

On Aug 27, 2013, at 1:37 PM, "Daniel Bobzin" <dbobzin@brieserconstruction.com> wrote:

Hi.

Leak location test will be tomorrow. Leak location services (Thane) will be on site tomorrow at 6:30am. With that being said, Jeff he will need training tomorrow.

Thanks

Dan

Sent from my iPhone

----- Forwarded by Jeffrey Beaudry/WillCounty/EMG/EIX on 07/23/2014 07:44 AM -----

"Eric J. Tlachac" <etlachac@naturalrt.com>

09/09/2013 04:54 PM

To Rebecca Maddox <rmaddox@mwgen.com>,

cc Jeffrey Beaudry <jbeaudry@mwgen.com>, Joseph Ridgway <jridgway@naturalrt.com>, Ryan Baeten <rbaeten@naturalrt.com>

Subject RE: Leak Location Survey for 2S Pond at MWGen - Will County

Beckie – we are following up with Brieser’s leak location subcontractor directly on this and will get back to you ...

in the interim, it is important to point out that it would not have been possible to even perform the survey on the bottom of the pond without leaving the top two rows of geocell empty ... the top of the liner needs to be electrically isolated from the bottom, and this was the only way to accomplish that. Moisture needs to be absent somewhere along the perimeter of the pond to create an electrical “break”, and there was no place to accomplish this further in from the perimeter since the cushion and warning layers overlap the geocell at the bottom of the slopes. This electrical “break” is obviously easier to accomplish when the side slopes of the pond are exposed (exposed liner provides electrical “break”), but a trench still needs to be excavated across the ramp where there is a continuous layer of soil from top to bottom and the potential for moisture within the soil to conduct electricity through that layer.

Also, can you provide some further information on your inspection requirement? We have a copy of the CCA for Joliet, but not for Will County or Powerton (at least not that I could locate in our project directory), and that CCA references a visual inspection requirement, most likely because all of the permit applications submitted up to the time of that CCA being issued had exposed side slopes. I think that the concrete-filled geocell at Will Co Pond 2 changes things a bit, and it may be worth a follow-up with IEPA to confirm the intent of the inspections. If they’re confident that some sort of cover on the geomembrane, whether it be aggregate or concrete, will adequately protect it, they may release that particular pond from the inspection requirement. If not, one could still visually inspect the concrete-filled geocell following dredging for any disturbance, but you can obviously be confident that the potential for this is a lot lower than where there are exposed side slopes.

Eric J. Tlachac, PE

Natural Resource Technology, Inc.

234 W. Florida Street, Fifth Floor

Milwaukee, Wisconsin 53204

414.837.3541 direct | 262.719.4526 cell

414.837.3607 phone | 414.837.3608 fax

etlachac@naturalrt.com | www.naturalrt.com - Celebrating 20 years in business – Join us for our Milwaukee open house. See our website for more details.

Smarter Solutions, Exceptional Service, Value

From: Rebecca Maddox [<mailto:rmaddox@mwgen.com>]

Sent: Monday, September 09, 2013 3:21 PM

To: Eric J. Tlachac; Joseph Ridgway

Comp. Ex. 305

MWG13-15_27130

Cc: Jeffrey Beaudry

Subject: Leak Location Survey for 2S Pond at MWGen - Will County

Eric or Joseph -

Can you clarify this issue that the leak location surveyor noted in the final report? I thought that the leak detection WAS going to be able to go through the concrete; hence the reason the top two rows of geocell were not filled until after the survey. I seem to recall discussing this topic. Is there going to be any way to certify there are no leaks of the membrane on the slopes?

Moving forward, we will need to determine that the liner has not been compromised during cleanout. Is this leak location company able to perform their tests once a majority of the bottom ash is dredged from the pond? Could you provide some guidance on how to test the liner to ensure that it is still intact? We are required by IEPA as part of the CCA to perform an annual inspection on the liner and the only way this will work now is to inspect to top of the liner that really hasn't seen a lot of ash. We wouldn't be able to inspect the bottom due to 1) the warning and cushion layers and 2) any remaining ash and/or water that is at the bottom of the pond.

If you could clarify, I'd appreciate it. We are hoping to put this 2S pond back in service within the next couple of weeks.

Thanks.

C. Cement Lined Slopes

The cement lined slopes of the South Ash Pond No.2 could not be surveyed because the cement slurry has a much higher resistance than that of the moist soil covered floor area. Even saturating the cement slurry will not resolve this condition. Since electricity follows the path of least resistance, most of the current will flow from the center of the cell and through any leaks in the geomembrane. If no leaks exist in the geomembrane, the current will dissipate through the surface of the cement and into earth ground or any other electrically grounded paths. The distance the current must travel, from the top of the cement all the way through to a leak beneath the soil is too far. It is possible that current will travel through the soil cover in the center of the cell and beneath the cement and into an actual leak, but the ability to get a high current density reading caused by a leak from on top of the cement slurry is not feasible. It is for these reasons that the survey could not be performed on top of the cement slurry.

