



**Environmental
Protection Agency**

John R. Kasich, Governor

Mary Taylor, Lt. Governor

Scott J. Nally, Director

June 11, 2012

RE: MILLENNIUM CHEMICALS, PLANT No. 2
NPDES PERMIT NO. 3IE00017*ID
ASHTABULA TWP, ASHTABULA COUNTY
COMPLIANCE EVALUATION INSPECTION

Mr. Richard D. Hughes, Environmental Superintendent
Cristal Global - Millennium Inorganic Chemicals
2900 Middle Road
Ashtabula, Ohio 44004

Dear Mr. Hughes:

On June 7 2012, a site inspection was conducted at the above referenced facility at 2426-2900 Middle Road, Ashtabula Township, Ashtabula County. The inspection was conducted by John Schmidt and Michael Beaty of Ohio EPA's Division of Surface Water (DSW), with Matthew Narducci representing Cristal Global, Millennium Inorganic Chemicals (Millennium). Prior to conducting the inspection, we also spoke with Rick Hughes and George Armstrong, representing Millennium. The purpose of the inspection was to evaluate the facility's compliance status with respect to the terms and conditions of the facility's National Pollutant Discharge Elimination System (NPDES) permit and in conjunction with renewal of the permit. The last compliance inspections were conducted on June 14, 2011 and September 26, 2011.

The plant primarily produces titanium dioxide in both a slurry and powder form. Plant 2 produces about 105,000 metric tons annually. The wastewater system consists of the following industrial processes and discharges:

1. Industrial Wastewater Treatment

Industrial process wastewater is generated from Millennium's plant sanitary waste package plants, start-up and gas scrubbers, chlorination, flue pond cooling, finishing, oxide $TiCl_4$ cooling tower, oxide cooling tower, Cynergy cogen, ore/coke recovery, and lime systems. Total flow is about 4.0 MGD. The outfall of all discharges from Plant 2 is Outfall 003. On May 18, 2011, Millennium received a modification to its NPDES permit to add Outfall 604 and to eliminate chlorinator non-contact cooling water and storm water from treatment through the clarifier, to alleviate some of the clarifier hydraulic overloading. In 2011, Millennium received a permit-to-install (PTI) to add condensate from the Duke Energy power plant (owned by Millennium). Millennium received approvals for boiler and water treatment chemicals on July 21, 2011, August 11, 2011, and October 21, 2011. No other changes were noted from the 2011 inspection.

2. Sanitary Wastewater Treatment: North Sanitary WWTP and South Sanitary WWTP

There are two sanitary wastewater treatment plants (WWTP), one treating sanitary and laboratory wastes from the $TiCl_4$ area (Plant 2 North) and the other from the oxidation process areas (Plant 2 South). Treatment consists of a trash trap, extended aeration, surface sand filters, pyrodeck polishing, chlorination and dechlorination. The pyrodeck polishing filter was added in the summer of 2011 via a PTI and became operational in September 2011. The oxidation sanitary WWTP consists of a trash trap, trickling filter and

disinfection tank. The outfall for the $TiCl_4$ Sanitary WWTP is Outfall 602, and the outfall for the Oxidation Sanitary WWTP is Outfall 601.

3. Curtain Drain (Ground Water Treatment) Wastewater Treatment

PCB laden ground water is intercepted along the north side of Plant 2 along Fields Brook via a curtain drain and is treated in a self-contained treatment system prior to discharge to the storm water pond. The outfall from the Curtain Drain WWTP is Outfall 603. No changes to this system were noted over the 2011 inspection.

4. Storm Water Treatment

All storm water within the facility is collected via a series of yard drains and drainage channels and conveyed to a storm water pond located at Plant 2 North. The outfall is Outfall 003. No changes to this system were noted over the 2011 inspection

Millennium has submitted renewal applications for this permit and the NPDES permit for Plant 1 (3IE00013). Millennium is proposing to combine both permits into a single NPDES permit to allow diversion of flows between the two plants to the industrial wastewater treatment system of each. The application remains under review by Ohio EPA.

Observations

Following are observations made during the inspection:

Industrial WWTP

1. The $TiCl_4$ storage system appears to be undergoing some maintenance at the time of the inspection. The general operation and maintenance of the chemical neutralization wastewater treatment system appeared to be hydraulically overloaded. Specifically the thickener in the industrial wastewater treatment process was observed as having the overflow weir submerged in places. Millennium obtained an NPDES permit modification to divert storm water runoff and cooling tower discharges from this process into the downstream series of settling ponds. Outfall 003 was observed as producing an effluent of acceptable visual quality.

