, Black River LP is willing to compensate you, Brad for your share

of the joint check/work that might be required in the field to double check things. Of course, Alan - if you can work things out with the BLPS that would be good.

At Alverno Dam Headpond

Granger's results showed that our staff gage is sitting .4' too low in the water (i.e. its reading too high) while Porter said .15'. We want to know more precisely where it is sitting so we can adjust the staff gage and adjust the computer settings.

At Black Lake Marina compared to the Lake

In December, Porter said we were .3' high at the Marina Gage and so Jim made the adjustment. Yet, now in January of this year, after Jim made an adjustment, at the Marina gage, Granger's results still have the Marina gage .3' off from the actual lake.

Can you guys help us clean this item up. If and when you plan to go back out to the field - can you please contact Jim Tucker and, in turn, Jim will contact someone from the BLA and BLPS to attend for the last bit of siting work at the Marina and at the Powerhouse

Thank-you

Nelson Turcotte
Black River LP

Jim - please send this email on to BLPS and BLA

From: tuckerjkgam@aol.com [mailto:tuckerjkgam@aol.com]
Sent: Thursday, March 30, 2017 3:47 PM
To: hydro@eastlink.ca; rick.scherer@edwardjones.com
Subject: Re: Black Lake Water Level Update 3/29/17

Rick, we have been adjusting our flow (cfs) for the tainter gate and units by 20% to account for the low head level as compared to summer level when the flow curve was set for. I have been totaling the flows for the plant and the 873 cfs is for the units and the tainter gate combined.

Jim

From: "Scherer,Rick" <Rick.Scherer@edwardjones.com>
Date: Thursday, March 30, 2017 at 8:51 AM
To: James Tucker tuckerjkgam@aol.com; Tiffany Heon
Subject: RE: Black Lake Water Level Update 3/29/17

Jim: I have a question. You mentioned Alverno flows are at 873 cfs, with the spill gate opened 6". Based on last season's data Alverno turbines can handle 900 cfs. So, is the 873 cfs just the turbines or does that include the spill gate too (6" = 155 cfs)? I understand that Kleber flows include the spill gate in addition to the turbines.

Thanks
Rick

From: James Tucker <tuckerjkgam@aol.com>

Date: Wednesday, March 29, 2017 at 8:01 PM

To: "mille76532@yahoo.com" <mille76532@yahoo.com>, "b3collision@yahoo.com" <b3collision@yahoo.com>, "rustygowland@gmail.com" <rustygowland@gmail.com>, "SDulak@SRC-MILP.com" <SDulak@SRC-MILP.com>, "blacklakeassociation@gmail.com" <blacklakeassociation@gmail.com>, "bhaas1000@gmail.com" <bhaas1000@gmail.com>, Nelson Turcotte <hydro@eastlink.ca>, "tiffanyheon@hotmail.com" <tiffanyheon@hotmail.com>, James Tucker <tuckerjkgam@aol.com>, "rick.scherer@edwardjones.com" <rick.scherer@edwardjones.com>

Subject: Black Lake Water Level Update 3/29/17

Black Lake Water Level Update 3/29/17

The Black Lake level is at 612.13 today. The flow at Alverno is at 873 cfs and the pond level is holding at 610.28 with the flood gate open 6 inches. The Kleber dam flow is at 736 cfs with the flood gate open there 9 inches.

BRLP

From: James Tucker <tuckerjkgam@aol.com>

Date: Friday, March 24, 2017 at 6:32 AM

To: "mille76532@yahoo.com" <mille76532@yahoo.com>, "b3collision@yahoo.com" <b3collision@yahoo.com>, "rustygowland@gmail.com" <rustygowland@gmail.com>, "SDulak@SRC-MILP.com" <SDulak@SRC-MILP.com>, "blacklakeassociation@gmail.com" <blacklakeassociation@gmail.com>, "bhaas1000@gmail.com" <bhaas1000@gmail.com>, Nelson Turcotte <hydro@eastlink.ca>, "tiffanyheon@hotmail.com" <tiffanyheon@hotmail.com>, James Tucker <tuckerjkgam@aol.com>, "rick.scherer@edwardjones.com" <rick.scherer@edwardjones.com>

Subject: Black Lake Level Update

3/22/17 Black Lake Level Update

The Black Lake Level at the Marina was 611.74, the head pond level at Alverno Dam was 610.20. The flow at the Kleber Dam was 348 cfs. The flow at the Alverno Dam was 913 cfs. After doing more checking into our flows at the Alverno Dam vs the expected Smith Rapids flows we found our flow curve rating is probably at the 612.2 level and not the 610.2 level. That accounts for about a 20% difference in flow rating. That would put the actual flow at Alverno Dam at 731 cfs.

3/24/17 Black Lake Level Update

The Alverno head pond is at 610.29 today and a flow of 694 cfs. The Black Lake Marina Level is 611.72. The Kleber Dam flow is 310 cfs.

BRLP

From: "Scherer,Rick" <Rick.Scherer@edwardjones.com>

Date: Tuesday, March 21, 2017 at 11:50 AM

To: Nelson Turcotte

Subject: RE: Head pond level

Nelson: I asked Rick this question because this question keeps coming up and I thought I would get an answer once and for all. I didn't know who knew the answer so I included it to everyone. I think this information is important because as we try to hit the winter level this November lowering the head pond to 609.5 should help obtain that.

Yes I did explained the lake layout. Alverno dam is about 6 miles from Black Lake and smith rapids is about half way between the lake and the dam. So yes he did NOT think smith rapids is at the outlet of the lake.

As far as sucking the head pond dry, I agree smith rapids is a pinch point at certain lake levels. But I also believe as stated many times before if you run the head pond at 609.5 for the entire winter season we really have nothing to complain about. That level is .7' below the winter level and still not causing any damage to your turbines.

At this time I would not support a winter level at 612.2. Last winter season the only time the head pond was at a level at 610.2 was during the spring thaw. From November 1st 2015 through February 2016 the head pond was over 610.2. I can't disagree, you have more control with lake levels higher as smith rapids has less effect on the lake level. However once again last winter season the lake was near summer levels and the head pond was never 2 foot below the lake level. The reason the winter level is important is so there is room for the spring thaw and prevent the damage that occurred last spring. So once again I would not support a repeat of last year.

Your next point about generating less energy than Rick Byers. Your data from last winter shows you were running the head pond above 610.2. How did the kwh's for last winter season compare with previous years when Rick was operating it? Maybe something else is causing the turbines to generate less kwh's.

I was not suggesting anyone spend tens of thousands of dollars on a study. But just wanted everyone to know that if we wanted any additional help they are there, but at a cost..

I agree with you, charging the property owners for flood control after the damage that we had last spring might not be the best idea.

I again agree that we should move forward with US core of Engineers to perform another study of smith rapids. We all know the previous data is not correct and your data supports this.

Thank You
Rick

From: Nelson Turcotte <hydro@eastlink.ca>
Date: Tuesday, March 21, 2017 at 10:52 AM
To: "'Scherer,Rick'" <Rick.Scherer@edwardjones.com>
Cc: James Tucker <tuckerjkgam@aol.com>, 'Tiffany Heon' <tiffanyheon@hotmail.com>
Subject: RE: Head pond level

Rick - he is explaining basic hydraulic theory to you - as Head Increases (i.e. difference between the lake and the river level, immediately downstream of the lake), then yes Head Pressure and water velocity increases.

However, does he understand that the pinch point (Smith Rapids) is not immediately at the outlet to the lake and rather downstream a bit?

Further - if things were occurring that cleanly at Black Lake/Black River/Smith Rapids, then why the heck can I suck the headpond dry in a very short time and run out of water?

Perhaps - we should just leave the winter level at 612.2 or slightly higher so I can run my headpond at 2 feet below that? Obviously at higher levels I can have additional influence and we might be worrying about spring for nothing - I can aggressively take the water level down just before spring opens things up? This is an approach I might like to see? My average production from 1996 to 2016 is about 500,000 kwh's per year less than the previous owner's Rick Byers. I have struggled and struggled with this and it is now clear to me - one of the reasons why is he ran the headpond all winter at more than 610.2.

In terms of study cost - yes of course it would cost tens of thousands, Obama just dropped their budgets at the Interior, significantly and over at the Corps of Engineers - they need all the money they can get and are worried about staff reductions I am certain.

Just yesterday, Consumers Energy sent correspondence to me asking me whether I was receiving compensation from people of Black Lake/Black River for any benefit we provide for water level control and some help with flood control? I would be interested in knowing how many people in the County(ies) would be interested in funding an account to pay me for benefits I provide to people upstream of me? They have asked me why I haven't gone out to people to ask for funds for the benefit I provide in water level help? What should I tell them? Seriously, what reception would I get with a request like that? Personally, I don't think it would go very far - but if you think it might - then let's poll the residents.

With that then, the best thing we can do - is draft a letter for signing by the County and get an application over to the US Corps of Engineers (who would likely sub-contract with the USGS). Even if they approve it, the studies might not happen until 2018.

I wouldn't propose to do this ourselves given that the USGS/Corps is the Gold Standard and even if I did a good job, the general public wouldn't accept it - we got a sense of that in my presentation at the open house.

Thx
Nelson

From: Scherer,Rick [mailto:Rick.Scherer@edwardjones.com]
Sent: Tuesday, March 21, 2017 10:32 AM
To: Nelson Turcotte
Subject: Head pond level

I just spoke to Rick Hubbell of the USGS Michigan Water Science Center. I asked Rick (a hydrologist) if there would be a difference in flows from the lake if the head pond was lower than the lake level by 6" or 24". He did say the velocity the water would increase if the head pond was lower than the lake by a greater amount. So in my example if the head pond was lower than the lake by 24" the velocity would be increased vs the head pond being lowered by 6". So this does answer the magic question we have all been guessing at.

I did explain how water flows into the lake. Explained how water leaves the lake and yes did explain the pinch point of smith rapids to him.

I asked if he would like to add anything else that might help us solve this problem and he said it would cost us tens of thousands of dollars for them to do a study.

Thanks
Rick

From: James Tucker <tuckerjkgam@aol.com>
Date: Monday, March 20, 2017 at 10:21 PM
To: "mille76532@yahoo.com" <mille76532@yahoo.com>, "b3collision@yahoo.com" <b3collision@yahoo.com>, "rustygowland@gmail.com" <rustygowland@gmail.com>, "SDulak@SRC-MILP.com" <SDulak@SRC-MILP.com>, "blacklakeassociation@gmail.com" <blacklakeassociation@gmail.com>, "bhaas1000@gmail.com" <bhaas1000@gmail.com>, Nelson Turcotte <hydro@eastlink.ca>, "tiffanyheon@hotmail.com" <tiffanyheon@hotmail.com>, James Tucker <tuckerjkgam@aol.com>, "rick.scherer@edwardjones.com" <rick.scherer@edwardjones.com>
Subject: Water Level Update 3/20/17

March 20, 2017

The Black Lake Level is at 611.85. We are starting to see a little more water up stream from the warmer weather. The Alverno Head Pond is at 610.15 and the flow is 837 cfs. The Kleber Dam is passing 325 cfs.

