

CLEAN WATER AWARDS

USA's Best Treatment Plants

The facilities vary greatly in age, size and the technologies employed, but these plants are operated by employees dedicated to producing clean water and protecting the environment.

by Terrence O'Keefe

Some things like fine wine, truly do get better with age. The passage of time is sometimes not as kind to poultry plants and equipment as it is to Merlot, so it is encouraging to see that some old plants can continue to set the standard for the industry over four decades after they opened their doors. Four poultry plants' wastewater treatment facilities were recently honored with Clean Water Awards by the U.S. Poultry & Egg Association at its Environmental Management Seminar in Birmingham, Ala. Three of the award winning plants began their productive lives in either the 1950s or 1960s. These older plants, Tyson Foods, Wilkesboro, N.C., American Proteins Inc., Hanceville, Ala., and Cargill Turkey Products, Springdale, Ark., pre-date the Clean Water Act by a decade or more. But these plants' wastewater treatment systems have been updated and improved over the years, so that they continue to set an example for the industry. The fourth plant honored, Tyson Foods, Union City, Tenn., is one of the poultry industry's newest and most advanced processing plants, and it has a wastewater treatment plant that is also among the industry's best. Old or new, pretreatment only or full treatment, the operators and managers of these four wastewater treatment facilities share a commitment to excellence that makes producing clean water and aging gracefully seem to happen naturally.

American Proteins: Bigger Can Be Better

Obsession over regulatory compliance and odor control make this huge rendering operation a winner.

American Proteins Inc., (API) in Hanceville, Ala., is the world's largest poultry by-products rendering plant. One thousand truck loads per week of offal, blood, feathers, hatchery waste and other by-products are recycled at two plants on the Hanceville site. One plant produces feed-grade poultry meal, hydrolyzed feather meal and fat, and the other plant produces pet-food-grade poultry meals and fat. Offal from 20 poultry plants, totaling over 2 billion pounds per year, is rendered at Hanceville. Commitment to environmental compliance at API is evident throughout the organization, and this commitment is one reason that the Hanceville plant was selected as the winner in the full treatment category.

Tommy Bagwell, president and CEO of API, spoke on the subject of environmental compliance at the Environmental Management Seminar. He explained that around the time he graduated from college and

started at API, the Clean Water Act was passed, and he was given the task of keeping the company's rendering facilities up-to-date with regulations. Now serving as company president more than three decades later, he still plays a role in keeping API on the right track environmentally.

Bagwell said, "Top management needs to be responsible for making sure that the proper cross checks and controls are in place to insure compliance. To show our commitment to environmental issues, we started a procedure over a decade ago where any notice of violation had to be reported directly to the board of directors, and we have an independent board. Later, I changed it to notifying the board if a regulator has anything bad to say about the company. Next, we started doing self-audits checking our compliance. Then we hired an outside auditor to audit us once a year, and now we hire someone to audit the auditors once every two years."

API is not just obsessive about regulatory compliance; they put the same type of focus on odor complaints from neighbors. When API receives an odor complaint, the environmental department notifies production, takes down all pertinent weather characteristics, and then goes to the site of the complaint to speak with the person who lodged the complaint. On this visit, the environmental department attempts to determine the nature of the odor, if it is from the API plant, and if so, what operation is responsible, for instance feathers, blood, meat, wastewater lagoons, etc., so that the problem can be corrected. Upon returning to the plant,

Keith West, treatment plant operator, tests for sludge depth in the clarifier.

environmental department personnel go through the main production areas and speak with the production supervisors to determine if all the odor removal equipment is operating properly. The plant general manager reports weekly to the company president on the number of odor complaints, any wastewater issues and any communications with environmental agencies.

One way that API helps to control odors is covering its anaerobic lagoon, which also allows it to collect 2 million cubic feet of biogas per week. The biogas is about 70 percent methane, with the remainder being carbon dioxide and hydrogen sulfide. API generally mixes the biogas with natural gas at a rate of 5 percent to 10 percent for use in rendering-operation boilers. API might let more raw materials go from the DAF to the anaerobic lagoons in the future to feed the bacteria to make more biogas, and thus more boiler fuel. Covering the lagoon reduces the fossil fuel usage at the plant and reduces site emissions and smell since the anaerobic lagoons tend to be the ones most responsible for offensive odors. It is estimated that covering the anaerobic lagoon will pay for itself in two years.

Another odor control device employed at the API plants is a biofilter bed that cooker exhaust gases are passed through after being scrubbed.



Despite the huge size of the API Hanceville rendering operation, it has an enviable record of environmental compliance.

The biofilter utilizes bacteria to consume the volatile compounds in the exhaust in a similar manner to the way that bacteria in the wastewater lagoons break down nutrients.

One of the most important components of API's environmental management strategies is its water reuse program. Around 6 million gallons of water is reused each day at the plant, and only 90,000 gallons per day of potable water is used. Most of the potable water is used for boiler make-up. The average wastewater discharge is 400,000 gallons per day, so rendering actually produces around 300,000 gallons of water on a daily basis. Water is reused in everything from 3,000-gallon-per-minute spray towers to one-gallon-per-minute pump seals. The cooling water system for condensing the vapors from the cooking process involves the recycling of an additional 30 million gallons of water per day, and treated wastewater can be used as make-up water in these cooling ponds as well.

API has been willing to invest in new odor control and wastewater treatment technologies, at this site, which has been in operation for four decades, to stay in front of regulatory issues and be a good neighbor. The commitment to doing the job right the first time starts at the top of the organization and is effectively communicated to all employees.