Beckie Maddox
Midwest Generation
Edison Mission Energy

Bolingbrook Office
630-771-7957

Will County Station
815-372-4589 - office
815-355-5819 - cell

This transmittal contains privileged and confidential information belonging to the sender. This information is intended only for use of the individual or entity named above. If the reader of this message is not the intended recipient or the employee or agent responsible for delivering the message to the intended recipient, you are hereby notified that any disclosure, dissemination, copying, or distribution of this communication is strictly prohibited.

----- Forwarded by Jeffrey Beaudry/WillCounty/EMG/EIX on 07/23/2014 07:44 AM -----

"Eric J. Tlachac" <etlachac@naturalrt.com>

09/12/2013 10:09 AM

To: Rebecca Maddox <rmaddox@mwgen.com>,
cc: Jeffrey Beaudry <jbeaudry@mwgen.com>
Subject: RE: Leak Location Survey for 2S Pond at MWGen - Will County

OK, thanks for following up to let me know your direction on this ...

Eric J. Tlachac, PE

Natural Resource Technology, Inc.

234 W. Florida Street, Fifth Floor

Milwaukee, Wisconsin 53204

414.837.3541 direct | 262.719.4526 cell

414.837.3607 phone | 414.837.3608 fax

etlachac@naturalrt.com | www.naturalrt.com - Celebrating 20 years in business – Join us for our Milwaukee open house. See our website for more details.

Smarter Solutions, Exceptional Service, Value

From: Rebecca Maddox [<mailto:rmaddox@mwgen.com>]

Sent: Thursday, September 12, 2013 10:00 AM

To: Eric J. Tlachac

Cc: Jeffrey Beaudry

Subject: RE: Leak Location Survey for 2S Pond at MWGen - Will County

Thanks Eric for the follow-up. We are going to move forward with putting 2S in service. If there is ever an issue with this, Jeff and I both agree that we have the analysis for the seams and those all passed. So that will be our b/u documentation. Also, moving forward, once we do our first cleanout next year and the concrete looks suspect, we will re-evaluate.

Beckie Maddox
Midwest Generation
Edison Mission Energy

Bolingbrook Office
630-771-7957

Will County Station
815-372-4589 - office
815-355-5819 - cell

This transmittal contains privileged and confidential information belonging to the sender. This information is intended only for use of the individual or entity named above. If the reader of this message is not the intended recipient or the employee or agent responsible for delivering the message to the intended recipient, you are hereby notified that any disclosure, dissemination, copying, or distribution of this communication is strictly prohibited.

"Eric J. Tlachac" <etlachac@naturalrt.com>

09/11/2013 01:54 PM

To Rebecca Maddox <rmaddox@mwgen.com>

cc Ryan Baeten <rbaeten@naturalrt.com>, Joseph Ridgway <jridgway@naturalrt.com>

Subject RE: Leak Location Survey for 2S Pond at MWGen - Will County

Beckie – as you may have noticed, the revised report was transmitted via e-mail by Aron Yakima with Brieser a little while ago (attached for convenient reference) ...

After reviewing the revisions to Part IIC of the report (Concrete-Lined Slopes), we still question the technical reasoning provided for why the slopes couldn't be evaluated and believe that it would have been good to confirm these during their survey of Pond 2. This didn't occur, but they do reference that they have confirmed it on other projects. Consequently, it appears that it will not be possible to certify that there are no leaks in the geomembrane on the side slopes of Pond 2 using this approach (electrical resistivity testing).

Where did you wind up with IEPA on the scope of the inspections?

Eric J. Tlachac, PE

Natural Resource Technology, Inc.

234 W. Florida Street, Fifth Floor

Milwaukee, Wisconsin 53204

414.837.3541 direct | 262.719.4526 cell

414.837.3607 phone | 414.837.3608 fax

etlachac@naturalrt.com | www.naturalrt.com - Celebrating 20 years in business – Join us for our Milwaukee open house. See our website for more details.

Smarter Solutions, Exceptional Service, Value

From: Eric J. Tlachac

Sent: Wednesday, September 11, 2013 12:55 PM

To: 'Rebecca Maddox'

Cc: Ryan Baeten (rbaeten@naturalrt.com); Joseph Ridgway (jridgway@naturalrt.com)

Subject: RE: Leak Location Survey for 2S Pond at MWGen - Will County

Beckie – FYI on the status of this ... I have Ryan Baeten following up on this for me since he has actually performed these surveys for a previous employer, and thus is in a better position than I to follow up on this specific issue. He did hear back from the leak location subcontractor late yesterday around the time of my e-mail below, but he and I just hadn't connected yet when I sent my e-mail below.