Black River Limited Partnership

From: James Tucker <tuckerjkgam@aol.com>
Date: Saturday, March 18, 2017 at 6:52 AM
To: "mille76532@yahoo.com" <mille76532@yahoo.com>, "b3collision@yahoo.com" <b3collision@yahoo.com>, "rustygowland@gmail.com" <rustygowland@gmail.com>, "SDulak@SRC-MILP.com" <SDulak@SRC-MILP.com>, "blacklakeassociation@gmail.com" <blacklakeassociation@gmail.com>, "bhaas1000@gmail.com" <bhaas1000@gmail.com>, Nelson Turcotte <hydro@eastlink.ca>, "tiffanyheon@hotmail.com" <tiffanyheon@hotmail.com>, James Tucker <tuckerjkgam@aol.com>, "rick.scherer@edwardjones.com" <rick.scherer@edwardjones.com>
Subject: Black Lake Level update 3/18/17

March 18, 2017

The Black Lake Level is at 611.94 and has continued to drop each day. The upstream flows are fluctuating some but still dropping slowly. The Alverno Head Pond is at 610.06 and the flow is 1048 cfs. The Kleber Dam is moving between 300-375 cfs.

Black River Limited Partnership

From: James Tucker <tuckerjkgam@aol.com>
Date: Wednesday, March 15, 2017 at 6:36 AM
To: "mille76532@yahoo.com" <mille76532@yahoo.com>, "b3collision@yahoo.com" <b3collision@yahoo.com>, "rustygowland@gmail.com" <rustygowland@gmail.com>, "SDulak@SRC-MILP.com" <SDulak@SRC-MILP.com>, "blacklakeassociation@gmail.com" <blacklakeassociation@gmail.com>, "bhaas1000@gmail.com" <bhaas1000@gmail.com>, Nelson Turcotte <hydro@eastlink.ca>, "tiffanyheon@hotmail.com" <tiffanyheon@hotmail.com>, James Tucker <tuckerjkgam@aol.com>, "rick.scherer@edwardjones.com" <rick.scherer@edwardjones.com>
Subject: Black Lake Water Level Update

March 15, 2017

The Black Lake Level is at 612.13 and dropping slowly. It reached a peak on 3/13/17 of 612.25. With the upstream flows into the lake much slower now we expect the lake level to keep dropping. The Alverno Head Pond is at 610.04 and the flow is 1077 cfs. The Kleber Dam has slowed considerably with the cold weather and is moving 281 cfs thru the turbines, down from 840 cfs a few days ago.

Black River Limited Partnership

From: Scherer,Rick
Sent: Saturday, March 18, 2017 5:27 AM
To: Nelson Turcotte, Jim Tucker
Subject: RE: P-11730 - Alverno - Black Lake Levels - results of testing by running pond at 608.5 - status report on Wednesday, March 8, 2017

Nelson: Thanks for the information. You mentioned after the conference call that you would send me Kleber and Alverno data before, during and after the test period. I would like to request the data for 1 week before the test through 1 week after the test. I have been out of the country but now have returned.

Thanks

Rick

From: James Tucker <tuckerjkgam@aol.com>
Date: Friday, March 10, 2017 at 4:19 PM
To: "mille76532@yahoo.com" <mille76532@yahoo.com>, "b3collision@yahoo.com" <b3collision@yahoo.com>, "rustygowland@gmail.com" <rustygowland@gmail.com>, "SDulak@SRC-MILP.com" <SDulak@SRC-MILP.com>, "blacklakeassociation@gmail.com" <blacklakeassociation@gmail.com>, "bhaas1000@gmail.com" <bhaas1000@gmail.com>, Nelson Turcotte <hydro@eastlink.ca>, "tiffanyheon@hotmail.com" <tiffanyheon@hotmail.com>, James Tucker <tuckerjkgam@aol.com>, "rick.scherer@edwardjones.com" <rick.scherer@edwardjones.com>
Subject: Black Lake Level update 3-10-17

March 10, 2017

The Black Lake Level is at 612.17. With the upstream flows into the lake still high we do expect the lake level to continue to rise slowly. The Alverno Head Pond is at 610.20 and the flow is 1077 cfs. The Kleber Dam is moving 840 cfs thru the turbines and tainter gate. We still have flood gates open at all the plants because of the recent warm up, rain and snow melt. The cold weather has not slowed the water significantly yet, but it is causing a lot of icing on the equipment. Our upstream units at the Kleber dam are full load and our flood gate a Kleber is still open 1.4 feet. We do expect to see the water slow down some in the next few days with the cold temperatures.

Jim Tucker

From: James Tucker <tuckerjkgam@aol.com>
Date: Wednesday, March 8, 2017 at 2:47 PM
To: "mille76532@yahoo.com" <mille76532@yahoo.com>, "b3collision@yahoo.com" <b3collision@yahoo.com>, "rustygowland@gmail.com" <rustygowland@gmail.com>, "SDulak@SRC-MILP.com" <SDulak@SRC-MILP.com>, "blacklakeassociation@gmail.com" <blacklakeassociation@gmail.com>, "bhaas1000@gmail.com" <bhaas1000@gmail.com>, Nelson Turcotte <hydro@eastlink.ca>, "tiffanyheon@hotmail.com" <tiffanyheon@hotmail.com>, James Tucker <tuckerjkgam@aol.com>, "rick.scherer@edwardjones.com" <rick.scherer@edwardjones.com>
Subject: Fwd: P-11730 - Alverno - Black Lake Levels - results of testing by running pond at 608.5 - status report on Wednesday, March 8, 2017

All, see the update below on the testing of running Alverno head pond at 608.5 and correspondence with the USACOE.

Thank,

Jim Tucker

From: Nelson <hydro@eastlink.ca>
To: rick.scherer <rick.scherer@edwardjones.com>; tuckerjkgam <tuckerjkgam@aol.com>
Cc: 'Kelly Houff' <Kelly.Houff@ferc.gov>; 'Kohlhepp, Gary (DEQ)' (DEQ) <KOHLHEPPG@michigan.gov>; 'Kruger, Kyle (DNR)' (DNR) <KRUGERK@michigan.gov>; 'Thomas Lovullo' <Thomas.Lovullo@ferc.gov>; 'Tiffany Heon' <tiffanyheon@hotmail.com>; mille76532 <mille76532@yahoo.com>
Sent: Wed, Mar 8, 2017 10:27 am
Subject: P-11730 - Alverno - Black Lake Levels - results of testing by running pond at 608.5 - status report on Wednesday, March 8, 2017

Jim and Rick:

Please send the following status report and next steps on to Black Lake Association and Black Lake Preservation Society:

The testing to bring the headpond (at the dam) down to the 608.5 mark began this past Sunday (March 5, 2017). By 6:30pm that day, we had the spillgate at Alverno open to 13 inch height opening and the units running at about 60% gate opening (and cavitating). Flow indications had flows (total) from the spillgate and units (powerhouse) at a combined flow of 950 cubic feet per second (cfs). However, please note that these flow measurements taken from a computer table for spillgate opening and wicket gate opening and were made several years ago when the headpond was at the 612 mark, or a head differential between pond and tailrace level of approximately 18 feet. Since the pond was actually at 608.5 and the head differential (from headpond to tailrace level) was at about 14.5 feet on Sunday, really the flow, therefore is reduced by approximately 20% to the 760 cfs mark.

Please note it is hoped that should the USACOE take the county up on the county's request to re-do the 1965 report (at least a portion of it), then the USGS, on behalf of the USACOE could redo the table/curve for various spillgate openings and wicket gate openings at the Alverno Dam.

At this point on Sunday the 5th of March, we were running Kleber in such a way that we were passing approximately 450 cfs into the river, upstream of the lake.

So - what happened since Sunday evening at 6:00pm?

1. Warm weather came and even rain
2. Flows from Kleber have increased to over 1,000 cfs (we now have the units at Kleber running full out and the tainter gate open at 1.88 feet, at Kleber.
3. The Lake levels have increased as follows:

Sunday at noon - Black Lake was at 611.72
Monday at noon - Black Lake was at 611.75
Tuesday at noon - Black Lake was at 611.9
Today at 9:00am - Black Lake was at 612.00
4. We achieved a steady state situation at the Alverno Dam at the 608.5 mark and in essence, haven't stopped delivering approximately 750 cfs downstream.

In fact, last night and this morning our powerhouse tripped off line because the turbines were starving for water and in fact, because we have no automated control at the 608.5 level, the turbines in fact drew the pond down to about 608.3. This says that we were likely drawing more water than Smith Rapids could give us (not much more - but certainly a bit more - otherwise the pond would not have dropped). And, because we could not draw more than 750 cfs without dropping the pond, then the general numbers that the 1965 USACOE report puts forth seem to be accurate and the statement/conclusion that Smith Rapids is definitely a restriction and is the real control of Black Lake can be made. At 612, the table in the USACOE report says that Smith Rapids can only pass about 750 cfs. This correlates well with what we have been putting out at the powerhouse/dam over the last few days and could put out at the powerhouse to keep the system in balance (i.e. the pond stable at whatever elevation - it doesn't matter - whether it is 610.2, 609.5 or 608.5 or some lower elevation). The fact that Smith Rapids is the restriction can be further substantiated by the fact that the Lake was coming up over the last few days and yet, we had our turbines and spillgate, more or less at the same settings through the last few days and the pond was at more or less the same 608.5 elevation. Smith Rapids is the restriction. If it wasn't the restriction, that additional water into the lake would have flowed aggressively past Smith Rapids and onto the powerhouse thereby aggressively raising the headpond at the dam.

In conclusion, we can assert that it would be futile to continue this experiment and, with certainty, futile to go even lower. As we put forth on our USACOE communiqué update on March 7, 2017, we hope that the County will support with a signed letter to the USACOE requesting they embark upon an engineering and field re-assessment of

Black Lake, Black River, Smith Rapids and the Kleber and Alverno Dams/Powerhouses as they relate to flows and dust off the 1965 report as it appears that the general public is not satisfied with the 1965 report.

Further, BRLP will at this time go back to its historical winter headpond operating level of 610.2 as it is clear that running the pond at 609.5 did not alleviate higher water levels either on Black Lake. We are headed into another week of cold weather. We will re-assess the 610.2 operating level at the headpond when mild weather hits us again. Additionally, when water levels in Black Lake begin to rise with the final approach of the beginning of spring in the next couple of weeks - we can quickly draw the headpond down if it would be helpful. We have seen that at levels below 610.2 it isn't and Smith Rapids is in full control.

Lastly, the idea that we missed our opportunity in November of 2016 to get the lake down to the 610.2 mark has been put forth to us. We at this time are highly doubtful that this is the case. Again, I would urge the BLA and BLPS to clarify with its members as to the context of the court order - it was given to Cheboygan County at the time and it was made by the judge in the context that the Smith Rapids would be "dredged" and reconstructed. That never happened. We will, though, assuming the general public is in support, consider an aggressive campaign on October 15th, 2017 to bring the lake to a winter level, two weeks ahead of our normal drawdown period.

