

Brame hopes to give Mother Nature a hand in clearing Rodemacher Lake

Cleco employees deal with positive and negative charges on a daily basis; however, Brame Energy Center is using the same principle to help clear the turbidity of Rodemacher Lake caused by the harvesting of timber on the lake's watershed.

“After timber crews harvested the land around the lake, the runoff from the rain brought dirt and clay particles into the water, causing the lake's water to become muddy,” said Jacob Hudson, associate environmental operational specialist. “We are taking a known technology used in refineries and waste water plants and piloting it on a much larger scale in an attempt to clear up the 3,000 acre lake the plant uses for cooling water.”

Brame Energy Center (Brame) is working with Ecolotron, an environmental consulting firm, to use a non-chemical process to alter the charges of the dirt particles. Electrocoagulation technology removes the particles from the water as it passes through heavy solid metal plates, serving as electrodes, which neutralize the electrostatic charges on the suspended particles.

“Dirt particles actually have a charge, just like a battery, making it impossible for particles with the same charge to bond together,” said Hudson. “Individually, the particles are too light to sink to the bottom of the lake, but if we can change their charge so they can bond, they will be heavy enough to fall to the bottom, increasing the clarity of the lake.”

“Now that the grass has grown back on the lake's watershed, the runoff is now free of dirt and clay particles, helping to clear the lake,” said Greg Coco, general manager at Brame Energy Center. “The problem for Mother Nature is that the lake contains 10 billion gallons of water. We know over time the lake will self-heal, but we are hoping this technology will give Mother Nature a hand, helping to speed up the process. However, we feel this will not be a quick fix even with the technology, and this three-month pilot will give us an idea of just how long it will take and the cost associated with the process.”

The lake's turbidity is not causing an operational problem for the plant. But plant management says clearing the lake is the right thing to do.

Brame has investigated using chemicals such as Alum, but the size of the lake requires 15,000 tons of product and no vendor will guarantee it will work. Ecolotron has proven this process will work on a smaller scale, but success and cost on a larger scale is still unknown.

“We are nine days into our pilot and are seeing some positive results,” said Hudson. “We are hopeful that this has potential to help clear the lake; however, time will tell.”

Note: Current conducted this interview Sept. 18.

Photo:

Coco: Greg Coco, general manager at Brame Energy Center, shows the promise of the technology they are piloting to help clear the Rodemacher Lake. The sample on the left shows the lake water after complete processing. All suspended particles are located at the bottom of the container. The middle container holds a sample of lake water after initial processing began at the lake. As the water sits, suspended particles continue to fall to the bottom. The lake water sample on the right is the most recent sample pulled. Brame will continue to monitor the amount of settlement gained from the process.

Machine 1: Pumps move the water through the metal plates to change the charge to allow the suspended particles in the lake water to bond together and fall to the bottom. The water is then pumped back into the lake.