

## Item 23-0657: AWWTP Polymer Incident Update

### Utilities Committee

Tue, Jun 13, 2023, 4:30PM

#### **Aldersperson Vered Meltzer (District 2)** 11:49

All right. Next 23-0657 the Appleton Wastewater Treatment Plant polymer incident update. Director Shaw, go ahead.

#### **Director Chris Shaw (Utilities)** 11:59

Thank you. So, this is for the committee members that weren't committee members probably. Just don't—if you don't mind me giving a small update or previous update and then where we are currently.

#### **Director Chris Shaw (Utilities)** 12:10

So back in December of—well, December 26, the day after Christmas of last year, we had a polymer incident where a truckload of polymer was offloaded into hauled waste tanks. The hauled waste tanks then were fed to our anaerobic digesters. Well, that material is the—not meant for that for that treatment process. It's the exact opposite of what we want to do in that, in that, or in those vessels, those digesters. So, what ended up happening is the polymer worked; it was about four months' worth of product, and it gelled up the digesters. I'll just put it that way. There's a million pounds of material and 2.2 million gallons worth of liquid, and it either settled the solids or it made them float. And so that became very problematic. They became inoperative and we had to take them out of service within 24 hours so that we didn't have a problem with actually discharging to the river.

#### **Director Chris Shaw (Utilities)** 13:06

So that all did occur with regulatory approval. An EOC was formed right away. And we bypassed the digesters within 48 hours. So that occurred.

#### **Director Chris Shaw (Utilities)** 13:19

We had lost the hauled waste tanks as part of that. We didn't address that immediately. Our initial impetus to do something was to get it, uh, Wisconsin Administrative Approval, regulatory approval, for the digesters. That's a process that's integral into our WPDS permit. I'm probably getting into this a little bit too much. But we're licensed to do certain things, and not having those digesters operative means something.

#### **Director Chris Shaw (Utilities)** 13:49

Okay, so we did get the digesters back. We had them back on January 10. We then switched efforts and resources towards the contaminated tanks. We got those operational. By the 17th we had half of the hauled waste program back, and by the 23rd of January—excuse me this is January—we had all of the hauled waste program back. And in that time, we didn't have—even though there was like an environmental release—Public Works came to our aid and made sure that we didn't discharge any contaminants to the river. One of the digesters, actually—it came out and over the over the vessel.

#### **Director Chris Shaw (Utilities)** 14:24

So, we didn't have any safety issues as well. Regulatory—we were, we were concerned about not meeting our permit, but we actually ended up meeting our permit. Permit—the permit goes by analytical results, and our water treatment plant actually discharges a number of lime residuals. So that's to soften the water; we increase the pH. We do that with lime, then we remove the lime. The lime goes to the wastewater treatment plant. Well,

that is very alkaline and not good for fecal organisms, which is what we measure. So, we actually met the regulatory requirements within our WPDS permit.

**Director Chris Shaw (Utilities) 15:00**

We had an issue on the financials. And that all came out in February. So, you can go to the February report, but there was the loss of the hauled waste program for like the four—well, three and four weeks because we introduced it, we stepped it back into existence, if you will. So that happened.

**Director Chris Shaw (Utilities) 15:22**

Now, as part of that, we did have an insurance claim, and I'm starting to get into the update now. There was \$55,000 of property damage because of the release that I just talked about to the digesters. We were having these gas events—excess gas events. And so that popped the lid. And so, an elevator was damaged. A—there was some cleaning, some instruments. Obviously, we have gas monitoring instruments, fire instruments. And that was all covered under the property. So that was—\$56,000 was covered. So that's less.

**Director Chris Shaw (Utilities) 15:58**

We also concluded our investigative effort. The investigative effort looked at root causes. So, we're implementing a number of those. There's a report to the mayor, that identifies a number of things from staff training to signage to, let's see, chemical offloading. Although this wasn't a chemical offloading event, we've increased the chemical offloading. There is a training that happens annually and a whole report on that, but now we're going to actually permit that activity. So, there'll have to be an exchange have a permit, a signed permit, similar to what we do with a number of our safety programs where you're not permitted to do something until you have a permit. So, the chemicals that are discharged at the wastewater treatment plant and the water plant will both be permitted now.

**Director Chris Shaw (Utilities) 16:46**

We finished our EOC after-action report, and that's an assessment of the EOC after that's done. So, the EOC was the Emergency Operation Center that was put in place immediately. And there was a number of departments, and we also had had to outsource an engineer and a specialty company for the for the polymer—to know kind of what to do with the polymer. Because something like this, there's nothing in the literature that would have guided us on this. We contacted the polymer company or the flocculant company right away, and they didn't have any help.

**Director Chris Shaw (Utilities) 17:22**

So, we had to do lab testing, jar test—what's called bench testing or jar testing. Do it in a little micro, you know, at the bench to see what it would do on a large scale. And so that's how we, we got the resuspension of the million pounds of digester solids to resuspend and that sort of thing. So that occurred.

**Director Chris Shaw (Utilities) 17:42**

And that really brings us up to date. I would recommend looking at the January and February memos on the incident. And then the—there's also a financial spreadsheet that shows exactly where the dollars went. The only thing that's not in there is the MPIC of the insurance company's \$56,000. That was—that that claim was awarded back to the city. So.

**Aldersperson Vered Meltzer (District 2) 18:10**

Thank you. Any comments or questions from the committee here? Aldersperson Doran.

**Alderman Chad Doran (District 15) 18:17**

Thank you. There was a third-party investigation being done as well. Is that—is that wrapped up and is that something—are any of these reports gonna be brought forward to the committee?