We will continue to work with the BLA and BLPS and hope that the County will commission the services of the USACOE to re-do the 1965 work so as to satisfy the concerns of the general public and to determine, without question, what is happening at Smith Rapids.

In closing, we feel that the following conditions are required so that the system and Smith Rapids can effectively lower the Black Lake to the target point of 610.2

- low fall flows
- cold weather in November and sustained cold weather through the winter
- no real mild spells and warm ups through the winter

Should fall flows be present or should we get a mid-winter thaw, the lake will climb back up and we won't be able to do anything about that at the Alverno dam and those levels will stay high unless a lengthy deep freeze occurs.

Thank-you

Nelson Turcotte
Black River LP

On 2017-03-07, 9:10 AM, "Nelson" <hydro@eastlink.ca> wrote:

Good Morning Jim/Rick:

Please send this email onto the Black Lake Association and Black Lake Preservation Society.

On Monday, March 6, 2017 at 1:00pm, Jim Tucker, Tiffany Heon and Nelson Turcotte of Black River LP had a telephone conversation with Jason Chrumka and James Luke of the USACOE.

We discussed with Jason and James the idea of having the USACOE complete some field studies at Smith Rapids to affirm numbers presented in the 1965 USACOE report.

James spoke about two programs with the USACOE that we could apply for. The first is a Section 205 program for Small Flood Risk Management Projects, while the second is for a Planning Assistance to States program.

James from the USACOE includes, below a link to the programs.

In essence, the Small Flood Risk Management Project can include engineering and field studies as well as project completion work. The Corps would fund up to the first \$100,000 by themselves and then after that cost sharing for engineering, field studies and/or project would be 65% Federal/ 35% local (i.e. County, Tax base etc.).

The second program (Planning Assistance for States is a 50/50 cost share program right off the bat.

James has sent me a sample letter (copy attached) that we would have to have the appropriate County/Counties sign off on. If we were to send the letter in (i.e. BLA/BLPS/BRLP) into the USACOE, the project would be a non-starter and so it must have support from the County and signed and sent by the County(ies).

Therefore, I would suggest that I/Jim Tucker arrange a meeting with the appropriate County personnel. I can certainly dial in by phone. In addition, this would be a good time to get from the BLA and BLPS your response on scope of work. However, at this point, I did indicate to James and to Jason at the Corps that for sure we would want to have Smith Rapids analyzed. The project/investigation could be that limited in scope. Or, if you wish, we can basically apply to the Corps to redo the entire 1965 report with more specific measurements not only at Smith Rapids but a hydraulic assessment of the entire system flowing into Black Lake and into and out of the dam/powerhouse at Kleber and at Alverno.

The Corp contracts with the USGS for their field flow measurements, typically.

The 65/35 program would consider the full scope (i.e. Engineering field work, analysis, planning and estimating and even mitigation project implementation - dredging/blasting of Smith Rapids and a combination of that and modifications/upgrades at the Alverno powerhouse (spillgate modernization/overhauling, turbine addition and upgrade etc., registering of flows online etc.). But certainly the County(ies) would want to, for certain, put their share of the cost on the tax base (i.e. residents in the County and this would most certainly go to ballot in my humble opinion).

In terms of timing, we might be too late for any work this year and the field work would, if not this year, would take place most likely in the work season of 2018. Of course for any Smith Rapids alteration work and dam/powerhouse work, related to this project, work would have to take place in 2019 or later once the field work was analyzed and reported on.

Jim Tucker - can you ask Cheboygan County commissioners and Presque Iles commissioners whom we can bring into a conference call/meeting with BLA and BLPS to discuss this and discuss the idea of helping them with the letter that would need to go to the USACOE. If that letter was put together and signed by the County(ies), then the USACOE will consider the request and get back to us. If approved or approvable, they will get back to us on process and timing.

Thx
Nelson Turcotte

Black River LP

From: Nelson Turcotte <hydro@eastlink.ca>
Date: Wednesday, March 1, 2017 at 4:56 PM
To: "'Scherer,Rick'" <Rick.Scherer@edwardjones.com>
Cc: James Tucker <tuckerjkgam@aol.com>, 'Tiffany Heon' <tiffanyheon@hotmail.com>, Nelson Turcotte <hydro@eastlink.ca>, 'Kelly Houff' <Kelly.Houff@ferc.gov>
Subject: RE: P-11730 - Alverno Hydro Plant - Black Lake Level concerns - USACOE - list of potential work that they might perform

Jim - please send the following response to the BLA and BLPS

Rick - to be clear and upfront...

We will certainly - go through all this testing and we will do our best to get the USACOE to provide free services for re-analyzing things. If we have the ability, after testing now that aggressive attempts to drop the lake level work and work quickly - then going forward, I think the most logical and practical thing to do would be to:

1. Continue to do our best to keep the Lake at a low winter level to the degree possible while maintaining the pond at 610.2 (where we have always been every winter) and then just before spring breakup, each year - aggressively lower the lake by operating the pond at 608.5 or lower for a short duration, even if it means shutting the powerhouse down for a short while and opening the spillgate in the very onset of spring breakup water -

If this would truly work - why do anything different and why fret it all winter long. We have seen that 609.5 doesn't do any good at all, at least initial indications show that. Of course we will jump on this in November of next year (or October 15th assuming Lake residents are good with an early start).

Then after spring 2018, we will have a good idea what works, what doesn't and move on accordingly.

Again, however, right now I am pessimistic this aggressive attempt at lowering will work now, will work in November or will work ever given what we saw in the 1965 to 1982 period when the spillgate was open fully and the river was free flowing past the dam site when Cheboygan County opened the spillgate full time. However, I might be wrong and hope I am.

Having said - that if all this experimentation shows it doesn't help by aggressively managing the dam pond levels, immediately upstream of the dam, what are we to do? The past owner made aggressive comments towards this fact in the 1980's, my previous general partner did the same during relicensing and I may end up at that same point.

Remember, that court order was to the County, when they owned the dam, and it was in the context of also dredging the rapids - which never happened.

I will remain positive and continue to move us through this experimentation phase now and through next fall - and hopefully we will stumble upon a simple solution.

Nelson

From: Scherer,Rick [mailto:Rick.Scherer@edwardjones.com]
Sent: Wednesday, March 01, 2017 3:24 PM
To: Nelson Turcotte; Jim Tucker
Subject: RE: P-11730 - Alverno Hydro Plant - Black Lake Level concerns - USACOE - list of potential work that they might perform

Nelson: I have forward this to BLPS. Jim can forward to BLA.

As far as 4c and 4d. I think this year would be too early to set a new winter level and/or abolish the court order. We have to be honest, we did not lower the head pond until after the first of the year to 609.5 (less than 2 months). We should try to lower the head pond to a level below the winter level starting on November 1st to make an informed opinion. I would be available to review the data from this winter season and compare to the last winter season. This data would include kleber inflows, nature inflows, lake levels, head pond levels and alverno outflows for November 1st through may 15th.

Thank You
Rick Scherer

Financial Advisor
Edward Jones
1673 Haslett Road Suite 28
Haslett, MI 48840
(517) 339-7988

From: Nelson Turcotte
Sent: Wednesday, March 01, 2017 2:33 PM
To: Jim Tucker; Rick Scherer
Cc: Tiffany Heon
Subject: P-11730 - Alverno Hydro Plant - Black Lake Level concerns - USACOE - list of potential work that they might perform

Rick and Jim - please send this draft list of work scope for the USACOE onto the BLA and BLPS and have members freely suggest addition to the work scope below

Thx
Nelson

LIST OF WORK/STUDIES SCOPE TO USACOE

1. Perform review of 1965 studies and work and pull up old drawings/surveys/maps
2. Perform review of recent correspondence from Black River LP to FERC on the issue, including review Feb 3, 2017 Powerpoint presentation made to general public at Onaway Town Hall
3. Hold initial conference call with Jim Tucker and Nelson Turcotte of Black River LP to receive further information and to review scope of work request from BRLP, BLPS and BLA
4. If agree to work scope, then:
 - a. Complete studies of Smith Rapids and re-survey the rapids area to determine relationship between Black Lake levels and flow discharge at the rapids under various Black Lake levels
 - b. Provide opinion as to when Alverno dam can directly positively affect lowering of Black Lake levels and when it can not
 - c. Recommend a new winter target elevation for Black Lake (i.e. something reasonably achievable given new found information)
 - d. Provide expert testimony/support letter in support of a POTENTIAL REQUEST by BRLP to FERC on license amendment and to Cheboygan County court for abolishing court order levels

From: Nelson Turcotte <hydro@eastlink.ca>
Date: Wednesday, March 1, 2017 at 2:26 PM
To: "Scherer,Rick" <Rick.Scherer@edwardjones.com>, James Tucker <tuckerjkgam@aol.com>
Cc: 'Tiffany Heon' <tiffanyheon@hotmail.com>, Nelson Turcotte <hydro@eastlink.ca>
Subject: Status update on Black Lake Level - Alverno experiment at 608.5, USACOE inquiry etc.

Jim and Rick - would you send the following email onto the BLA and BLPS:

Today, I spoke with Kelly Houff at the FERC and she gave us a go ahead, as did the MDNR and MDEQ to conduct this experiment whereby we take the pond at Alverno down on Saturday morning (March 4th) at about 8:00am or so and leaving it down (cold weather permitting) into Monday evening, March 6th, 2017.

So we will implement that plan.

On the subject of the USACOE, Jason Chrumka mentioned we should deal with the new Outreach Coordinator (who has been at the USACOE for many years) a Mr. James Luke, but also, include Jason on correspondence. It is James Luke who will decide what if any the USACOE will do for us. So, Mr. Luke is out of the office this week, but I have sent him an email request for a conference call between him, Jason Chrumka, Jim Tucker and myself the week of March 6th. Once we have that meeting, I can come back to the BLA and BLPS with an update.

On that note, I will send out a bit of a bulleted list to you guys in a few moments.

Thx
Nelson

From: Nelson Turcotte <hydro@eastlink.ca>
Date: Friday, March 3, 2017 at 8:46 AM
To: James Tucker <tuckerjkgam@aol.com>, "b3collision@yahoo.com" <b3collision@yahoo.com>, "rustygowland@gmail.com" <rustygowland@gmail.com>, "SDulak@SRC-MILP.com" <SDulak@SRC-MILP.com>, "blacklakeassociation@gmail.com" <blacklakeassociation@gmail.com>, "bhaas1000@gmail.com" <bhaas1000@gmail.com>, "tiffanyheon@hotmail.com" <tiffanyheon@hotmail.com>, "rick.scherer@edwardjones.com" <rick.scherer@edwardjones.com>, "mille76532@yahoo.com" <mille76532@yahoo.com>
Cc: Kyle Kruger <KRUGERK@michigan.gov>, Koren Carpenter <CarpenterK5@michigan.gov>, 'Kelly Houff' <Kelly.Houff@ferc.gov>, "Kohlhepp, Gary (DEQ)" <KOHLHEPPG@michigan.gov>, Thomas Lovullo <Thomas.Lovullo@ferc.gov>
Subject: P-11730 - Alverno Dam - Black Lake Levels concerns - testing by drawing pond down to 608.5

Good Morning All:

Further to Jim Tucker's email, below, I think Jim meant to say on Sunday afternoon when the temperatures get mild from this current cold spell, we will move the head pond down from its current level of 609.89 to the 608.5 level and hold it steady there.

