4-16-18

Aguila Back Forty

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Meeting with Aquila Resources: Back Forty Mine
April 16, 2018; R5 Room 1513

Attendees

Chris Korleski, WD EPA
Peter Swenson, WWB EPA
Wendy Melgin, Wetlands EPA
Melanie Burdick, Wetlands EPA
Reg Pallesen, ORC EPA
Rhett Nelson, ORC EPA
Krista McKim, NPDES

Barry Hildred, Aquila
Steve Donohue, Foth Engineering
Mike Kimmer, Foth Engineering
Dennis Donohue, Warner Norcross & Judd LLP
Jeff King, King-Macgregor

Meeting Purpose

Chris: we are here to go thru EPA comments and Aq response to those comments and try and resolve issues or identify issues where we can't resolve. It is MDEQ's permit; we cannot walk out of meeting saying that we are perfect because we have to talk with MDEQ; but we can talk about what issues we agree on; what type of conditions would be good in a permit; be clear on where we are stuck; or where we don't have enough information.
Reg: the overall purpose is information exchange; you are not advising us; we are not negotiating, we are discussing issues and ways to resolve them; we have to discuss with MDEQ;
Chris; he plans to facilitate and will be here as long as it takes.

1. **Project Description**

Melanie: Underground mining option; company said it's not part of this application and if it proceeds they would apply for a permit; it does come into play under the guidelines as cumulative impacts; there would be a longer life of mine that could result in an increase in drawdown from keeping the pit open longer.
Steve: they are required to disclose the mineral resources deeper, however, there are no plans to mine for them, don't know if there are economic benefits to this reserve.
Melanie; we are looking at if the project as foreseeable future; financial disclosure documents indicated that there are additional mineral resources and that there would be 16 years of mining.
Barry; there is no plan to mine these reserves
Dennis; this would be a major revision under 632
Steve; could put in a permit condition that indirect impacts be revaluated if underground mining is considered sometime in the future. Additional impacts to wetland and aquatic resources due to the additional drawdown shall be evaluated as part of the 5 year renewal process

Commented [MW1]: Permit condition

Site Plan: Melanie; substation/water management system, road alignment are all within the footprint but were not on the map in the wetlands application; are there ways to further minimize the impacts in the footprint and if we had a map of all the structures within the footprint it would be easier to tell if they minimized.
Steve: 4 main features in the footprint; fig 4 attachment 3.2,

1. Mine itself, the pit and slurry wall
2. 2 Waste storage areas; contact water basins, lined basins; one to south is waste rock in lined pits; north mine waste tailings area, lined and capped tailings facility; drainage features

pumping to the contact water basin; waste storage in N, water collection pumped to water basin; ore stockpiles; all water ends up in the contact water basin, either reused or sent to waste water and discharged to river.

3. Moving structures and water management becomes economically infeasible.

Steve; why don't they go to the state land east of the property; first they don't own it and second the transportation costs are too high to make the project likely for investors; Once they get to this point it is looking at minimization near the pit. DEQ is looking for more information on alternatives, specially the state land to the east.

Melanie; River Road, the county raised an issue that they have not received the termination notice; if the county road commission determines that the road needs to be moved and additional wetlands resources impacted, then should this be included in a permit condition. **Take this off the table**

Issues 1 and 5

- Minimization and avoidance within footprint is ok given the new information submitted by the company; this is now a DEQ issue
- County issue with River Road; county concerns about road termination issue is beyond the scope of the 404 permit review; if subsequent road project trigger 404 jurisdiction process will begin anew.

2. Menominee River Bank Stability/Erosion

Steve: Two documents; geomorphic analysis and engineering of slurry way and the flows evaluated that showed the toe of bank would be stable. They submitted construction plans to DEQ, monitoring plan. They believe that they responded to our comments; there are outstanding construction plans and monitoring that need to be submitted to the state.
Chris; what are we saying? Could this be put into a permit condition; We would defer to DEQ on the engineering/geotechnical analysis of the structural stability of the slurry wall.
Steve; DEQ would sign off on final design and monitoring related to the riverbank stability and slurry wall.