**Director Chris Shaw (Utilities) 18:28**

Yep. What I just mentioned that actually were a number of it. So, signage, plant safety, communication at the gate, we have—so I'll bring up one issue. The gate, the gate itself, the security gate—we have perimeter security, there's a gate, and then all the buildings are locked down. That gate, the operator has 20 seconds to be able to communicate. And we found that to be a deficiency to be able to have—and then they'll hang up, and then the operator can't call back the gate. Well, we need a more robust security system that allows us to communicate internally at the facility, not just 7 to 3 during business hours where we have somebody dedicated to answering those kinds of calls.

**Director Chris Shaw (Utilities) 19:08**

When you look at the totality, there's over 10,000 visitors to our plant that go through that gate. And so, we do have chemicals, and biosolids, and hauled waste that come in after hours. So, we have to be able to manage that, and not having the ability to communicate with a truck driver at the gate and having somebody leave their duties or whatever—that's what occurred here. But I mean, that's just a deficiency. That should be corrected. If we're receiving 10,000 vehicles per year, we're collecting \$2.5 million, and we don't have any staff or resources to be able to do what a Ring doorbell can do at a private residence. You know, I mean, that's so—so there's those issues.

**Director Chris Shaw (Utilities) 19:48**

There was the signage that I mentioned. Even though this is a hauled waste station, there wasn't signage at that. There's signage at all the chemical offloading stations and operational procedures and everything for all the chemical offloading, but there wasn't anything for our stations, even though they're containment, they're barricaded, and all of that kind of thing. So, there's those types of things. So, we looked at—we didn't, the investigative teams looked at the root causes, and, and all of those elements are being addressed.

**Alderman Chad Doran (District 15) 20:14**

Good. Thank you. And I guess I just was just curious if those reports are going to be on an agenda for the committee in the future or not.

**Director Chris Shaw (Utilities) 20:22**

That was what I was trying to do here. I can do something more, I guess. I can look at, um, contact the attorney or...?

**Attorney Amanda Abshire (City Attorney) 20:35**

At this time, I don't know that there's a formal document that would that was intended to be provided. I will say that there—our insurance company, as Chris indicated, is involved. Third party subrogation and/or litigation might be also something that could also be happening. So certainly, we can have those conversations, or maybe that might be something we can talk about.

**Alderman Chad Doran (District 15) 21:05**

Okay. Thank you.

**Alderson Vered Meltzer (District 2) 21:05**

Thank you. Any other comments or questions? I'm glad to hear that that insurance claim came through. And thank you again, for all the hard work that your department has been doing. I think that, you know, this could have been a much bigger incident, and to have everything back up and running in less than 30 days is really amazing. Are there any ongoing issues remaining that we're continuing to work on as far as any repairs or adjustments?

**Director Chris Shaw (Utilities) 21:40**

Right, that's, that's phase one. And I should mention, because this does occur, the tanks do have to come out of service. So, when they do, we're going to lose the revenue. We lost 20 days for one hauled waste and 26 for the other, whatever it is. I can't do the balance in my head right now. But when it comes down, they come down for like six months. So, it's millions of dollars, when we take these down for maintenance. I just want to make everybody aware of that. It has to occur in time. It's part of the maintenance requirements.

**Director Chris Shaw (Utilities) 22:08**

We've—I talked a little bit back in February, we're maybe a victim of our own success. We've ventured out and taken advantage of our excess capacity. And I talked about that a lot. Most treatment facilities don't do that. Green Bay has half the program that we have, while they have three times the size of a facilities because they're metropolitan sewerage district, not because of their population.

**Director Chris Shaw (Utilities) 22:31**

So, since 2014, we've increased the program by 150%. That's taken our excess capacity, though. So normally, we have to have capacity. So, it allows us to take one down, but because we're using our excess capacity and receiving those revenues, we'll have to take it out of service, we'll have to lose the hauled waste program for that period—six months to a year. So, it's just something that—we've benefited a great deal, and I think we've become accustomed to it. We have been in our rates, obviously because they've taken on a great portion of revenues. And when they do that, it offsets what ratepayers—Appleton ratepayers actually have to pay. I think the ratepayers in Appleton actually pay 40% of the utilities expenses, and then the rest is covered by hauled waste and then obviously, you know, our commercial, [indecipherable] our large industries, the significant industrial users.

**Alderson Vered Meltzer (District 2) 23:26**

Thank you.

**Director Chris Shaw (Utilities) 23:28**

It's just—oh, and then—I'm sorry. What are we doing? Yeah, so we do have the products. We do have about 75 to 85,000 gallons of that material that we purged out of the system. Remember, the first couple of weeks, we were trying to get the digesters back online, but we had this material in our arteries, so to speak, and that had to all be purged. So, we had to get contractors—like August Winters, our own staff—to be able to purge it out. Well, we did purge it all out, and we isolated into a tank that wasn't being used. So now we have to destroy that product over time. And it'll take a long time to do that. And we're in the process of doing that.

**Director Chris Shaw (Utilities) 24:05**

There's not really an expense to that. We're going to be utilizing existing equipment, and tankage. But it'll take time. So that's going to be phase B, right? So—and I'll report out on that as we don't have the time to dedicate resources right now. It's fine where it is. We just don't—we're, we're, if you read the synopsis, we're down 20% in our operations. We just don't have staff availability. We're cutting back on other things. And this is a

discretionary event since it's been isolated, you know. We want to get rid of it, but it's just not a priority at this time. But we will get rid of it. Thank you.

**Alderson Vered Meltzer (District 2) 24:45**  
Thank you.