We will do that for 48 hours into Tuesday afternoon. It appears that we will have until Wednesday afternoon for mild weather, then it will be turning frigid again. If we find that the lake level continues to drop, we will likely maintain the 608.5 until Wednesday.

However, we will assess after 24 hours and after 48 hours. We do believe with the warm temperatures Sunday and Monday that the Kleber dam outflow will pick up again.

One thing we would like to state is that after reviewing the USACOE's 1965 report, it appears at a lake level of 612.0, that Smith Rapids will flow at about 750 cfs. At 611.5 lake level, that Smith Rapids will flow at about 575 cfs (see page 51 of 65 of the pdf document attached). We will know what our flow is out through the spillgate and/or powerhouse at any point in time. If we have a steady state situation and hold the pond at 608.5 - we will know what the flow is at the dam. We will look at the lake at the same time and then check the table on page 51 of 65 of the USACOE report - that, then, will give us a solid comparison and idea of what is happening at Smith Rapids.

Kleber Dam by Sunday/Monday will likely be pushing out at least 575 cfs and that doesn't factor in what the small creeks/streams, also dumping into Black Lake, will put into the lake. In theory, we likely won't get the lake down that far. Also, important to note is that if Smith Rapids is truly a restriction and there is this direct relationship between Black Lake level and flow through Smith Rapids, then, it would be futile to draw the pond down at the Dam by opening the spillgate and thereby shutting the turbines down as we can push out up to 870 cfs from the two turbines running full out (so why shut the turbines down at a low level to simply allow the water to pass through the spill gates).

In any event, we agree to try this and see what impact it has on the lake. If we can have a significant impact on the lake by doing this, then it points to a potential long term solution to not worry about the lake through the winter and then just do something like this in late winter/early spring for a stint in future years.

We did a theoretical calculation as follows:

Assume the powerhouse/dam releases 800 cfs at Alverno Dam and that only a total of 500 cfs is flowing into the lake (that is from Kleber (the river) and from other sources - streams, creeks, ground water, melt water). So with a differential of 300 cfs and a Lake area of 10,000 acres (43,560 square feet per acre) or 435,600,000 square feet, we can theoretically calculate the following

To move Black Lake down 6", this would be equivalent to 0.5 feet x 435,600,000 sq. feet or 217,800,000 ft³. Therefore, if the Alverno plant/spillgate were pulling out an extra 300 cubic feet/second, it would take 726,000 seconds or 210.6 hours or 8.8 days to take the lake down by 1/2 a foot assuming a steady state situation in terms of inflow into the lake. However, we know, already, that when we draw more water out of the system at the dam, then is coming into it, that the pond at the dam will come down very very quickly. This points to the fact that the Smith Rapids just won't supply more water and is a restriction.

I thought I would put this forth, as the basic information, that the USACOE presented in its 1965 report, seems to have gotten lost in the last couple of months of grasping at solutions to the problem. We will continue to try various things but the science is the science and the facts are the facts and 52 years of time passing won't necessarily change it. We are talking to the USACOE and I have been passed onto their Outreach Coordinator in an effort to see what service(s) they might provide to re-evaluate things at Smith Rapids and in the system (i.e. dust off the report if you will).

Again, we will be back to you on Monday and then on Tuesday, again with a status report and update.

Thank-you

Nelson Turcotte
Black River LP

From: James Tucker <tuckerjkgam@aol.com>

Date: Wednesday, March 1, 2017 at 7:37 AM

To: "b3collision@yahoo.com" <b3collision@yahoo.com>, "rustygowland@gmail.com" <rustygowland@gmail.com>, "SDulak@SRC-MILP.com" <SDulak@SRC-MILP.com>, "blacklakeassociation@gmail.com" <blacklakeassociation@gmail.com>, "bhaas1000@gmail.com"

<bhaas1000@gmail.com>, Nelson Turcotte <hydro@eastlink.ca>, "tiffanyheon@hotmail.com" <tiffanyheon@hotmail.com>, James Tucker <tuckerjkgam@aol.com>, "rick.scherer@edwardjones.com" <rick.scherer@edwardjones.com>

Subject: Black Lake Water Level Update

March 1, 2017 the level in Black Lake is at 611.86 up from 611.79 yesterday morning. Alverno Dam is at 609.65 and passing 932 cfs. Kleber dam is passing 530 cfs. We had seen a drop in the water flow at Kleber the last two days but warm temperatures and overnight rain continue to move water thru the system and are holding the flow steady now.

Jim Tucker

From: Scherer,Rick [mailto:Rick.Scherer@edwardjones.com]

Sent: Tuesday, February 28, 2017 3:36 PM

To: undisclosed.for.privacy

Subject: RE: P-11730 - Alverno Dam - Black Lake Level - working through issues with concerned stakeholders

I would like to request kleber data, alverno data and spill gate info for alverno for just before, during and just after this time frame please.

Thanks

Rick

From: "Scherer,Rick" <Rick.Scherer@edwardjones.com>

Date: Tuesday, February 28, 2017 at 3:25 PM

To: "undisclosed.for.privacy" <undisclosed.for.privacy@edwardjones.com>

Subject: RE: P11730-Alverno - Black Lake Levels - dropping Alverno pond to 608.5

Nelson: I have sent this to Rusty, Bev and Bob. Jim if you could please forward this to BLA that would be helpful. We really do appreciate you guys trying this test for us. It again shows (today more than just Bob and I) that you continue to work with the public to try to solve this problem.

I will be on vacation from March 3rd through the 13th. So let's hope we see a positive result from this.

Thanks

Rick

From: Nelson Turcotte <hydro@eastlink.ca>

Date: Tuesday, February 28, 2017 at 3:01 PM

To: James Tucker <tuckerjkgam@aol.com>

Cc: 'Tiffany Heon' <tiffanyheon@hotmail.com>, "Scherer,Rick" <Rick.Scherer@edwardjones.com>, Nelson Turcotte <hydro@eastlink.ca>

Subject: P11730-Alverno - Black Lake Levels - dropping Alverno pond to 608.5

Jim/Rick - please pass this on to the appropriate people (Jim to BLPS and BLA and Rick to Bob etc.).

Guys - so I have concurrence from MDNR and MDEQ thus far and awaiting concurrence from the FERC to lower our pond aggressively.

Rick - when I positioned this with the MDNR - I positioned it as just shut the powerhouse down and aggressively open the spillgate and basically suck until we were almost in the mud, so to speak.

The MDNR had a big concern with this (i.e. sediment and stranding small crustaceans etc. So, Kyle with MDNR said he would be good with going to 608.5 and see what impact that has on things and then we can dialogue after.

Our concern of course are any cold overnight conditions - so we are going to, pending approval/concurrence from the FERC, drop the pond on Saturday morning to 608.5 quickly and leave it there until most likely Monday around supper time, assuming Sunday night isn't too cold. We will shut the units down.

If we see a noticeable difference in the level - i.e if the rate of drop of Black Lake Level dramatically increases from what we are about to likely see in next couple of days of cold weather - then, though we will go back to 609.5 and see if we lose that level attained...we will then talk to the MDNR about doing this once more later in March should we see a benefit. Of course, shutting the powerhouse down will require us opening the spillgate.

Again - once I see approval/concurrence from the FERC we will get back to you - I have spoken with the FERC and emailed them.

Nelson

From: Scherer,Rick [mailto:Rick.Scherer@edwardjones.com]
Sent: Wednesday, February 15, 2017 10:24 AM
To: Nelson Turcotte
Subject: RE: P-11730 - Alverno Dam and Black Lake Levels - Conference call for BLPS, BLA and Rick Scherer

Nelson: I would like to add to the agenda the results of the other 5 day test bringing the head pond down to 609 during freezing weather. I know we ran another 5 day test during warmer weather but we were suppose to run it again during colder weather.

Thanks
Rick

From: Scherer,Rick <Rick.Scherer@edwardjones.com>
Date: Wednesday, February 15, 2017 at 10:17 AM
To: Nelson Turcotte, Jim Tucker
Subject: RE: P-11730 - Alverno Dam and Black Lake Levels - Conference call for BLPS, BLA and Rick Scherer

I have forward this to Bev Haas and Rusty Gowland from BLPS. I do not know the guy from Black Lake Association or his email. So Jim if you could forward that to him please.

Rick

From: Nelson Turcotte <hydro@eastlink.ca>
Date: Wednesday, February 15, 2017 at 10:08 AM
To: "Scherer,Rick" <Rick.Scherer@edwardjones.com>
Cc: 'Tiffany Heon' <tiffanyheon@hotmail.com>, James Tucker <tuckerjkgam@aol.com>, Nelson Turcotte <hydro@eastlink.ca>
Subject: P-11730 - Alverno Dam and Black Lake Levels - Conference call for BLPS, BLA and Rick Scherer

Jim - if and when you get this email - can you let me know if the time below for one more conference call is good for you. I would like BLA and BLPS at this conference call - Can you make sure they are represented Rick and Jim - when you get this email can you send onto Rusty and chap in charge of Black Lake Association.

Conference call time - 10:00am on Tuesday February 28, 2017 - target duration - 1 hour

Conference Call number for attendees - 1-713-481-0090 with access code of 7568177 followed by # key on your phone.

Conference Call Draft Agenda

1. Status of Lake and plant flows
2. USACOE correspondence
3. Communications protocol going forward
4. If reject idea of agreement - Nelson to explain why
5. Data submission to BLA and BLPS - every two weeks
6. Status of Staff Gage installation at two bridges
7. Communications during spring transition - through Jim and BLA and BLPS
8. Other items...attendees to submit to me in advance of meeting

I don't want to spend a lot of time discussing the technology of the hydraulics related to this drainage basin - that has been discussed at length and any more information on that should come from the USACOE assuming they are willing to provide this public service

thx
Nelson

From: Scherer,Rick [mailto:Rick.Scherer@edwardjones.com]
Sent: Wednesday, February 15, 2017 9:45 AM
To: hydro@eastlink.ca
Subject: Conference call

Nelson: I would propose our next conference call be Tuesday Feb. 28th at 10:00 am.

Please let me know how that works for you.

Thank You
Rick

From: "Scherer,Rick" <Rick.Scherer@edwardjones.com>
Date: Wednesday, February 15, 2017 at 10:00 AM
To: Nelson Turcotte
Subject: RE: Status of Black Lake, Pond as at February 15, 2017

Nelson: I have forward this email to Bev from Black Lake preservation society.