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3. Water Quality of the Menominee River

Melanie: NPDES permit was based on the old site plan and wondering how much that would change based on the new plan;
Steve: the footprint of the facility has changed but the basic waste management and water management from waste rock storage and other areas, none of this has changed. All these discharges will be captured and routed to the waste facility and either used in the process or discharged; nothing else has changed; waste rock will be amended with high grade lime; have to be amended under the 632 permit; once they get agreement with the wetlands permit, they can amend the 632 permit and will have to look at amended the NPDES permit due to stormwater and overburden stockpile moving to the SE side of the facility; has a stormwater outlet at that area; outfall going to river and treated water; the discharge limits would be the same;

Krista; will the water management diagram change?
Steve: will essentially be the same; all the tailings will go into one spot now but will be two facilities
Krista; will notify DEQ of the change
Steve: yes, they have had discussions with DEQ
Melanie; WQ is an issue under the 404b1 guidelines and need to know that these plans are done and incorporated into permit conditions
Wendy: is it typical to have the wetlands permit before amending the permit to mine?
Chris: Finalize 404 permit; revise 632 permit; "minor" (DEQ will determine if revision is minor or major) revisions to NPDES permit; no changes to water quantity or quality; they will work with DEQ on NPDES revisions.
NPDES and mine permit require the company to do a number of things with regard to water infrastructure; submit the pollution prevention plan; SWIP; SPCC; cyanide management plan; all of these plans are standard under NPDES like SWIP;
Krista; any changes to facility description need to be communicated to DEQ and they would determine whether or not changes to the permit are needed. **DEQ will determine**
Chris: how is this issue captured via the 404 permit? **DEQ** would incorporate the plans into a 404 permit conditions.
Melanie; monitoring plans for WQ; was this part of NPDES review
Krista; surface water requirements in NPDES similar to 632 permit; MDEQ agreed to what EPA asked to be put into the permit, wrt ambient monitoring; haven't reviewed the changes to permit so not sure if additional surface water monitoring is needed or if it has changed; controls on waste rock is the same;
Steve: DEQ added liner requirements on 632 permit; engineering features on liner and capping won't change; what will change is the location of monitoring wells around the facility; Under 632 there are two types of wells; leachate wells, gw monitoring at edge of facility; compliance monitoring wells outside of the footprint; wells that would catch leachate before discharging into wetlands;
Krista; when she was reviewing NPDES there was no gw discharge permit;
Steve; there is not gw discharge permit
Krista; if you detect leachate in the wells, what happens since you don't have a permit to discharge
Steve; would be like a landfill; confirming that there is no leakage coming from facility; if a leak occurred, it would go into remediation part under 632
Chris; clarifying that they don't expect to discharge to gw so didn't apply for a permit but they are monitoring for compliance to confirm;
Melanie; reclaimed mine; is the plan still to put waste rock into the pit after mining.
Steve: the plan is to amend the waste rock with lime; under 632 required to submit a final reclamation plan based on the monitoring information; hydro analysis of pit wall etc; final backfill plan would be completed under 632; required to submit an annual report to the DEQ that evaluates all the data collected on the site; all of the data factored into the final backfill plan; the plan is done before mining is completed because it has to be reviewed and approved by the state before they start backfilling; a year or two before that starts.
Melanie; the state still has concerns over the WQ from the rock that go into the pit;
Steve: tailings go into pit with liner; both tailings and waste rock will have residual sulfides so either put into pit and saturated or put into landfill with liner and cap it; waste rock has less surface area; Sandstone and glacial overburden; could have gw discharge to river thru the pit; compared to Flambeau River;

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Chris; we need to have a conversation with DEQ to determine if gw discharge to the river is an issue;
Steve: adaptive management plays a role with the backfill; condition the wetland permit to include this could be done.
Melanie, the state could come up with a condition but it is up to the state.
EPA/DEQ will talk ASAP to find out if this is a significant issue and if this would be a permit condition or how this could be resolved.
March 8 EPA letter to March 19 DEQ; FWS and DEQ were both concerned with this issue;
Reg: we are not in a place to remove our objection until talking with DEQ
Steve: one of things that is frustrating is defining the regulatory target that they are supposed to hit; dealing with different programs and levels of DEQ and federal agencies
Chris; has this issue been resolved with the 632 issue; they are wondering why this is coming up now and want to know that the parts of DEQ will get together and resolve this issue.

