Ohio Environmental Protection Agency
John R. Kasich, Governor
Mary Taylor, Lt. Governor
Scott J. Nally, Director

June 11, 2012

RE: MILLENNIUM CHEMICALS PLANT No. 1
NPDES PERMIT NO. 3IE00013*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 2900 Middle Road. The facility also includes the adjacent Millennium Landfill. The inspection was conducted by John Schmidt and Mike Beaty of Ohio EPA's Division of Surface Water (DSW), with Mathew Narducci and Ashley Cole 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 said permit. The last compliance inspections were conducted on June 14, 2011 and September 26, 2011.

1. Industrial Wastewater Treatment
Process wastewater is generated from the following: $TiCl_4$ gas scrubbers, oxidation process, flue pond cooling, finishing, $TiCl_4$ cooling tower, oxide cooling tower, and landfill contact water. Leachate from the landfill is collected in clay-lined channels and double-walled piping and collected in a lined surface impoundment near the front entrance. Floor drains from the wastewater treatment plant (WWTP) buildings flow to an oil/water separator prior to discharge to the leachate impoundment. The leachate impoundment flows to a sump located at Plant 1 near the filter building WWTP, where it enters the industrial WWTP for pH adjustment, thickening, and settling. Finishing wastewaters are collected to a settling tank prior to neutralization, and scrubber wastes are sent to the neutralization plant. All other plant wastes discharge to a junction chamber between the south settling pond and the middle settling pond. Water then flows through a series of additional settling ponds and a pump station prior to discharge. The outfall of all discharges from Plant 1 is Outfall 003. Millennium received approvals for boiler and water treatment chemicals on October 21, 2011 and January 19, 2012. No other changes were noted from the 2011 inspections.

2. Sanitary WWTPs (Administration Area Sanitary WWTP, Filter Press Area Sanitary WWTP, and Landfill WWTP)
There are three sanitary WWTPs, one treating sanitary and laboratory wastes from the filter press building, another serving the main plant administration building, and a third system serving the landfill employees. Wastewater from sanitary and laboratory wastes are treated through an extended aeration facility adjacent to the administration building prior to discharge to a junction chamber between the South Pond and the Middle Pond. The outfall

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for the Sanitary WWTP is Outfall 601. The WWTP serving the filter building consists of a septic tank that discharges to a Wisconsin-type mound system, and the WWTP serving the landfill consists of a septic tank that discharges to a leach bed; both of which do not require an NPDES permit. The sanitary systems are unchanged from the 2011 inspections.

3. Storm Water Treatment
   All storm water within the facility is collected via a series of yard drains and drainage channels and conveyed to the two settling ponds in parallel (South Pond and Middle Pond). The North Pond is utilized and an effluent flow equalization in lieu of discharge through Outfall 003. The storm water treatment system is unchanged from the 2011 inspections. Storm water from the landfill is diverted to a sedimentation basin located northeast of the landfill.

Millennium has submitted renewal applications for this permit and the NPDES permit for Plant 2 (3IE00017). 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 general operation and maintenance of the chemical neutralization wastewater treatment system appeared to be satisfactory. The settling ponds are typically dredged every six to nine months. Sludge from the sludge treatment process is taken to the captive industrial landfill located east of the facility on Middle Road. The middle and south ponds were dredged in May 2011. The north sedimentation basin was noted as dry and full of sediment. The pond is scheduled for sediment removal in August 2012. The composite sampler was found to be maintained at the proper temperature and collecting a flow proportional sample. The effluent from Outfall 003 was of acceptable visual quality.

Sanitary WWTP

2. The overall condition of the treatment plant during this inspection was satisfactory with the plant well kept. Log books and the operation and maintenance manual are maintained at the site and were available for inspection. The content of the aeration tank had a medium brown color and good mixing. Sludge returns were a medium brown color with moderate foaming. This is an indication of a plant in that may need sludge wasted from the system. The blowers were cycled and found in operating condition. The surface of the clarifier was clear, and effluent channels and weirs were reasonably clean. Clarifier cleanings were dumped on the ground, and must be containerized for disposal as a solid waste. Surface sand filter dosing pumps could not be cycled due to operating on a float system, but did operate during the inspection. 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 UV disinfection system was found in operating condition. The effluent pump station pumps were cycled and found in operating condition. All alarms were found in operating condition.

Filter Building WWTP

3. The filter building WWTP was inspected and found in operating condition. No outbreaks in the mound were noted during the inspection.

Landfill WWTP

4. The landfill WWTP was inspected and found in operating condition. No outbreaks in the mound were noted during the inspection.

Storm Water Treatment System

5. Storm water is collected through a series of channels and sumps and conveyed to the various settling ponds (South Pond, Middle Pond, North Pond). The storm water pond discharges to the outfall weir, pump station, and the FirstEnergy discharge channel for ultimate discharge through Outfall 003. The emergency contact-water pond (northwest pond) overflow outfall is Outfall 004. The outfall for the sedimentation pond is therefore unpermitted. The sedimentation ponds were cleaned out in late May 2011, and are dredged every six to nine months. The sedimentation pond at the landfill is examined annually and has not needed dredged to-date.

6. Outfall 004 was observed as not discharging during the inspection. Outfall 003 is noted as discharging an effluent of acceptable visual quality.

7. The storm water pollution prevention plan (SWPPP) for Plant 1 was updated on October 26, 2011, and remains in draft. The annual site certification inspection for Plant 1 was completed on August 16, 2011. Employee training for Plant 1 is conducted throughout the year, with the latest training conducted on several dates in April 2012. More comprehensive training on the SWPPP is performed once every three years. The storm water pollution prevention plan (SWPPP) for the landfill was updated on December 27, 2011. The annual site certification inspection for the landfill was completed on June 5, 2012. Employee training for the landfill is conducted throughout the year, with the latest training conducted on December 7, 2011.

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

The following apparent limit violations were noted for the period reviewed:

Station	Reporting Code	Parameter	Limit Type	Limit	Reported Value	Violation Date
003	61942	pH, Minimum	1D Conc	6.5	5.5	5/31/2011
003	61941	pH, Maximum	1D Conc	9.0	9.5	4/20/2012

The May 2011 apparent violations were responded to by Millennium on June 13, 2011 and indicated that the duration of the reading was compliant with Part II, Item G of the NPDES permit and therefore not a violation. Ohio EPA concurs with the assessment. The June 2011 eDMR should be amended to reflect the minimum pH value lasting longer than the specified duration in Part II, Item G

of the permit. The April 2012 violations were responded to on May 9, 2012 and indicated that the duration of the reading was compliant with Part II, Item G of the NPDES permit and therefore not a violation. Ohio EPA concurs with the assessment. The April 2012 eDMR should be amended to reflect the maximum pH value lasting longer than the specified duration in Part II, Item G of the permit.

Reporting Violations
No reporting code or reporting frequency violations were noted for the period reviewed.

Comments

1. Storm Water Pollution Prevention Plan(s): A review of your SWPPP for both Plant 1 and the landfill indicate that these documents remain not finalized. Please provide Ohio EPA with a final SWPPP no later than July 15, 2012.

2. Revisions to NPDES Permit Application: During the course of the inspection, it was determined that Outfall 004 pertains to the emergency outfall for the contact-water pond located adjacent to the landfill office and not the northeast sedimentation pond. The outfall for the sedimentation pond is therefore unpermitted. The NPDES renewal must include all storm water point-sources from the landfill. Please revise the application.

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 1/PC