

Ethanol plant, city in court

Heartland accused of releasing toxic wastewater; plant officials deny charge

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Whether wastewater released from an Aberdeen ethanol plant in June was toxic will determine if it violated the terms of a one-year probationary period.

While the case concerning Heartland Grain Fuels sounds simple, the science that will determine its outcome is complex.

City officials contend Heartland's plant released toxic wastewater on June 18. Heartland contends those test results were flawed and the water was not toxic. Federal Judge Charles Kornmann, who heard arguments Monday concerning the case in U.S. District Court in Aberdeen, will have to decide which side is right.

On April 1, Heartland was placed on probation, fined \$40,000 and ordered to pay \$158,143 to the city so it could purchase water monitoring equipment.

The penalty was the result of the plant's admitting to violating stipulations of the federal Clean Water Act in 1999. In essence, Heartland knowingly released large amounts of ethanol into the city's wastewater treatment plant, causing it to violate the terms of federal permits.

As the result of that case, the city tightened permit stipulations that govern the ethanol plant on the west side of town. The plant can't release as much wastewater as it did before and what is released can't be as concentrated.

One factor complicating the current case is that the plant conducts more than one type of test. One, called the chemical oxygen demand test or COD, is conducted on the site. Another, called a biochemical oxygen demand test or BOD, is sent to a laboratory in North Dakota.

Heartland officials contend that the COD is an indication of BOD levels. Plant guidelines prevent the release of wastewater into the city sewage system if the COD level is greater than 700 milligrams per liter.

There is no contention, however, about COD levels. The reason the COD test results are important is because it takes a week to test BOD

levels, and the plant can't wait that long to release wastewater. So Heartland workers use COD results as a measuring stick of sorts.

The city contends Heartland released water that a BOD test revealed was too polluted. The plant can release water if its BOD level is less than 1,800 milligrams per liter.

In simple terms, if the BOD level is too high, it kills the microorganisms needed to break down waste in the water at the city's wastewater plant.

After a sample of wastewater was taken June 18, it was sent to the North Dakota lab. The sample was used to conduct three tests, one of which came back with a BOD higher than 2,400 milligrams per liter. On that point, both sides agree. But they differ in explaining why the BOD level is so high.

Peggi Badten of the wastewater treatment plant testified that when the sample water was diluted at a greater rate, it revealed there is a toxin.

The lab originally averaged the three test results, figured using different dilution rates, and determined the Heartland plant's wastewater had a BOD level of 1,453. Both sides agree that if there was no toxin in the wastewater, that figure should stand and there was no violation. However, they also agree that if there was a toxin in the wastewater, only the highest BOD test result should be used. That total is 2,422 milligrams per liter and would constitute a violation.

William Welbes testified as a paid expert witness on behalf of Heartland. Welbes is the founder of Legend Technical Services of the Twin Cities. The company, among other things, acts as a wastewater consultant for municipalities as well as industries.

Welbes testified that all the tests indicate that Heartland's wastewater didn't contain any toxins. He said the microorganisms did not die because of toxicities, but rather because they basically ate themselves to death.

If the wastewater was toxic, it would have killed the microorganisms, he said. And he said the wastewater would have had a considerable amount of oxygen in it after the test. That, however was not the case. Welbes said the microorganisms fed off of residue in the wastewater until they ran out of oxygen. They used oxygen as they ate, he said, and once it was depleted, the microorganisms died.

Welbes said the test result was made as the result of a mistake in the laboratory and pointed out that an inexperienced lab technician conducted the tests. Badten granted the high BOD level could have been the result of a mistake in the lab, but maintained that wasn't the case. She said Heartland was at fault.

U.S. Attorney Robert Mandel questioned why Heartland, in recent months, has spent some \$300,000 to install new on-site testing equipment if there have been no problems. Bill Paulsen, the plant's general manager, said the business wants to be a good steward of the community.

On the most basic level, the two sides disagree about whether ethanol itself is toxic.

Kornmann was not swayed enough by either side to rule and reserved the right to call an expert witness on behalf of the government.

"It does not give me much confidence that these laboratory reports cannot be relied upon despite certification," he said.

Both the laboratory and Heartland have to sign documents indicating they believe the test results are accurate before they are submitted to city officials. They did so for the June 18 results.

Kornmann said he's troubled by the fact even one of the test results could be high and, at the least, that result should be a "red flag" for Heartland.

No time line has been set for a ruling. If the ethanol plant is found guilty of violating its probation, it could be fined, have its probation extended, be forced to buy new testing equipment, or any combination of those things.

Heartland has filed a suit against the city because Aberdeen officials issued a notice of violation and a compliance order asking that new testing equipment be installed without giving the plant an opportunity for a hearing. Monday's probation revocation hearing, however, likely solved that matter.

Before Paulsen was hired about two years ago, the plant had 96 wastewater violations in a nine-year period. After the incidents of 1999, most of Heartland's administrative staff was fired.

Since Paulsen was hired, the plant has conducted about 5,000 wastewater tests of different varieties. The high BOD total from June is the only alleged violation stemming from those tests.