Rick

From: Nelson Turcotte <hydro@eastlink.ca>
Date: Wednesday, February 15, 2017 at 9:53 AM
To: "rick.scherer@edwardjones.com" <rick.scherer@edwardjones.com>, James Tucker <tuckerjkgam@aol.com>, 'Tiffany Heon' <tiffanyheon@hotmail.com>

Cc: 'James Miller' <mille76532@yahoo.com>, Nelson Turcotte <hydro@eastlink.ca>
Subject: Status of Black Lake, Pond as at February 15, 2017

Rick - further to our conversation of this morning, the Alverno pond is at 610.18, Black Lake is at 611.21. Water inflow is such that James, our operator, puts two units on in the morning at 70% and 65% wicket gate opening, then the pond should be down to 609.5 or even as low as 609.4 by 7:00pm. If I leave the units alone overnight, the pond will be down to roughly 609.2 where the units would be cavitating heavily - both of them.

So, what we do at 7:00pm in the evening lately, is to shut one unit down and turn the other unit on full load at almost 100% wicket gate opening. Then, by 7:00am the pond is up again to the 610.18 mark. The second unit that gets shut off every night in this transitional flow period can not run down below 58% wicket gate as it is putting out very little power and will become electrically/mechanically unstable (i.e. very inefficient old turbine)

We will be able to in the next couple of days hold the pond at the target low elevation of 609.5 (+/- 0.1) all day long once flows subside.

As soon, as the lake gets down to 611.10, we are generally able to hold our pond at the 609.5 (+/- 0.1) level all day long as that level corresponds with the "majic" flows if you will that allow us to operate one unit all day long and keep the pond at that lower level all day long.

When the lake is at 611.3 or higher - we can run two units at 60% gate opening or more all day long and therefore hold the pond at 609.5.

This period of fluctuating the pond from the 610.18 mark or so to the 609.5 mark or so (ie. 12 hrs at one level and 12 hrs at another level) is only for a few days where we are on the way down with the flows in that "transitional range" or where we are on the way up with the flows in that transitional range.

This flow transitional range occurs when the lake level is generally at between 611.10 and 611.30 and the system is in more or less a steady state condition.

James, this morning said the lake level dropped from 611.25 to 611.21 in last 24 hours so we are definitely on the way down.

Kleber was running 2 days units for 1/2 day and one unit for the other 1/2 day for the last two days and water is subsiding.

However, temperatures are to warm up on Friday and we will be back to a little higher lake level, most probably next week as inflows increase and of course we will re-enter this flow transitional period at Alverno again.

Jim if and when you get this email - will you send it onto the BLPS and Black Lake Association to serve as our two week submission.

When you return to Michigan from vacation - would you download the data and send it onto the two formal groups.

Thx
Nelson

BLACK LAKE PRESERVATION SOCIETY

From: Rusty Gowland <rustygowland@gmail.com>
Date: Friday, April 28, 2017 at 9:32 AM
To: Nelson Turcotte <hydro@eastlink.ca>
Cc: James Tucker <tuckerjkgam@aol.com>, Tiffany Heon <tiffanyheon@hotmail.com>, "Scherer,Rick" <rick.scherer@edwardjones.com>, Bev Haas <bhaas1000@gmail.com>
Subject: Re: Black Lake Level Updates 4/26/17

Nelson,

I am basing my request for more data at 609.5 on the data that you and Jim have supplied. I've charted that data below - depicting the lake/pond level over the flow data during the same period. As you can easily see, the most extensive period of time at 609.5 was the Jan 22 to Feb 12 period. During that time, the lake was falling, but it doesn't tell us anything really because the Kleber flow was also falling and you were clearly spilling what Smith Rapids was capable of passing as the pond depth was holding steady. I base the green line on the lower chart (depicting the Smith Rapids flow) on data from the graph that the USACOE supplied in their 1965 study. That graph shows what the rapids is capable of passing at various lake levels without consideration of the pond level.

During the period from March 26 thru April 15, you were clearly passing what the rapids passed on to you because the pond level again remained flat at 610 that entire period. However, by the ACOE data, the rapids were capable of passing more than that. The flow chart shows that you were passing less than the theoretical flow of the rapids based on their data (the purple line on the lower chart is flow over the dam and the green is the theoretical flow of the rapids) and the lake was rising that entire time. I would like to know what the lake level would have done had the pond been maintained at 609.5 during that time. I suspect that the lake level may have risen through this period, but not as high as it did with the pond level at 610.5.

So, we'll do what we can to get guidance from USACOE re: the flow thru the rapids given the two variables of pond level and lake level. We don't consider this to be repeating the past study. The data from the past study has raised new questions based on the data you have supplied. We will greatly value your involvement in this new study.

Regards,

Rusty Gowland

From: Rusty Gowland <rustygowland@gmail.com>
Date: Thursday, April 27, 2017 at 2:13 PM
To: Nelson Turcotte <hydro@eastlink.ca>
Cc: James Tucker <tuckerjkgam@aol.com>, Tiffany Heon <tiffanyheon@hotmail.com>
Subject: Re: Black Lake Level Updates 4/26/17

ok, thanks. We will see what we can do to get USACOE to do a study. I have their 1965 report that describes the flow rates through the rapids, but it only charts the flow at various lake levels. We need the calculation of flow given both the lake level AND the pond level to show the strength of both of those variables in determining flow. I am not aware of any previous study that has attempted to define that. That is what we will ask for.

Thank you for your continued assistance and your sensitivity toward property owner concerns.

Rusty

On Apr 27, 2017, at 12:10 PM, Nelson <hydro@eastlink.ca> wrote:

Hi Rusty - most certainly we don't have a problem with further data...

I think if the lake was at 613 - which it was over the last week, we actually saw that at 609.5 - which is where we sat several days ago - it immediately has an impact on the lower end of the Smith Rapids but no impact at the upper end of the rapids and at the Bridge just upstream of the Smith Rapids. In fact, this was further verified since we had some rain incoming and high water levels - the water came up in those sections of the river. We are testing the river right now since we know that if there was any benefit in the lake from running at 609.5 - it could take days if not a month to see a benefit - however - we see symptoms of the situation in the river immediately at the lower end of the Smith Rapids and upper end of the Smith Rapids since the water VOLUME IS MUCH LESS. We are in the midst of some experimenting on this right now and will include that in our July report but will send you those results some time in May.

We would welcome your support of retaining someone to analyze the results of any field studies we do and we are more than willing to cooperate with further field studies - but I think we need the USACOE here first and they might not come until 2018. An "Independent" hydrologist is pointless and a waste of your money if the USACOE can provide this service through the County letter we are working with the County on drafting for the USACOE.

So - yes I see the USACOE redo is of value for you (not for me since I am going with the report we already have) but what more is a hydrologist going to tell us that the USACOE either has already told us or will tell us in a possible future next report. I see no value in another independent consultant - if you want to retain one - I would help by providing data and access to that individual - but my condition would be that we would only support that if the USACOE is coming in - as the Gold Standard so to speak.

I will ask an engineer that I work with to provide a quote for a full modeling effort for you guys.

Nelson

From: Rusty Gowland [<mailto:rustygowland@gmail.com>]
Sent: Thursday, April 27, 2017 11:59 AM
To: Scherer,Rick; Nelson; Bev Haas
Subject: Re: Black Lake Level Updates 4/26/17

Nelson,

I don't think that anyone doubts that Smith Rapids is the bottleneck in draining the lake. The question that we have is how much faster will water pass the rapids as the difference between the pond level and the lake level widens. So, if the lake is at 613 feet, how much faster will the rapids flow if the dam pond at 609 vs. 610. Is there a material difference? I don't think anyone has quantified this and I think it's at the root of the debate we're having. We need data that supports a position and from studying your data from this past winter, I don't believe that we have enough data at the 609 level to say for sure.... we have years at the 610 level and a few weeks at 609. I think we need a month or two to really be sure. And we need a trained, unbiased eye to advise us and an agreement that we will all accept their conclusions. BLPS will contribute funds and pursue grant and public money to do this if we are all in agreement that it would be of value.

Rusty Gowland
BLPS

From: Rusty Gowland <rustygowland@gmail.com>
Date: Monday, April 3, 2017 at 8:36 AM
To: Nelson Turcotte <hydro@eastlink.ca>
Cc: "Scherer,Rick" <Rick.Scherer@edwardjones.com>, James Tucker <tuckerjkgam@aol.com>, Tiffany Heon <tiffanyheon@hotmail.com>
Subject: Re: P-11730 - Alverno - Black Lake Levels - results of testing by running pond at 608.5 - status report on Wednesday, March 8, 2017

Thank you Nelson, this will be very helpful. Looking forward to your conclusions/interpretations.

Rusty

On Apr 3, 2017, at 7:16 AM, Nelson <hydro@eastlink.ca> wrote:

Good Morning Rick and Rusty

Let me apologize for not getting this data out sooner.

I have been totally tied up with multiple quarterly reports on various projects due and planning for my trip into Michigan and Wisconsin plus its tax time.

With that said - I am forwarding these to you without, at this time, any comments - but will most certainly put these data in context in another email within the next week.

Our sensors don't function properly below the 609 or so mark - i.e. the data shows that we never went below 609 (i.e. to the 608.5 mark - but in fact this isn't true) - Jim did go down to the 608.5 mark on the gage. In fact, assuming the Granger survey is accurate - we were likely at the 608.2 mark

I hope we can get the surveyors together to straighten discrepancies out - if you look at Granger survey - he was saying we did have the lake down to 610.5 - not sure about that.

Jim - can you send this onto BLA.

Thank-you gents.

Nelson

From: Rusty Gowland <rustygowland@gmail.com>

Date: Saturday, March 18, 2017 at 3:08 PM

To: Nelson Turcotte <hydro@eastlink.ca>

Cc: James Tucker <tuckerjkgam@aol.com>, Bev Haas <bhaas1000@gmail.com>, "tiffanyheon@hotmail.com" <tiffanyheon@hotmail.com>, "Scherer,Rick" <rick.scherer@edwardjones.com>

Subject: Re: Black Lake Level update 3/18/17

Nelson, I share your belief that you are passing what smith rapids gives you. That's essentially what my fifth bullet says. I also understand that you have expertise in this stuff and I'm not asserting any opinion here, just trying to see what we can learn/prove from all of the good data that you collect.

I also agree you in general that the pond level doesn't matter.... but I would just preface it with "at certain lake levels, the pond level doesn't matter". We know that when the lake level and pond level are the same, then the dam is the hydraulic control. But we also know that the flow thru the rapids increases as the lake level rises, so there is some theoretical level at which the rapids is capable of flowing as fast or faster than the dam. Maybe you know that answer, but I don't and I don't have the data to even propose a theory.

I also agree with you when you show that the lake is falling when the pond is at 610. We all know and agree that the lake level comes down as long as the pond is lower than the lake and the inflow equals or is less than the capacity of smith rapids to pass water. We also know that the inflow is not a controllable factor, so 1) there is nothing we can do at certain levels of inflow, and 2) there is nothing we can do at certain lake levels.

