Encouraging Environmental Excellence Achievement Level Recognition

August 9, 2017

The Ohio EPA Encouraging Environmental Excellence Program targets those who reduce waste, improve efficiency and work to continuously improve as an environmental steward. The program has a four-level approach to provide recognition to Ohio businesses and other organizations completing environmentally beneficial activities. Higher levels of recognition are for those who exceed regulatory requirements or commit to future environmental stewardship efforts. The Achievement Level recognizes any applicants completing environmentally beneficial activities. Any business, trade association, professional organization or local government in Ohio may apply. Achievement Level participants must demonstrate significant progress in one of eight environmental stewardship criteria: Impact to the environment; pollution prevention; energy efficiency; renewable energy; renewable, recovered or recycled materials; green building; recycling programs or organics diversion. Achievement Level participants must also demonstrate some level of progress in at least six additional environmental stewardship criteria and indicate they are in compliance with environmental laws and regulations.

Ohio EPA is recognizing the following organization that successfully met the criteria for the Achievement Level of the Encouraging Environmental Excellence Program. Below is a summary of their efforts.

Hydrodec of North America, LLC (Canton) – Hydrodec of North America, LLC (HoNA) is a 30-employee clean-tech oil re-refining company with operations in Canton that re-refines used and contaminated waste oil to produce, market, and distribute transformer oil and naphthenic base oil. Their technology and processes are managed to deliver very high recoveries of greater than 99 percent where other re-refineries typically yield recoveries of 75 to 90 percent. Their process produces transformer oil that tests 'better than new' at a competitive cost.

HoNA's Canton facility is capable of treating approximately 12 million gallons per year. Utilities generate used oil which is shipped to the Canton facility. The finished product is sold mainly to transformer manufacturers and repair companies. Over 75 percent of the oil produced by HoNA becomes transformer oil, whereas other naphthenic re-refineries only produce base oil. This process creates a transformer oil "closed loop" and makes HoNA unique in the Americas.

The Canton plant was constructed on a brownfield site in 2007. In 2012, HoNA was granted authorization by USEPA to treat PCB in used oil up to 2,000 ppm. HoNA processes about 180,000-240,000 gallons of regulated oil containing PCB that would otherwise be incinerated. The notion of deploying a hydrogenation process to treat PCB to make new oil at such high yields is unique to Hydrodec alone. In 2016, HoNA was recognized by The American Carbon Registry as generating carbon credits at a rate of 40,000-50,000 tons/year at the Canton facility. The requirements to achieve carbon credits is difficult and based on both the process capability as well as the management systems deployed. This makes HoNA the producer of the first petroleum product in the world to come with a carbon offset.

Management commitment is demonstrated through a signed Environmental Policy Statement and weekly all employee meetings to discuss safety and environmental issues. Employee involvement and continuous improvement are encouraged via two reporting systems used to capture any incident, near miss, or employee suggestion for improvement. This information is published site wide and reviewed monthly by the Plant Manager, EHS Manager, and company President. Employees originate 80 to 100 suggestions per year and a "spot bonus" system rewards employees for safety and environmental stewardship.

HoNA is a member of NORA (formerly known as the National Oil Recyclers Association) and active in NORA's re-refining council. They also participate in the Investment Recovery Group, the Utility Supply Chain Sustainability Group, and Sustainable Ohio. Presentations are made to these groups about HoNA's carbon credits and sustainable operations. Participation in these groups helps generate innovative ideas for recycling and sustainable practices.

HoNA has developed an innovative process that allows more used transformer oil to be recycled that would otherwise be incinerated. Approximately 20%-30% of inbound used oil is contaminated with minor amounts of silicon. This oil is not generally suitable for re-refining because it damages components of the re-refining process. HoNA diverts this to a process that digests the silicon and recovers the used oil which is converted into a base oil product of excellent quality. HoNA produces approximately 1.5M gallons/year using this process which is about 20% of total production. The investment to handle silicon contaminated oil is estimated at $275,000 with a cost savings of about $.20/gallon or about $300K/year. HoNA also works with their used transformer oil suppliers to minimize silicon contamination and institute quality controls that allows more used oil to be re-refined.

In 2013, HoNA began to recycle plastics and paper throughout the facility as opposed to direct deposit in a landfill. A total of about 460 cubic yards of materials have been recycled since the start of the program.

A number of efforts are used to maintain clean storm water runoff. The runoff is captured on concrete paving that is sloped towards and diverted into a retention pond the surrounds the entire site. During rain events the pond overflows into an industrial storm water pond. The retention pond and industrial storm water pond provides a clean water source and sanctuary for a variety of species of birds, amphibians, insects, and plants as well as an attractive addition to the property. Work areas are kept clean to prevent tracking of contaminants outside. Spills of bulk liquids are prevented through the use of secondary containments, readily available spill kits, and use of drip pans during oil transfers. Only dry absorbents are used to clean a spill. Building designs incorporate internal spill containment exceeding production volumes. In addition, a building was erected to house our two outside PCB feed tanks such that no water comes into contact with regulated PCB materials. Feed oil and clean oil are held in maintained storage tanks with secondary containment operating under "dry facility" conditions.

Comprehensive and strict business protocol is required for HoNA to be awarded carbon credits. HoNA complies with the ACR (American Carbon Registry) Standard Version 4.0 for the quantification, monitoring, reporting, verification and registration of emissions, reductions and removals. HoNA is required to prove and validate measuring devices used in receipt and sale of oil. In fact, not typical with industrial companies, the measuring meters are certified by the Stark County Auditor for trade. As well, roles and responsibilities are established by the ACR standard to ensure that all production, accounting,

sales, purchasing, and energy consumption are measured and reported in such a manner that allows for strict audit of the data. ACR refers to their system as “Green House Gas Accounting Principles”. The process requires relevance, completeness, consistency, accuracy, and transparency. A third-party auditor independently verifies data quality.

For more information about the Encouraging Environmental Excellence Program and the four levels of recognition, visit www.epa.ohio.gov/ohioE3.aspx or call (800) 329-7518.