Anyway, the subcontractor, Leak Location Services Inc. (LLSI), indicated that they had passed our question to their most senior technical person to address, and the result was that they were either going to, or had, revised their report. However, they did not include a copy of the revised report in that response, so Ryan replied immediately requesting that. He followed up with their senior technical person by phone a little while ago, and that contact committed to sending Ryan the revised report. We're not sure whether that will be today yet or not, but will follow up again tomorrow morning if not.

I would have had Ryan send this to you directly, but he is in the field for another project (replacement of the liner in Pond 3 at Joliet, actually). However, he can monitor his e-mail via his smartphone, and understands the time-sensitive nature (you are holding on putting Pond 2 back into service until this is resolved), which he also communicated to LLSI, so will pass along whatever he receives when he receives it ...

Eric J. Tlachac, PE

Natural Resource Technology, Inc.

414.837.3541 direct | 262.719.4526 cell

From: Eric J. Tlachac

Sent: Tuesday, September 10, 2013 4:20 PM

To: 'Rebecca Maddox'

Subject: RE: Leak Location Survey for 2S Pond at MWGen - Will County

Understood on confidentiality of CCAs, Beckie ... thanks for sharing them.

If there's any additional input we can provide on the inspections, let me know. It would be possible to do periodic leak location surveys whenever the ponds are dredged, but there would obviously be some effort (to create the electrical "break" I refer to below, especially with Pond 2 due to the geocell) and cost (surveyor's time) associated with that ... certainly more so than a visual inspection. Although, I'm not sure how valuable that would be. It appears from the CCAs that the ultimate metric is groundwater quality. The leak location surveys would only be valuable to demonstrate integrity of the liners, if it were called into question.

We have not yet heard back from the leak location subcontractor, but are continuing to pursue them on the side slope issue for Pond 2. We understand that this is holding up return of Pond 2 to service, and obviously need to address this as soon as possible ...

Eric J. Tlachac, PE

Natural Resource Technology, Inc.

234 W. Florida Street, Fifth Floor

Milwaukee, Wisconsin 53204

414.837.3541 direct | 262.719.4526 cell

414.837.3607 phone | 414.837.3608 fax

etlachac@naturalrt.com | www.naturalrt.com - Celebrating 20 years in business – Join us for our Milwaukee open house. See our website for more details.

Smarter Solutions, Exceptional Service, Value

From: Rebecca Maddox [<mailto:rmaddox@mwgen.com>]

Sent: Tuesday, September 10, 2013 2:54 PM

To: Eric J. Tlachac

Subject: RE: Leak Location Survey for 2S Pond at MWGen - Will County

Eric -

CCA's for POW and WC. I'll contact IEPA and see if they can provide any guidance for the inspection....it does say visual during ash removal process.

Let me know the progress on contacting the leak location person. Operations is eager to put 2S in service but I'm having them hold off until we get the green light from NRT. If there is additional work we need to do, I'd rather have a pond that's dry and not in use.

Please keep these agreements w/in NRT. Not for any other use.

Beckie Maddox
Midwest Generation
Edison Mission Energy

Bolingbrook Office
630-771-7957

Will County Station
815-372-4589 - office
815-355-5819 - cell

This transmittal contains privileged and confidential information belonging to the sender. This information is intended only for use of the individual or entity named above. If the reader of this message is not the intended recipient or the employee or agent responsible for delivering the message to the intended recipient, you are hereby notified that any disclosure, dissemination, copying, or distribution of this communication is strictly prohibited.

"Eric J. Tlachac"
<etlachac@naturalrt.com>

09/09/2013 04:54 PM

To Rebecca Maddox <rmaddox@mwgen.com>
cc Jeffrey Beaudry <jbeaudry@mwgen.com>, Joseph Ridgway <jridgway@naturalrt.com>, Ryan Baeten
<rbaeten@naturalrt.com>
Subject RE: Leak Location Survey for 2S Pond at MWGen - Will County

Beckie – we are following up with Brieser's leak location subcontractor directly on this and will get back to you ...

In the interim, it is important to point out that it would not have been possible to even perform the survey on the bottom of the pond without leaving the top two rows of geocell empty ... the top of the liner needs to be electrically isolated from the bottom, and this was the only way to accomplish that. Moisture needs to be absent somewhere along the perimeter of the pond to create an electrical "break", and there was no place to accomplish this further in from the perimeter since the cushion and warning layers overlap the geocell at the bottom of the slopes. This electrical "break" is obviously easier to accomplish when the side slopes of the pond are exposed (exposed liner provides electrical "break"), but a trench still needs to be excavated across the ramp where there is a continuous layer of soil from top to bottom and the potential for moisture within the soil to conduct electricity through that layer.