What I don't know, is whether the rapids will flow faster as the difference between the lake level and pond level grows. We know that the lake came down while you held it at 610. We don't know if it would have fallen more if it were at 609. Maybe there has been a study of this. It sure would be good to understand this.

Bottom line is that I think you and Jim are very caring about the residents around the lake and are doing a good job to balance business and property interests. The BLPS is also caring about your business and we'd like to help with community relations and we sincerely recognize the value of your efforts and we want your business to remain with us as a partner. I don't think it is achievable to hold you to comply with the 610.5 level all winter long. But I think we need to remain closer to that than we have in the past if we are to avoid an extreme weather event that puts us above 613 where property damage can occur. We need some "padding" because when the lake rises quickly, it could take us weeks to get back to a safe level. We need to figure out how to get to 610.5 and stay close while acknowledging that we will go well over that during extreme weather events. The last one cost me and many others \$1,000 out of pocket for repairs.... some over \$5,000. Let's keep talking about ideas to make some improvements.

If you could share all data from 11/1 thru 3/15, I'd like to study it more. I'd like to see if I can derive any conclusions about the spread between lake level and dam pond level and to have some data support for a position of whether the test worked or not. I'd also like to refine the estimates of flow rates thru the rapids at various depths.

Thanks,
Rusty Gowland

From: Nelson Turcotte <hydro@eastlink.ca>
Date: Saturday, March 18, 2017 at 12:38 PM
To: Rusty Gowland <rustygowland@gmail.com>
Cc: James Tucker <tuckerjkgam@aol.com>, Bev Haas <bhaas1000@gmail.com>, "tiffanyheon@hotmail.com" <tiffanyheon@hotmail.com>, "Scherer,Rick" <rick.scherer@edwardjones.com>
Subject: Re: Black Lake Level update 3/18/17

Rusty

Just quickly

I won't be running the pond at 609.5 any longer

It didn't do anything

I will look over your stuff and draw my own conclusions

How did we take the lake down in the last two weeks while leaving the pond at 610.2. Obviously I will be focusing on that

I pass what Smith Rapids gives us

Smith Rapids figures from 1965 May be wrong but the practical situation is we will run at what Smith Rapids is running at whatever the number

I am of the belief that my pond level doesn't really matter

Nelson

From: Nelson Turcotte <hydro@eastlink.ca>
Date: Saturday, March 18, 2017 at 12:31 PM
To: Rusty Gowland <rustygowland@gmail.com>

Cc: James Tucker <tuckerjkgam@aol.com>, Bev Haas <bhaas1000@gmail.com>, "tiffanyheon@hotmail.com" <tiffanyheon@hotmail.com>, "Scherer,Rick" <rick.scherer@edwardjones.com>
Subject: Re: Black Lake Level update 3/18/17

It will be in the County's hand to write the USACOE a letter requesting help

Trump just reduced the Corps budget by 20 percent

Nelson

From: Rusty Gowland <rustygowland@gmail.com>
Date: Saturday, March 18, 2017 at 12:25 PM
To: James Tucker <tuckerjkgam@aol.com>
Cc: Bev Haas <bhaas1000@gmail.com>, Nelson Turcotte <hydro@eastlink.ca>, "tiffanyheon@hotmail.com" <tiffanyheon@hotmail.com>, "Scherer,Rick" <rick.scherer@edwardjones.com>
Subject: Re: Black Lake Level update 3/18/17

sorry... one more conclusion from the flow analysis is that the dam outflow is always higher than the smiths rapids flow. That says that the smiths rapids flow rates MUST be wrong.... these numbers are proof of that. We need ACOE to recalculate the flow at the rapids. I took their old data and produced a regression from it and used the formula from the regression to chart the flow of the rapids.

What is the status of the ACOE request for help - have they replied back to you yet? and can this be added to your request for their assistance?

Thanks,
Rusty Gowland

From: Rusty Gowland <rustygowland@gmail.com>
Date: Saturday, March 18, 2017 at 11:48 AM
To: James Tucker <tuckerjkgam@aol.com>
Cc: Bev Haas <bhaas1000@gmail.com>, Nelson Turcotte <hydro@eastlink.ca>, "tiffanyheon@hotmail.com" <tiffanyheon@hotmail.com>, "Scherer,Rick" <Rick.Scherer@edwardjones.com>
Subject: Re: Black Lake Level update 3/18/17

Thanks Jim and Nelson. Looks like we are about a foot and a quarter below last year lake level at this time. Maybe a dry period can help us get down close to 610.5.

I built two graphs from the data you sent at the end of Feb. Can you send the same data to me every two weeks (thru 3/15)? The graphs are pasted below.

The first graph should look familiar as you have produced the same graph in the past. The second graph is one that I created and it shows the flows derived from precipitation figures (blue line at bottom), the Kepler dam flow adjusted for a "nature" adder (red line), smiths rapids flow (derived from ACOE calculations of flows at various lake levels), and the Alverno Dam flow. This presentation reveals the delay of water flowing through the system (from rain to inflows to outflow at the rapids and discharge over the dam), and it shows whether we are "anticipating" lake level rise and acting reactively or proactively.

My conclusions from this graph (and please add your own) are the following:

- **we have not been in compliance during this period of time** (which we already knew)
- We have maintained the dam pond about a foot lower during this period than we did last year... except for the period from Feb 11 thru feb 23 when we managed the dam pond as we did last year. **We could have started lowering the dam pond earlier and kept it low longer.**
- during this period last year, we had 37 inches of snow compared to 33 this year (similar). We had 2.91 inches of rain last year compared to 3.2 inches of rain this year. My blue line in the flow analysis factors in snowmelt as opposed to snowfall. Considering all of this weather data, I would contend that we have had more precipitation this year than last and have maintained the lake to one foot lower. So, **keeping the dam pond lower has been effective.**
- the relationship/**response time between precipitation events and Kleber flow is not yet clear.** Need more work on calculations... maybe effect of temps, other.
- outflows at the dam seem to match flows through the rapids. The rapids flow is derived from lake level, so the same can be said that the dam flow is matched with lake level rise. I suppose that this is what we would expect if we were **managing the dam pond to it's minimum level vs. drawing it lower to anticipate the effect of precipitation events.** The lake level, rapids flow, and Alverno outflow curves are essentially the same.

I'm interested in receiving the data for the first half of march when we used more extreme measures to anticipate lake level rise. (the 608.5 pond level days). I would guess that a strategy that includes the following 4 actions will be an effective way to balance BRLP business goals and BL resident's shoreline preservation goals going forward.

1. managing the pond level at 609.5 thru the entire season
2. using the 608.5 level to anticipate the effects of major precipitation events
3. starting the drawdown earlier in the season to start off the season in compliance
4. producing these graphs twice a month for feedback on the strategy

Let me know your thoughts.

Thanks,
Rusty Gowland

From: Rusty Gowland <rustygowland@gmail.com>
Date: Friday, March 3, 2017 at 10:29 AM
To: Nelson Turcotte <hydro@eastlink.ca>
Cc: James Tucker <tuckerjkgam@aol.com>, "Scherer,Rick" <rick.scherer@edwardjones.com>, Bev Haas <bhaas1000@gmail.com>, "tiffanyheon@hotmail.com" <tiffanyheon@hotmail.com>
Subject: Re: P11730-Alverno - Black Lake Levels - dropping Alverno pond to 608.5

Excellent! Thank you.

Rusty

On Mar 3, 2017, at 9:05 AM, Nelson <hydro@eastlink.ca> wrote:

Hi Rusty

To be clear - we are doing the test - for certain for two days and if it is working - run it into Wednesday.

To be clear we are taking the pond down to 608.5 beginning Sunday.

Nelson

From: tuckerjkgam@aol.com [<mailto:tuckerjkgam@aol.com>]
Sent: Friday, March 03, 2017 9:01 AM
To: rustygowland@gmail.com
Cc: rick.scherer@edwardjones.com; bhaas1000@gmail.com; b3collision@yahoo.com; SDulak@SRC-MILP.com
Subject: Re: P11730-Alverno - Black Lake Levels - dropping Alverno pond to 608.5

Rusty, the DNR has limited us to the 608.5 target. I spoke with Nelson at length yesterday and because it is a test we will evaluate each day the results and determine the plan forward. If it stays warm (weather forecast looks like it will) and appears to be working we can if its beneficial to the test go into a second day of testing, giving us the full two days as originally planned. We plan to maintain contact with the DNR if we see the need to get outside this test scope.

We expect certain things to happen because we have some known conditions. This test we expect to verify these know conditions are accurate or at least somewhat close under these current conditions.

1. We know how much water is coming in from the Black River thru Kleber dam.
2. We know what the rapids can discharge at the current lake level and each level as it drops by the flow curve from the USACOE study
3. We know how much water is in the lake and how long it should take to get it out giving the differential of what the rapids can discharge and what is coming into the lake.
4. The thing we don't know for sure is how much flow from other sources is coming into the lake, but given the flow discharge at the dam and a holding level condition in the lake we may even be able to estimate that with some degree of accuracy.

So with all this information we think we can predict what will happen during the test. We hope the test will give us enough insight to be able to relate it to the degree of accuracy of these known conditions.

Jim

From: Rusty Gowland <rustygowland@gmail.com>
To: tuckerjkgam@aol.com
Cc: rick.scherer@edwardjones.com; Bev Haas <bhaas1000@gmail.com>
Sent: Fri, Mar 3, 2017 8:13 am
Subject: Re: P11730-Alverno - Black Lake Levels - dropping Alverno pond to 608.5

Why don't we do the experiment another weekend? I thought we were going to learn how impactful it would be to run for a weekend with the spillgate open. We would use this learning to understand what we could do in an emergency situation - use this method in November to get the lake down at the beginning of the year, or use it in March to avoid the problems we had during snowmelt last year.

My recommendation is that we still run this experiment when temps allow. your plan below is really just in keeping with the 609.5 pond level that we've been maintaining for some time now, right? It represents no change for this weekend.

Rusty

On Mar 3, 2017, at 8:07 AM, tuckerjkgam@aol.com wrote:

Rusty, the cold weather was the reason for the change. As stated in the notice below the DNR is concerned about small crustaceans, and that concern was being exposed in very cold weather. Also operationally very cold weather would lead to icing up our gate giving us sporadic control as it takes time to deice each time it needs to be moved. We also expect to have to shut down our units and the plant heat comes from the generators while in operation.

The original warm weather start as predicted by the weather forecast for Saturday was moved back a day, so we have moved to when the warmer temperatures start on Sunday.

Jim

From: Rusty Gowland <rustygowland@gmail.com>
To: Jim Tucker <tuckerjkgam@aol.com>
Cc: Scherer,Rick <rick.scherer@edwardjones.com>; Bev Haas <bhaas1000@gmail.com>
Sent: Fri, Mar 3, 2017 7:36 am
Subject: Fwd: P11730-Alverno - Black Lake Levels - dropping Alverno pond to 608.5

This was the most recent notice we received from Nelson. What prompted the change in plan from this approved plan?

