

**John Zygaj**

**From:** Mr. John Zygaj

**Sent:** Tuesday, June 25, 2013

**To:** Dave Rothman

**Subject:** RE: Questions of Edenville Dam, P-10808

## John Zygaj

---

**From:** John Zygaj  
**Sent:** Tuesday, June 25, 2013 7:23 AM  
**To:** 'Dave Rothman'  
**Subject:** RE: Questions of Edenville Dam, P-10808

Dear Mr. Rothman:

This is in response to your June 11, 2013 email on the Edenville and Tobacco dams on Wixom Lake in Gladwin County, Michigan. Please accept my apology for not responding sooner however, I have no record that I received your May 15, 2013 email.

The Federal Energy Regulatory Commission (FERC) issued a hydropower license for the Edenville Project, which includes the Edenville and Tobacco Dams, to Boyce Hydro Power, LLC (Boyce Hydro) under Project No. 10808. Your questions and our response are listed below.

Question 1: How do you expect RIDM will affect the Edenville Dam spillway project, P-10808?

Response: The Division of Dam Safety and Inspections is in the early stages of developing a Risk Informed Decision Making (RIDM) Program and Engineering Guidelines have not been issued for use on FERC projects. Our June 13, 2013 letter to Mr. Mueller has required the Board of Consultants (BOC) be reconvened to determine if other engineering alternatives are available which could provide for the long-term safety of the project.

Question 2: What issues would FERC have with modifying the current plan for P-10808 spillway modifications, specifically, to raise the coffer dams 8 feet in 2014 and 2017 in order to maintain Wixom Lake at normal summer pool elevations in 2014 and 2017?

Response: The cofferdams must be designed to pass a flow near equivalent to the current spillway configuration: raising of the cofferdams eight feet cuts the water passage by one-half and subjects the project to a much greater possibility of overtopping failure of the embankments due to a flood. The sequencing of the work out of the summer season would possibly require added effort of constructing a temporary shelter and supplying heat in order for the concrete work to cure properly.

Please let me know if I can be of further assistance.

Sincerely,

John A. Zygaj P.E.

---

**From:** Dave Rothman [mailto:drothman@chartermi.net]  
**Sent:** Tuesday, June 11, 2013 8:23 AM  
**To:** john.zygaj@ferc.gov  
**Subject:** Re: Questions of Edenville Dam, P-10808

Dear Mr. Zygaj:

I sent the questions, below, to you at your invitation on May 15 of this year. I wish to inquire when I might expect a response.

Thanks,

L. David Rothman, Ph.D.

1909 Ramble Lane

Midland, MI 48640

On 5/15/2013 9:01 AM, Dave Rothman wrote:

Dear Mr. Zygaj:

I appreciate your willingness to speak with me and your invitation to submit questions by email, since we will not have an opportunity for discussion during the annual dam safety inspection. The questions in this message cover two topics:

1. Risk-Informed Decision Making and its potential impact on dam safety project costs.
2. A proposed modification to the project plan.

My concern is with the Edenville, Michigan dam, Project # 10808, and the FERC requirement that this dam be modified to safely pass the Probably Maximum Flood through its spillways. I understand you are aware that the licensee does not have the money for the modifications and that he has approached the lake front property owners for help. You may also recall that you and I have spoken before and I am working with a group of local citizens chartered by our lake association to understand the situation with the Edenville Dam and look for a solution that keeps the lake in place. One option is a special assessment of all the lake front property owners.

My experience tells me it is best to present "customers" with the true cost of a big project up front, if you hope to have credibility with those customers in the future. I have spoken with an engineering firm that has estimated the cost of the P-10808 spillway modification project and believe I have a good idea of the true project cost, as currently proposed. I'm trying to understand risks to that estimated cost.

In my reading, I came across this FERC web page on Risk-Informed Decision Making (RIDM):

<http://www.ferc.gov/industries/hydropower/safety/initiatives/risk-informed-decision-making/about.asp>

It appears RIDM is an approach to dam safety that both Army Corps of Engineers and Bureau of Reclamation use today and FERC will implement in 2014. This implementation schedule coincides with the beginning of a 6-year spillway modification project at P-10808, said schedule approved by FERC.

As I understand RIDM, it will change how FERC approaches dam safety projects and, therefore, the requirements to be met by such projects. At present, I do not understand how RIDM might affect the spillway project at P-10808, but I do know FERC can modify requirements while a construction project is in progress. I see three possible outcomes as RIDM is implemented by FERC simultaneous with the spillway modification project at P-10808:

1. RIDM will not affect P-10808 requirements.
2. RIDM will lead to lower spillway capacity requirements for P-10808 which presents a risk of spending too much money on the dam project as currently planned.
3. RIDM will lead to even higher spillway capacity requirements for P-10808, which presents a risk that the very expensive current project plan might be altered in-flight leading to even higher costs or require additional very expensive re-work after completion of the current plan.

Outcomes 2 or 3 would be painful to explain to lake front property owners after a special assessment has been put in place, so I wish to better understand these risks up front.

**Question #1. How do you expect RIDM will affect the Edenville Dam spillway project, P-10808?**

As we speak with lake front property owners, one common concern is that the current project plan calls for lowering the water level of Wixom Lake by 8 feet from June through October in both 2014 and 2017, thus depriving the public of use of the lake for two entire seasons. I have explored, with a local engineering firm, the option of building higher coffer dams. I was informed that the firm has studied the P-10808 project drawings and concluded it is technically feasible to raise the coffer dams 8 feet to avoid the 2014 and 2017 drawdowns and, in fact, the firm has done exactly that on similar projects. The engineer offered that it was possible to build spill gates into the coffer dams to maintain spill capacity during that phase of the project, again, something the firm has done in the past. Additional estimated costs for this alternate approach were, in my view, something most lake front owners would gladly pay to avoid losing two seasons use of the lake and this one project change might make paying other costs of the project more palatable.

I understand that this modification to the proposed plan for P-10808 spillway modification would require FERC approval.

**Question #2. What issues would FERC have with modifying the current plan for P-10808 spillway modifications, specifically, to raise the coffer dams 8 feet in 2014 and 2017 in order to maintain Wixom Lake at normal summer pool elevations in 2014 and 2017?**

I look forward to your reply.

Sincerely,

L. David Rothman, Ph.D.

1909 Ramble Lane

Midland, MI 48640

Document Content(s)

P-10808 cover page.DOCX.....1-1

Questions of Edenville Dam\_P10808.PDF.....2-6