Also, can you provide some further information on your inspection requirement? We have a copy of the CCA for Joliet, but not for Will County or Powerton (at least not that I could locate in our project directory), and that CCA references a visual inspection requirement, most likely because all of the permit applications submitted up to the time of that CCA being issued had exposed side slopes. I think that the concrete-filled geocell at Will Co Pond 2 changes things a bit, and it may be worth a follow-up with IEPA to confirm the intent of the inspections. If they're confident that some sort of cover on the geomembrane, whether it be aggregate or concrete, will adequately protect it, they may release that particular pond from the inspection requirement. If not, one could still visually inspect the concrete-filled geocell following dredging for any disturbance, but you can obviously be confident that the potential for this is a lot lower than where there are exposed side slopes.

Eric J. Tlachac, PE

Natural Resource Technology, Inc.

234 W. Florida Street, Fifth Floor

Milwaukee, Wisconsin 53204

414.837.3541 direct | 262.719.4526 cell

414.837.3607 phone | 414.837.3608 fax

ettlachac@naturalrt.com | www.naturalrt.com - Celebrating 20 years in business -- Join us for our Milwaukee open house. See our website for more details.

Smarter Solutions, Exceptional Service, Value

From: Rebecca Maddox [<mailto:rmaddox@mwgen.com>]

Sent: Monday, September 09, 2013 3:21 PM

To: Eric J. Tlachac; Joseph Ridgway

Cc: Jeffrey Beaudry

Subject: Leak Location Survey for 2S Pond at MWGen - Will County

Eric or Joseph -

Can you clarify this issue that the leak location surveyor noted in the final report? I thought that the leak detection WAS going to be able to go through the concrete; hence the reason the top two rows of geocell were not filled until after the survey. I seem to recall discussing this topic. Is there going to be any way to certify there are no leaks of the membrane on the slopes?

Moving forward, we will need to determine that the liner has not been compromised during cleanout. Is this leak location company able to perform their tests once a majority of the bottom ash is dredged from the pond? Could you provide some guidance on how to test the liner to ensure that it is still intact? We are required by IEPA as part of the CCA to perform an annual inspection on the liner and the only way this will work now is to inspect to top of the liner that really hasn't seen a lot of ash. We wouldn't be able to inspect the bottom due to 1) the warning and cushion layers and 2) any remaining ash and/or water that is at the bottom of the pond.

If you could clarify, I'd appreciate it. We are hoping to put this 2S pond back in service within the next couple of weeks.

Thanks.

C. Cement Lined Slopes

The cement lined slopes of the South Ash Pond No.2 could not be surveyed because the cement slurry has a much higher resistance than that of the moist soil covered floor area. Even saturating the cement slurry will not resolve this condition. Since electricity follows the path of least resistance, most of the current will flow from the center of the cell and through any leaks in the geomembrane. If no leaks exist in the geomembrane, the current will dissipate through the surface of the cement and into earth ground or any other electrically grounded paths. The distance the current must travel, from the top of the cement all the way through to a leak beneath the soil is too far. It is possible that current will travel through the soil cover in the center of the cell and beneath the cement and into an actual leak, but the ability to get a high current density reading caused by a leak from on top of the cement slurry is not feasible. It is for these reasons that the survey could not be performed on top of the cement slurry.

Beckie Maddox
Midwest Generation
Edison Mission Energy

Bolingbrook Office
630-771-7957

Will County Station
815-372-4589 - office
815-355-5819 - cell

This transmittal contains privileged and confidential information belonging to the sender. This information is intended only for use of the individual or entity named above. If the reader of this message is not the intended recipient or the employee or agent responsible for delivering the message to the intended recipient, you are hereby notified that any disclosure, dissemination, copying, or distribution of this communication is strictly prohibited.

----- Message from Aron Yakima <ayakima@brieserconstruction.com> on Wed, 11 Sep 2013 18:30:25 +0000 -----

To: "Daniel Bobzin" <dbobzin@brieserconstruction.com>, "Eric J. Tlachac" <etlachac@naturalrt.com>, Joseph Ridgway <jridgway@naturalrt.com>, j Sault <JSault@mwgen.com>, Jeffrey Beaudry <jbeaudry@mwgen.com>, Ryan Baeten <rbaeten@naturalrt.com>, rmaddox <RMaddox@mwgen.com>
cc: "glenn@llsi.com" <glenn@llsi.com>