Rusty

From: Rusty Gowland <rustygowland@gmail.com>
Date: Tuesday, February 28, 2017 at 9:03 AM
To: James Tucker <tuckerjkgam@aol.com>
Cc: Nelson Turcotte <hydro@eastlink.ca>, "tiffanyheon@hotmail.com" <tiffanyheon@hotmail.com>
Subject: Re: data

Thanks Jim, I'll begin looking at the data right away and will share our plans for posting the data prior to doing so.

Let me know if there is anything the BLPS can do to contribute to the staff gauge installation.

Rusty

From: James Tucker <tuckerjkgam@aol.com>
Date: Tuesday, February 28, 2017 at 6:58 AM
To: "rustygowland@gmail.com" <rustygowland@gmail.com>
Cc: Nelson Turcotte <hydro@eastlink.ca>, "tiffanyheon@hotmail.com" <tiffanyheon@hotmail.com>
Subject: Re: data

Rusty, here is the data from the first of the year from Alverno and Kleber. It is in a standard excel format . Let me know if you have any questions on the data. I normally only download data quarterly but have been doing it more often as part of the conference calls and work with the lake associations this winter. Some of this data may overlap in each file.

I am working with the counties to get approval to install the gauges. There are no plans to automate any gauges these will be the standard staff gauges similar to what is used at the dam.

Thanks,

Jim

From: Rusty Gowland <rustygowland@gmail.com>
To: Jim Tucker <tuckerjkgam@aol.com>
Sent: Tue, Feb 14, 2017 7:50 am
Subject: data

Jim,

do you have some historical data that I can use to start creating my graphic for our website? Maybe start at the beginning of the calendar year? I think you have the Kleber dam flow, the lake lvl taken at the marina, and the pond level at the dam. I'd like to see what format you will send it in, so I can setup a process to graph it and post it.

I know that you've said that you want to put staff gauges at Harbor Light and Rainy bridge. Is there a plan to make that happen? Is there anything we can do to assist? I don't imagine there is a plan for automatic readings at those two locations, but I could try to find a nearby resident that could report the data periodically if that would work.

Thanks,

Rusty Gowland

From: James Tucker <tuckerjkgam@aol.com>
Date: Tuesday, February 7, 2017 at 11:10 PM
To: beverly haas <bhaas1000@gmail.com>
Cc: Tiffany Heon <tiffanyheon@hotmail.com>
Subject: Re: government officials at meeting

Bev, just an update on the Lake and Alverno Head Pond

Black Lake level is 611.34 and dropping, down from our recorded level of 611.57 after the January thaw.

Alverno head pond is at 609.64 and holding close to the 609.60 level

Jim

On Feb 7, 2017, at 19:19, Beverly Haas <bhaas1000@gmail.com> wrote:

Thanks.

On Feb 7, 2017 7:16 PM, "James Tucker" <tuckerjkgam@aol.com> wrote:

Bev, it is Dave Stempky who runs the Cheboygan Dam, Kyle Kruger, with the DNR and I think the other gentleman was Dave Borgenson with the DNR fisheries division

Jim

On Feb 6, 2017, at 14:40, Beverly Haas <bhaas1000@gmail.com> wrote:

Jim:

Bev Haas here. Could you tell me the names of the government officials at the meeting. I am writing up my report and want to get the names right. I know of Cam Cavitt, the drain commissioner. Who was the gentleman that spoke on behalf of the Cheboygan dam?

There were two DNR representatives. One was in the back of the room who spoke about the spill gate. The other complimented the group on the civility. Were there others that I wasn't aware they were government officials?

Thanks

I will bring your pinwheels gages to the Feb 11 meeting so you can put them out. You don't have to redo them. We are going to post them on the blps webpage.

Bev

From: James Tucker <tuckerjkgam@aol.com>
Date: Thursday, February 2, 2017 at 7:11 AM
To: "bhaas1000@gmail.com" <bhaas1000@gmail.com>
Subject: Re: Lake Level Survey by Granger and Associates

Bev, we will not get into details on the survey other than the results are similar to our survey. We would like to use Alan's final report as an opportunity for us to check the accuracy again of our equipment monitoring water levels.

Our presentation is based on the historical data, natural and operational conditions that impact the lake levels, although the erosion is not always but often the result of high lake levels, high water in the lake and low water in the river system causes other problems as well. We also did not want to put the focus on any one individual property or area of the lake so we did not include any erosion pictures.

As you know the history of Black lake is anytime you have high water flooding will occur in the flood zones and with high wind someone will probably have shoreline damage to some extent somewhere on the lake before the water gets down. I have seen it all around the lake the past 30 years including my beach as well on several occasions. I think the East side of the lake generally has an increased chance of erosion happening because of the predominant West wind. Much of our presentation is about the history of the lake and the dam interaction, including the Army Corps of Engineer study completed in 1964 that was done because of flooding and erosion problems on Black Lake.

With that being said, if you have pictures of flooding or erosion you are welcome to bring them and put them on a table and mention they are there for people to see the type of erosion that can happen under certain conditions. We will also have a few maps set up in the back for people to see of the lake just as a visual aid of the water shed and other areas.

I know the BLPS is working on ways to improve shoreline conditions to help limit the high water impacts. If you have any information you would like to share on that you are more than welcome to display that also.

thanks,

Jim

From: Beverly haas <bhaas1000@gmail.com>
To: tuckerjkgam <tuckerjkgam@aol.com>
Sent: Thu, Feb 2, 2017 6:12 am
Subject: Re: Lake Level Survey by Granger and Associates

Hi Jim,

I can mention the survey was similar to Porter Survey and you can mention it also. Alan field checked his survey two times after his January 19 readings to make sure everything was right so I think we need to wait for the written report to get into too many numbers. He did give me his January 19th reading which I gave to you. We are going to do a post on Facebook just mentioning the Survey is complete and the numbers were similar to Porter Survey.

Rick forwarded t several pictures of Shore Damage, will you be showing those? I was going to print some off in case the question comes up, why all this fuss. Please let me know.

Early Morning for both of us.

Let me know about the photos.

Bev

On Feb 2, 2017, at 5:33 AM, tuckerjkgam@aol.com wrote:

Bev, do you want us to mention the verbal results from your survey in the meeting when we talk about our survey or will you want do it in the presentation for the BLPS?

Jim

From: Beverly haas <bhaas1000@gmail.com>
To: James Tucker <tuckerjkgam@aol.com>
Sent: Wed, Feb 1, 2017 4:07 pm
Subject: Re: Lake Level Survey by Granger and Associates

Thanks. We have not posted any results online nor made the verbal report public. We wanted to let you know the status though. Rick Scherer knows as will Bob Dunston as does Rusty. We have not posted anything yet. Bev

On Feb 1, 2017 3:54 PM, "James Tucker" <tuckerjkgam@aol.com> wrote:

Thanks Bev, we appreciate the information. We look forward to seeing you tomorrow at the meeting.

Jim

From: beverly haas <bhaas1000@gmail.com>
Date: February 1, 2017 at 14:10:28 EST
To: tuckerjkgam@aol.com
Cc: bhaas1000@gmail.com
Subject: Lake Level Survey by Granger and Associates

Jim: Bev Haas here.

We have verbal information of the survey done by Granger and Associates of Cheboygan, MI. He will write up a report but will not have it ready prior to tomorrow's meeting, Feb 2, 2017.

He reported his results were consistent with Porter Surveyor.

On January 19th, the water gauge (which was was little hard to read) at the dam read 609.7 and the water level was 609.8.

On January 19th, the marina paper gauge read 610.8 (again, with interpretation of reading the lines on the gauge) and the water level measured 610.5.

We await his written survey which we should have soon and will forward to you as soon as we get it.

Thanks for your efforts in allowing Granger and Associates to conduct a second survey. We appreciate it. Please share this information with Mr. Turcotte.

If you have questions prior to the meeting, please give me a call. 269 330 0343.

Beverly Haas

From: James Tucker <tuckerjkgam@aol.com>

Date: Monday, January 30, 2017 at 5:16 PM

To: "rustygowland@gmail.com" <rustygowland@gmail.com>

Cc: "bhaas1000@gmail.com" <bhaas1000@gmail.com>, Tiffany Heon <tiffanyheon@hotmail.com>

Subject: Re: Lake Level Certification, Communications

BLACK LAKE ASSOCIATION

From: James Tucker <tuckerjkgam@aol.com>
Date: Friday, February 17, 2017 at 9:05 AM
To: "b3collision@yahoo.com" <b3collision@yahoo.com>, "SDulak@SRC-MILP.com" <SDulak@SRC-MILP.com>
Cc: "tiffanyheon@hotmail.com" <tiffanyheon@hotmail.com>, Nelson Turcotte <hydro@eastlink.ca>
Subject: Conference call for Black Lake

Brett, Ron, we (Black River Limited Partnership) are going to be having a conference call on Black Lake and the operation of the Alverno and Kleber Dams. We would like someone to represent and participate from the Black Lake Association. This is a follow up from our public meeting to clear up our intentions going forward with the BLPS, BLA. This call will also include Rick Sheerer a concerned citizen (not a member of either group) we have previously had calls with. The call information and agenda is listed below, please let me know if someone will be able to attend this conference call.

Thank You,

Jim Tucker

Conference call time - 10:00am on Tuesday February 28, 2017 - target duration - 1 hour

Conference Call number for attendees - 1-713-481-0090 with access code of 7568177 followed by # key on your phone.

Conference Call Draft Agenda

1. Status of Lake and plant flows
2. USACOE correspondence
3. Communications protocol going forward
4. If reject idea of agreement - Nelson to explain why
5. Data submission to BLA and BLPS - every two weeks
6. Status of Staff Gage installation at two bridges
7. Communications during spring transition - through Jim and BLA and BLPS
8. Other items...attendees to submit to me in advance of meeting

I don't want to spend alot of time discussing the technology of the hydraulics related to this drainage basin - that has been discussed at length and any more information on that should come from the USACOE assuming they are willing to provide this public service

From: tuckerjkgam <tuckerjkgam@aol.com>
To: blacklakeassociation <blacklakeassociation@gmail.com>
Sent: Fri, Feb 17, 2017 8:54 am
Subject: Black Lake Levels and Dam operation

BLA, here is an update on the Black Lake levels and the operations at the Alverno Dam and Kleber Dam.

Alverno pond is at 610.18, Black Lake is at 611.21.

The water inflow at Alverno is such that the operator, puts two units on in the morning at 70% and 65% wicket gate opening, then the pond should be down to 609.5 or even as low as 609.4 by 7:00pm. If we leave the units alone overnight, the pond will be down to roughly 609.2 which would be to low and cause the units to be cavitating heavily.

So, operationally in the evening , we shut one unit down and turn the other unit on full load at almost 100% wicket gate opening. Then, by 7:00am the pond is up again to the 610.18 mark. The second unit that gets shut off every night in this transitional flow period can not run down below 58% wicket gate as it is putting out very little power and will become electrically/mechanically unstable because of the design of the old turbine.