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4. **Secondary Wetland Impact Characterization**

Melanie: upland wetland term, ok with the explanation. What is the connection between the ground water and the wetlands; if they do a water budget for each wetland, that would resolve the issues; we would be satisfied with the water budget analysis; this would be the path forward, use these to come up with estimate of impacts from changes in hydrology.
Steve: asking for a map that shows; go back to show which wetlands are ground water connected and which ones are not. Based on monitoring data, they categorized some wetlands as SW or GW or SW/GW; wetlands within footprint; wetlands 14 and 15, direct impact would occur from filling, draining, or dredging; Wetland that are in the incised drainages they are saying that these are not connected to the gw; there seems to be a clay/silt layer that serves as a restricting layer with a unsat layer below it; modeled the wetlands, used conservative numbers for ET and runoff; wetlands will re-saturate in spring and dry out in the growing season. Working with DEQ on the water budgets;
King: Working with Mike Pennington, DEQ expert; modeling gw levels in wetlands; issues with infiltration/runoff numbers.
Categorized wetlands based on whether the wetlands contribute to gw; seepage out of wetlands; they showed that there would be no change to the peripheral wetlands and that they wouldn't be impacted by the mine; mitigation accounts for all direct and indirect impacts; part of adaptive management would be to supplement the wetland hydrology with water from the river if that is necessary. Impacts from pumping may not happen for a few years.
Melanie; the state disagreed with some of the inputs in the model before but they are revising these based on working with DEQ; State wants to be sure that there are no impacts to the property to the north.
Steve; the comments he has seen says that the indirect wetland impacts is indefensible; we said that some of the parameters may not be justified, runoff/infiltration,
Chris: is this an action item;
Melanie; we would want to see the approach used to determine indirect impacts;
Steve, is it the infiltration rate or is it the models? The model in the application is what we talked about before; Two issues on the table; 1) is the if the wetlands are connected to gw; this was addressed in appendix D 2) off site impacts, especially the ones to the north, "focused recharge"; is a path forward

with EPA would be for DEQ to tell EPA that there will be monitoring of hydrology, vegetation, and that these will be augmented thru adaptive management– this could be a permit condition

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Chris; are we saying that they need improved inputs to the model; the company.
Dennis; can EPA lift their objection before DEQ finishes the modeling;

Peter: we can resolve this by putting in a permit condition that would lead to adaptive management
Steve: when we go into a project like this we know that the project will receive scrutiny by regulators, etc; much of the work done was peer reviewed before being sent to the state by Tetra-Tech.

Chris: EPA to discuss terms and conditions with DEQ that addresses current uncertainty about input/modeling run which should be imminent. T&C would address possibility that number of acres indirectly impacted is higher than current estimate. Note: Also possible that we will get DEQ result soon enough to clarify issues-then T&C would address adaptive management/monitoring only.

Barry; can the company participate in the meeting with DEQ?
Chris/Wendy: after we have a discussion with the state first; after that, we could have a meeting with everyone.
Barry; concerned about the timing of when the state will issue the permit
Reg: we could meet with both DEQ and the company to resolve issues (after EPA has had a chance to discuss this meeting with DEQ)

Melanie: w/drawal of water from river; could not find the technical document that showed the 125,000 gal/day is not significant. This was a Corps concern; the company's response to this comment was this would be negligible.
Steve: the number comes from a preliminary estimation based on the cut- off wall; water flowing from river 60 cubic meters/hr=.6 cfs total gw inflow into the pit 1370 cfs total in river; the 125K calculation was with bentonite wall. **WILL REWRITE THIS; will send us DEQ response**

AQ- will send email updating/clarifying/supporting the withdrawal amount that it is negligible to the flow in the river.

Sump effects: went thru the response to the DEQ submittal and this issue is resolved. Pumps are pumping out from lined areas only.

Dust impacts to wetlands; 632 permit has dust management plans. Air permit has a fugitive dust plan; DEQ looked at deposition on sensitive receptors; the river and spring lake, part of the shaky lakes system. Part of the environmental impacts assessment. **Will add visual inspection of wetlands for dust accumulation to monitoring plan.**

5. **Alternatives Analysis- covered with project description**
6. **Wetland/Upland Preservation and Statutory Requirements**

Proposed mitigation site and amount; TBD on the amount depending on impacts; company needs to work it out with DNR; manage in perpetuity;

