



**Environmental  
Protection Agency**

Ted Strickland, Governor  
Lee Fisher, Lt. Governor  
Chris Korleski, Director

September 21, 2010

RE: 3DP00011\*FP  
DE NORA TECH  
INDUSTRIAL USER INSPECTION  
CHARDON  
GEAUGA COUNTY

Ms. Denise Dolce Lakatos  
De Nora Tech  
100 Seventh Ave., Suite 300  
Chardon, OH 44024

Dear Ms. Lakatos:

On August 24, 2010, representatives of this office conducted an Industrial User Inspection of the above facility. The Ohio EPA was represented by Donna Kniss and Ryan Laake. Anthony Kuhar and you represented the company, and you provided additional information in a telephone call on September 21, 2010. De Nora Tech discharges waste water to the Chardon wastewater treatment plant (WWTP) and has been issued Indirect Discharge (IDP) permit 3DP00011\*FP. The purpose of the inspection was to evaluate compliance with the existing IDP.

De Nora Tech processes involve coating a titanium material with precious metals to make anodes. Used anodes are returned to De Nora Tech, which strips the remaining precious metals off the titanium with a molten salt bath. The anodes are then refurbished and recoated. De Nora Tech employs approximately 100 people, typically for three shifts per day for five days a week. There are sometimes additional shifts, and there are not any extended plant shutdown periods.

Plant processes include etching the titanium surface with hydrochloric acid, and the air exhausted from those process areas are passed through scrubbers that use city water. The air scrubber water is routed into a pit that also receives boiler blowdown and anode wash water. All generated solids are processed to recover the precious metals.

Some of the returned anodes may be contaminated with asbestos; these anodes are placed in a washer prior to further processing. Wastewater from this washing operation is routed through a filter prior to discharge to the sump; the filter is treated as an asbestos-contaminated waste. Some of the returned anodes may also be contaminated with mercury. The contents of these anode shipment boxes are tested with a mercury vapor detector prior to unpacking and cleaning, and anodes returned to the customer if the mercury concentration is unacceptable. We discussed the advantages of documenting this vapor analysis in case there were issues that developed after receipt.

Waste water is pumped from the sump to the three stage neutralization system. Caustic is added in the first two stages; an acid feed is also available if the pH rises too high. Each stage contains two pH probes whose readings are compared. These probes are generally removed and cleaned three times a week, and are calibrated with pH 4.0 and 7.0 buffer solutions. The pH readings are monitored and recorded, and the treatment system is equipped with alarms for conditions such as low caustic level, pH out of range, and pH reading discrepancies. The treated wastewater is sampled from the third stage. De Nora Tech personnel are not currently

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recording the cleaning and calibration of the pH probes. We discussed the need to document these activities to demonstrate that the treatment system is maintained and operated properly.

De Nora personnel take a composite sample for metals and a grab sample for cyanide. The composite sample is a 24 hour time proportional sample, which is representative of the discharge because the flow rate into the treatment system is constant and the system discharges continuously. Samples are packed in a cooler and sent to EA Group for analysis. We discussed the need to record the start and stop times for the composite sample, and the need to keep the sample cooler cool during transport. In the September 21<sup>st</sup> phone conversation, you stated that this is being done. We also discussed the need to periodically clean the composite sampler collection jar and tubing. There are two potable water meters, one for the total flow into the building, and one for the sanitary water (e.g., sinks, toilets).

A review of the DMR data from June 2006 to January 2010 showed sporadic permit limit violations. You stated that De Nora has implemented improved controls to ensure proper operation of the production and treatment equipment. There was also a 12/4/08 result for 16.8 µg/l mercury, which is very high. While variable results are often seen in low level mercury sampling, additional results in this concentration range should be investigated to identify any unusual or legacy sources of mercury.

The data review also showed some gaps in the reporting. You provided verification that the samples were taken and the results reported, and I indicated that I would contact DSW Information Resources Management about De Nora's reporting issues. In the September telephone conversation you stated that you have been working with James Roberts to correct the eDMR data.

Please respond within 30 days of the receipt of this letter, documenting the responses to the issues noted above. If you have any questions or comments, please contact me at (330) 963-1285. I can also be reached via e-mail at [donna.kniss@epa.state.oh.us](mailto:donna.kniss@epa.state.oh.us).

Sincerely,



Donna J. Kniss  
Environmental Engineer  
Division of Surface Water  
Northeast District Office

DJK/mt

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File: Pretreatment Industrial User/Permit-Compliance