

Nicholas Meat installs GWE technologies to reduce the environmental impact of its processing facility



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As part of a drive to upgrade their management of both liquid and solid wastes generated in their facility and greatly improve their overall environmental and energy footprint of their operations, Nicholas Meat LLC is installing an environmentally harmonious wastewater treatment system and award-winning waste-to-energy technology.

The new facilities will be designed to recover both energy and water from waste products generated on site and significantly reduce the impact of the processing plant on the local community.

The beef processing and packing company has been a significant contributor to the economy of the Loganton, Pennsylvania area for over 30 years.

Their goal now is to vastly reduce their impact on their neighbors, set world-class environmental standards, and reduce their dependence on fossil fuels, says Global Water & Energy Vice President, Mr. Ian Page.

The new facilities, soon to be under construction, are engineered to better manage the factory wastewater on-site and recover energy from by-products generated within both the production process and within the wastewater

treatment operations themselves. They are aiming to significantly reduce the impact of the processing plant on the local community, including a major reduction of odors and truck traffic currently present.

GW&E will provide both an industrial wastewater treatment facility utilizing its cutting-edge MEMBROXTM aerobic membrane bioreactor technology, as well as a complete organic waste-to-energy facility to manage solid and concentrated wastes generated at the factory and wastewater treatment plant, using its award-winning RAPTOR system. RAPTOR stands for RAPid Transformation of Organic Residues, and is a pretreatment-enhanced form of anaerobic digestion, designed to turn nearly any organic substance into valuable green energy in the form of biogas.

The MEMBROX wastewater treatment plant will allow Nicholas Meat to completely eliminate odors from the existing storage of wastewater and nearly eliminate the trucking of wastewater from the site, greatly improving noise, dust, and traffic at the facility. It will generate an effluent of sufficient quality for stream discharge, as well as for a variety of potential reuse functions, such as irrigation, and multiple forms of recycled water use within the actual factory footprint. This will reduce their impact on the local aquifer.

The RAPTOR portion of the plant involves an innovative twist on traditional anaerobic digestion, designed to maximize the energy generation from specific wastes. “This world-class technology – which can be applied globally by all community-minded companies with organic waste and wastewater streams – produces both green energy to supplant fossil fuel needs as well as delivering high quality treated wastewater to safeguard community water standards. The standards of environmental protection – and reduction of environmental footprint specified by Nicholas Meat – are a credit to the company as an efficient, sustainable and overall good corporate citizen,” said Global Water & Energy (GW&E) Vice President, Ian Page.

The RAPTOR technology won the Energy Award from the Institute of Chemical Engineers (IChemE), which represents more than 40,000 chemical, biochemical, and process engineers from around 100 countries. The IChemE Global Awards are known for their celebration of the excellence, innovation and achievement in the chemical, process and biochemical industries, making this recognition so significant and gratifying for Global Water Engineering (GWE), the developer of the RAPTOR® technology and parent company of GW&E.

Nicholas Meat will utilize its biogas to replace propane fueling its boilers, providing both a cost savings and a reduction in carbon footprint for the factory. However, future generation of renewable natural gas, or RNG, from the biogas, for use as vehicle fuel, is a long-term consideration. Nutrient-rich liquid fertilizer will be generated at several stages within the waste-to-energy plant and will be utilized on local croplands. Any remaining liquid wastewater from the RAPTOR facility will be sent to the wastewater treatment plant, for final treatment and disposal. The two facilities are truly integrated, with residuals from one being managed in the other.

“GW&E is extremely pleased to be able to assist Nicholas Meat with such a forward-thinking, environmentally-sound upgrade to the management of organic wastes and wastewaters generated within their operation. This installation presents a model for meat production and packaging plants globally.”

“Utilizing the residuals from production as a resource, rather than treating them as wastes, will generate significant value for the Nicholas Meat plant as well as the surrounding community, and will help to transform Nicholas Meat into a truly ‘green’ company,” said Page.

For more information, visit www.GWandE.com.