

Wastewatcher
Summer Issue 04'
Cover Story

No, you are not looking at a broken down dilapidated building. You are not looking at tornado damage. The picture on the cover is the Aurora Wastewater Treatment Plant... or what is left of it.

On May 5, 2004, Aurora was rocked by an explosion. The blast collapsed the control room of the Wastewater Treatment Plant (WWTP). Luckily, no one was in the building at the time of the explosion. City employees were in the control room a short time before the blast. An Aurora city councilor felt the explosion over a mile away.

The following is an excerpt from the MPCA response report on this incident, as filed by Deb Lindlief:

An explosion occurred at the Aurora WWTP plant ~1:20 p.m. on 5/5/04. The city clerk called MPCA at 1:30 p.m. to report the WWTP was destroyed. Jeff Udd and I arrived in Aurora ~3:30 p.m. The WWTP wasn't destroyed, but the Operations Bldg. (Ops. Bldg.) was. The cause of the explosion was still unknown as of 6:30 p.m. yesterday (5/5/04). No one was injured in the explosion. The two operators, Wayne Thuringer and Luke Heikkila, left the WWTP about 15 minutes prior to the explosion. Several houses near the WWTP were evacuated.

The Ops. Bldg. housed power for the WWTP's clarifiers and aeration tank, some pumps, pump controls, chlorine tanks, lab, office, etc. and was attached to the anaerobic digester. The WWTP was in the process of transferring biosolids from the digester to the supernatant tank in order for the biosolids to be transported to Hoyt Lakes for treatment. The WWTP was to have installed equipment to apply lime to the biosolids.

The explosion caused a power outage through the WWTP's secondary treatment processes. The WWTP operators and Public Works Director, Chris Vreeland, arrived shortly after the explosion, along with the fire department. There was a small fire, but the biggest fear was a chlorine explosion. The WWTP staff quickly shut down all power and shut off the chlorine tanks.

By the time of our arrival, the WWTP staff and fire department were waiting for the Duluth HazMat team to arrive and make sure there was no chlorine leak. Homeland Security staff from the Duluth region arrived shortly after we did and the HazMat team arrived about 20 minutes later. They investigated and found no chlorine leak.

The City already had a plan in mind in order to start treating waste as soon as possible. They needed a 400 gpm pump to lift 15' to push the primary treated wastewater from a point outside the Ops. Bldg. to the aeration tank. The wastewater would gravity flow from that point through the rest of the treatment plant. The plan was to restore power to the clarifiers and aeration tank as soon as possible electricians were already on-hand,

waiting for the HazMat team all-clear), locate a pump (a 300 gpm pump from St. Louis County arrived by ~5 p.m.), and re-start the treatment process by this morning. The plan is to convert the de-chlorination building to a chlorination building, in order to provide some disinfection. I believe this will happen within the next few days; however, the effluent will not be disinfected until that occurs. End of Excerpt.

Chris Vreeland, Aurora Public Works Director, reported that the WWTP was back on line on May 6, 2004. This included tertiary filters and chlorination. They did not believe any digester biosolids were displaced, only that the cover sank into the biosolids. In addition, they were receiving assistance from the Vermilion Community College in Ely and the Hoyt Lakes WWTP. Investigators were still on site at that time and the WWTP staff could not begin rehab work until the investigation was complete.

The official ruling on the cause of the blast is that an empty sludge line allowed methane gas to leak into the main control building at Aurora's WWTP. Public Works Director Chris Vreeland said at an emergency City Council meeting Friday that the State Fire Marshall had worked with local authorities that morning to uncover the cause of the blast.

"Any of the electrical equipment could have sparked and caused the volatile methane gas to explode," Vreeland said.

After looking at the plant's design, officials determined that the empty sludge lines had been a problem since they were installed.

"We've just been lucky all these years," Vreeland said.

Thanks to Deb Lindlief for providing information and pictures for this article.