Melanie; they need indirect impact assessment to determine the amount of mitigation;
What happens if DNR doesn't work out; they do have potential backup
Peter: a permit condition that would give them time to get a land manager in place
King: Mitigation; understands that they have the other components before going over mitigation but will discuss it. Looking for mitigation sites; DEQ not at preservation only for mitigation
Melanie; FWS and Corps brought it up as comments. Looks like the preservation site along river is adequate; 294 acres of wetlands with 500+ acres
Dennis: they do have the mineral rights, unified mineral and surface title.
Melanie; will DNR be the title holder
King: was going to be a land exchange with the state; the mitigation lands will be gifted to DNR if they will take it; this has not been finalized yet.
Melanie; they need to put on a conservation easement; no ATVs, invasive management plan; DNR may not agree to all of these;
Dennis; DNR needs to go thru a process to take the land; the process has been started; he thinks that they are in good shape with the DNR taking ownership/stewardship of the site.
Chris: Melanie said that the mitigation site is ok; need to know what the actual wetlands impacts are before knowing how much mitigation is required. MDEQ requires a 10:1 mitigation.
Peter: so the site is acceptable for mitigation but the size of wetland impacts are subject to how many impacts. TBD
King: They have additional land that they could put into the package if necessary. Holding this back until necessary; mitigating for both direct and indirect impacts; uncertainty is with the indirect impacts.
Melanie: Stream restoration; FWS and Corps both mentioned that there should be a restoration component; have they considered culvert replacements or other type of restoration; Have to address it as part of the 301 permit
King: streams on site are not good; looking at sites for stream mitigation; asked Dave Anderson to look for further sites
Chris; Cathy asked why we are responsible for FWS/Corps comments;
Reg: explained statutory responsibility for including federal comments
King: can push back on the stream mitigation because site streams are of poor quality and the mitigation site streams are of high quality.
Melanie; has been on site and agrees that the streams are of higher quality
Peter: is there any way to compare what they are doing on mitigation/preservation?
King: yes, they did stream pyramid; talking to DNR about other structure removals.
Peter: can confer with DEQ to determine if the stream mitigation on the preservation area is adequate.

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7. **Response Letters:** DONE

8. **Adaptive Management**

For the adaptive management plan: Need additional information on reference wetland locations; making sure that the reference locations are in the right locations; want to do these on DNR sites. King, the permit could say that the plan will be done by a certain date as a condition; Want an appropriate site to develop performance standard; monitoring and piezometer locations, vegetation transects for monitoring sites; threshold for trigging the adaptive management plan. FQA

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Threshold issues; proposal is 6 inches of drawdown would trigger some action; looking for DEQ input on what is the appropriate threshold; inter-well comparison between reference sites;
Peter: is putting water into the system instead of finding additional mitigation.

9. **T&E/Cultural Resources;**

They addressed the issues with the Northern Long Eared Bat and lake surgeon. Because the site expanded, was cultural resources considered during this; YES

Process: Chris asked after the break if everyone is ok with the progress and how it's going. Company concerned with the timeline and the time it takes to resolve our issues to lift a federal objection. Chris said this will be done quickly and staff will get in touch with the state.
Reg: our objection is to DEQ and the resolution of the objection has to come from DEQ so unless the information you tell us gets incorporated into a permit, we can't lift our objection.
King; It is not up to the PM Christy Wilson to determine what is adequate for the 632; she is the one writing the permit and will need to incorporate the info into the permit
Reg: EPA needs confirmation from DEQ that conditions are put into the permit. EPA just can't assume that the state is resolving the issues. This type of meeting is rare; our role is to deal with DEQ and DEQ's role is to work with the company; in this case the RA agreed to this meeting but it doesn't change the way we deal with the state on this type of permit
Dennis: recommends that Theresa Sidel and Al Fitch be included; she would make the policy decision; Chris said he would be happy to call her and that Peter would call Kim Fish. One of things we have heard is that there may be communication issues at the state
Reg; EPA does not tell DEQ what to put in the permit but we tell them that they have to do this to be equivalent to a federal permit; we can't write the permit for them.

Followup
Chris: the company is concerned about timelines and the time DEQ has to make a permit decision; EPA will follow up with DEQ right away; Chris will call Theresa Sidel today to let her know that we had this meeting; Melanie to follow up with Kristy, Peter to follow up with Kim. We will have conversations with DEQ to develop permit conditions and to put in the information that will meet the federal minimum; if they add more stringent conditions, that is up to them. We do not want to get this done at the 11th hour; we want to move this as quickly as possible. Barry can call Chris if he is concerned about deadlines.