We will be able to in the next couple of days hold the pond at the target low elevation of 609.5 (+/- 0.1) all day long once flows subside.

As soon, as the lake gets down to 611.10, we are generally able to hold our pond at the 609.5 (+/- 0.1) level all day long as that level usually corresponds with the flows that allow us to operate one unit all day long and keep the pond at that lower level all day long.

When the lake is at 611.3 or higher - we can usually run two units at 60% gate opening or more all day long and therefore have more operational control to hold the pond at 609.5.

This period of fluctuating the pond from the 610.18 mark or so to the 609.5 mark or so is only for a few days where we are on the way down with the flows in that "transitional range" or where we are on the way up with the flows in that transitional range.

This flow transitional range occurs when the lake level is generally at between 611.10 and 611.30 and the system is in more or less a steady state condition.

The lake level dropped from 611.25 to 611.21 so we are still on the way down.

Kleber dam inflow to the lake has been one unit on full time with the second unit running part of the time and the water coming into that dam is subsiding.

However, temperatures are to warm up and we will see more water entering the drainage basin and be back to a little higher lake level, most probably next week as inflows increase and of course we will re-enter this flow transitional period at Alverno again.

Thank You,

Jim Tucker

Date: 2017-02-07, 11:06 PM,
From: "James Tucker" tuckerjkgam@aol.com
To: blacklakeassociation@gmail.com blacklakeassociation@gmail.com
Subject: Black Lake Level

Hello, this is an update on the level at Black Lake and the pond level at the Alverno Dam.

Black Lake is 611.34 down from 611.57 after the January thaw.

Alverno Head Pond 609.64 and holding

Jim Tucker

U.S. ARMY CORPS OF ENGINEERS

From: "Luke, James D CIV USARMY CELRE (US)" <James.D.Luke@usace.army.mil>
To: Nelson Turcotte
Date: 2017-03-06 9:14 PM
Subject: [EXTERNAL] P-11730 - Alverno Hydro Dam - Black Lake Levels issues - conference call with USACOE - March 6th, 2017 - 1:00pm

Attached is a sample Letter of Request that we will need to get your request for a project started. Below is a link that will take you to our website and give you a little more information about the Section 205 Program.

<http://www.lre.usace.army.mil/Missions/Planning/Technical-Planning-Assistance/>

It was great talking with you and we look forward to potentially working with you in the future. Give me a call if you have any questions. Thanks!

Respectfully,

Jim Luke

Outreach Coordinator
Detroit District Planning Office
US Army Corps of Engineers
Ofc: 313-226-3387
BB: 313-410-5278
Email: James.D.Luke@usace.army.mil

From: Nelson [mailto:hydro@eastlink.ca]
Sent: Saturday, March 04, 2017 12:11 PM
To: Chrumka, Jason A CIV USARMY CELRE (US) <Jason.A.Chrumka@usace.army.mil>; 'Tiffany Heon' <tiffanyheon@hotmail.com>; Luke, James D CIV USARMY CELRE (US) <James.D.Luke@usace.army.mil>
Cc: 'James Tucker' <tuckerjkgam@aol.com>; 'Nelson' <hydro@eastlink.ca>
Subject: [EXTERNAL] P-11730 - Alverno Hydro Dam - Black Lake Levels issues - conference call with USACOE - March 6th, 2017 - 1:00pm

Good Morning Tiffany, Jim, James (Luke) and Jason:

Please use the following conference call number at 1:00pm on Monday, March 6th, 2017 for our conference call. I will activate the conference call at 1:00pm on Monday.

Call Details
1:00pm, March 6, 2017

1-713-481-0090
participants code 7568177#

Draft Agenda [included in meeting minutes]

thx
Nelson

From: Chrumka, Jason A CIV USARMY CELRE (US)
[mailto:Jason.A.Chrumka@usace.army.mil]
Sent: Friday, March 03, 2017 3:41 PM
To: Nelson; 'Tiffany Heon'; Luke, James D CIV USARMY CELRE (US)
Cc: 'James Tucker'
Subject: RE: [EXTERNAL] P-11730 - Alverno Dam - Black Lake Lake Levels issue

Nelson,

Sounds good. Let's plan for 1pm Monday afternoon.

Thank you,
Jason Chrumka, CFM, EIT
FPMS, Silver Jackets, and Flood Risk Manager U.S. Army Corps of Engineers,
Detroit District
(313) 226-7762

From: Nelson [mailto:hydro@eastlink.ca]
Sent: Friday, March 03, 2017 2:16 PM
To: Chrumka, Jason A CIV USARMY CELRE (US) <Jason.A.Chrumka@usace.army.mil>;
'Tiffany Heon' <tiffanyheon@hotmail.com>; Luke, James D CIV USARMY CELRE
(US) <James.D.Luke@usace.army.mil>
Cc: 'James Tucker' <tuckerjkgam@aol.com>
Subject: RE: [EXTERNAL] P-11730 - Alverno Dam - Black Lake Lake Levels issue

Great - I am completely flexible - whatever time suits you works for us and
I can send you the conference call info once you tell me which time - Jim,
Tiffany and I will dial in from our end and thx Jason

Nelson

From: Chrumka, Jason A CIV USARMY CELRE (US)
[mailto:Jason.A.Chrumka@usace.army.mil]
Sent: Friday, March 03, 2017 1:50 PM
To: Nelson; 'Tiffany Heon'; Luke, James D CIV USARMY CELRE (US)
Cc: 'James Tucker'
Subject: RE: [EXTERNAL] P-11730 - Alverno Dam - Black Lake Lake Levels issue

Nelson,

Monday is completely open for Jim and myself. Would you like to select a
time so that we can block out that window?

Thank you,
Jason Chrumka, CFM, EIT
FPMS, Silver Jackets, and Flood Risk Manager U.S. Army Corps of Engineers,
Detroit District
(313) 226-7762

From: Nelson [mailto:hydro@eastlink.ca]

Sent: Wednesday, March 01, 2017 2:18 PM

To: Chrumka, Jason A CIV USARMY CELRE (US) <Jason.A.Chrumka@usace.army.mil>; 'Tiffany Heon' <tiffanyheon@hotmail.com>; james.ed.luke@usace.army.mil

Cc: 'James Tucker' <tuckerjkgam@aol.com>

Subject: RE: [EXTERNAL] P-11730 - Alverno Dam - Black Lake Lake Levels issue

Good Afternoon Mr. Luke:

I just spoke with Jason Chrumka and he mentioned it would be best first to set up a call with you to introduce you to the concern of the Black Lake citizens on Lake Levels and high water levels.

Jason also said he would like to take part in that conference call.

With that said, what would be a preferred day and time for you next week (the week of March 6th) to introduce you to the matter and to inquire as to work/studies that the USACOE might be willing to take on...to really dust off the 1965 report and complete some other supplemental studies and work.

Thank-you so much

Nelson Turcotte, B.Eng., MBA

President - Northwoods Hydropower, Inc.

General and Managing Partner - Tower Kleber LP, Black River LP and Wolf

River Hydro LP Home Office in Thunder Bay, Ontario, Canada - 1-807-768-4034

From: Chrumka, Jason A CIV USARMY CELRE (US) [mailto:Jason.A.Chrumka@usace.army.mil]

Sent: Wednesday, March 01, 2017 12:12 PM

To: Nelson; 'Tiffany Heon'

Cc: 'James Tucker'

Subject: RE: [EXTERNAL] P-11730 - Alverno Dam - Black Lake Lake Levels issue

Nelson,

2pm will work.

Thank you,

Jason Chrumka, CFM, EIT

FPMS, Silver Jackets, and Flood Risk Manager U.S. Army Corps of Engineers,

Detroit District

(313) 226-7762

From: Nelson [mailto:hydro@eastlink.ca]

Sent: Wednesday, March 01, 2017 12:07 PM

To: Chrumka, Jason A CIV USARMY CELRE (US) <Jason.A.Chrumka@usace.army.mil>; 'Tiffany Heon' <tiffanyheon@hotmail.com>

Cc: 'James Tucker' <tuckerjkgam@aol.com>

Subject: RE: [EXTERNAL] P-11730 - Alverno Dam - Black Lake Lake Levels issue

Great - how would 2:00pm be

Nelson

From: Chrumka, Jason A CIV USARMY CELRE (US) [mailto:Jason.A.Chrumka@usace.army.mil]
Sent: Wednesday, March 01, 2017 12:05 PM
To: Nelson; 'Tiffany Heon'
Cc: 'James Tucker'
Subject: RE: [EXTERNAL] P-11730 - Alverno Dam - Black Lake Lake Levels issue

Hi Nelson,

Sorry I missed your call yesterday. I had forwarded your information to our new outreach coordinator, but he has been pretty busy getting brought up to speed on his duties. He's out of the office today, but I'd be happy to talk and see where I can help. I'm free the rest of this afternoon if you'd like to set a time to discuss.

Thank you,
Jason Chrumka, CFM, EIT
FPMS, Silver Jackets, and Flood Risk Manager U.S. Army Corps of Engineers,
Detroit District
(313) 226-7762

From: Nelson [mailto:hydro@eastlink.ca]
Sent: Tuesday, February 28, 2017 9:51 AM
To: Chrumka, Jason A CIV USARMY CELRE (US) <Jason.A.Chrumka@usace.army.mil>;
'Tiffany Heon' <tiffanyheon@hotmail.com>
Cc: 'James Tucker' <tuckerjkgam@aol.com>
Subject: RE: [EXTERNAL] P-11730 - Alverno Dam - Black Lake Lake Levels issue

Hi Jason - just tried your phone and sorry I missed you.

Would it be possible to talk with you today or tomorrow - whenever is good for you - what would be a good time for you?

I am on a conference call from 10:00am till noon today.

thx much

Nelson Turcotte
Black River LP
Alverno - hydroelectric plant
home office 807-768-4034

From: Chrumka, Jason A CIV USARMY CELRE (US) [mailto:Jason.A.Chrumka@usace.army.mil]
Sent: Tuesday, January 31, 2017 10:22 AM
To: Nelson; 'Tiffany Heon'
Cc: 'James Tucker'
Subject: RE: [EXTERNAL] P-11730 - Alverno Dam - Black Lake Lake Levels issue

Hi Nelson,

I'm in training most of this week so my availability is limited. However, I'll try giving you a call back when we break for lunch today.

Thanks,

Jason

From: Chrumka, Jason A CIV USARMY CELRE (US) [<mailto:Jason.A.Chrumka@usace.army.mil>]

Sent: Friday, January 27, 2017 11:33 AM

To: Hydro@eastlink.ca

Subject: Black Lake Flooding

Hi Mr. Turcotte,

Mr. Galloway asked me to reach out to you regarding your call pertaining to flooding concerns. He also mentioned that you had referred to a historical report published by the Corps. Would you mind describing your situation to me and attaching the report as well?

Thank you,

Jason Chrumka, CFM, EIT

FPMS, Silver Jackets, and Flood Risk Manager U.S. Army Corps of Engineers,
Detroit District

(313) 226-7762