Oxide Operation Sanitary WWTP (South Sanitary WWTP)

2. The overall condition of the treatment plant during this inspection was satisfactory with the plant well kept. The content of the aeration tank had a medium brown color and good mixing. Sludge returns were a medium brown color with minimal foaming. This is an indication of a plant in proper operation. The blowers and associated alarms were cycled and found in operating condition. The surface of the clarifier was clear. The return sludge lines and skimmer were found in operable condition. Effluent channels and weirs were clean. Surface sand filter dosing pumps and associated alarms were cycled and found in operating condition. Surface sand filters were clean and operable. The effluent discharged to the sand filter during the inspection was clear and free of color and turbidity. The wastewater percolated freely through the sand indicating that the beds were not clogged. The Pyrodeck filter appeared to be operating as designed. The final effluent was clear as observed in a manhole between the plant and the final outfall of the package wastewater plant (Outfall 601).

TiCl4 Operation Sanitary WWTP (North Sanitary WWTP)

3. The overall condition of the treatment plant during this inspection was satisfactory with the

plant maintained. The trickling filter did not operate during the course of the inspection. New sand was added to the sand filter in May 2012. The final effluent was clear as observed in a manhole between the plant and the final outfall of the package wastewater plant (Outfall 602).

Curtain Drain (Ground Water Treatment) WWTP

4. The system was not operating at the time of the inspection. The general operation and maintenance of the carbon treatment and micron filtration wastewater treatment system appeared to be satisfactory. The system operates only a few days per month. The final effluent was observed as not discharging in the manhole between the plant and the final outfall of the package wastewater plant (Outfall 603).

Storm Water Treatment System

5. Storm water from the western portion of the facility collected through a series of channels and sumps and conveyed to the settling pond located at Plant 2 North. The storm water pond discharges through Outfall 003. Storm water from the eastern portion of the facility and the roof of the TiO₂ warehouse is collected through a series of channels and sumps and conveyed to the settling pond located at Plant 2 South. The storm water pond discharges to Outfall 004. Outfall 004 was observed as not discharging during the inspection. As noted above, Outfall 003 is noted as discharging an effluent of acceptable visual quality.
6. The north pond was cleaned approximately two weeks prior to the inspection and the south pond will be cleaned within the next month.
7. The storm water pollution prevention plan (SWPPP) was updated on November 15, 2011. The annual site certification inspection was completed on August 17, 2011. Employee training is conducted throughout the year, with the latest training conducted in April 2012. The SWPPP is currently undergoing revision, and is expected to be finalized in July 2012.

NPDES Permit Compliance Review

A review of the electronic discharge self-monitoring reports (eDMRs) received by Ohio EPA for the period May 1, 2011 through May 1, 2012 indicates apparent noncompliance of the terms and conditions of your NPDES permit. Specific instances of noncompliance are as follows:

Limit Violations

No limit violations were noted for the time period reviewed.

Reporting Violations

No reporting code violations were noted for the period reviewed, however the following reporting frequency violations were noted for the period reviewed:

Station	Reporting Code	Parameter	Limit Type	Limit	Reported Value	Violation Date
003	50050	Flow Rate			AD	9/1/2011
003	50050	Flow Rate			AD	10/15/2011
601	50050	Flow Rate			AD	10/20/2011
601	50050	Flow Rate			AD	10/16/2011
601	50050	Flow Rate			AD	10/15/2011
601	50050	Flow Rate			AD	10/14/2011

601	50050	Flow Rate	AD	10/13/2011
601	50050	Flow Rate	AD	10/12/2011
601	50050	Flow Rate	AD	10/11/2011
601	50050	Flow Rate	AD	10/10/2011
601	50050	Flow Rate	AD	10/9/2011
601	50050	Flow Rate	AD	10/8/2011
601	50050	Flow Rate	AD	10/7/2011
601	50050	Flow Rate	AD	10/6/2011
601	50050	Flow Rate	AD	10/5/2011
601	50050	Flow Rate	AD	10/4/2011
601	50050	Flow Rate	AD	10/3/2011
601	50050	Flow Rate	AD	10/2/2011
601	50050	Flow Rate	AD	10/1/2011

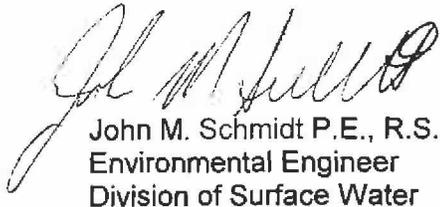
The September 2011 violation was noted in the September 2011 eDMR submittal as a faulty meter reading. The October 2011 eDMR submittal noted that the October 1-16 2011 violations were due to a faulty composite sampler. No additional information is needed to respond to the violations.

Comment

1. Storm Water Pollution Prevention Plan(s): A review of your SWPPP for Plant 2 indicates that the document remains not finalized. Please provide Ohio EPA with a final SWPPP no later than July 15, 2012.

If you have any questions or comments regarding this inspection, please feel free to contact me at (330) 963-1175.

Respectively,



John M. Schmidt P.E., R.S.
Environmental Engineer
Division of Surface Water

JMS/cs

File: Industrial/Millennium Plant 2/PC