



Environmental
Protection Agency

John R. Kasich, Governor
Mary Taylor, Lt. Governor
Scott J. Nally, Director

June 22, 2011

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 14, 2011, 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 Chris Moody of Ohio EPA's Division of Surface Water (DSW), with Matthew Narducci representing Cristal Global, Millennium Inorganic Chemicals (Millennium). At the conclusion of the inspection we also spoke with you. 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. The last compliance inspection was conducted on May 13, 2010.

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

1. Industrial Waste Water Treatment

Industrial process waste water 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.

2. Sanitary Waste Water Treatment: North Sanitary WWTP and South Sanitary WWTP

There are two sanitary waste water treatment plants (WWTPs), 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, chlorination and dechlorination. 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) Waste water 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.

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.

Observations

Following are observations made during the inspection.

Industrial Wastewater Treatment Plant

1. The TiCl₄ storage system appears to be undergoing cleaning at the time of the inspection. The general operation and maintenance of the chemical neutralization waste water treatment system appeared to be hydraulically overloaded. Specifically the thickener in the industrial waste water treatment process was observed as having the overflow weir submerged in places. Millennium has submitted an NPDES permit modification to divert storm water runoff and cooling tower discharges from this process into the downstream series of settling ponds. A draft permit was issued on May 18, 2011 and is currently undergoing the public comment period. The effluent weirs of the South Pond do not appear to be level, with the north side of the weir appearing lower than the south side. Please ensure that the weirs are adjusted so that they are level. Ohio EPA noted a stream of floating brown material on both the South Pond and Middle Pond that was carrying over the effluent weirs. This appears to be a violation of OAC 3745-1-04(B). This material must be sampled to ascertain what it is and treatment proposed to ensure that this material does not carry over the final weirs of the settling ponds. Outfall 003 was observed as producing an effluent of acceptable visual quality.

Oxide Operation Sanitary Wastewater Treatment Plant (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 disinfection system was found in operating condition, and stocked with the appropriate chemicals. 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 Wastewater Treatment Plant (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. The disinfection system was found in operating condition, and stocked with the appropriate chemicals. 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) Wastewater Treatment Plant

4. The system was not operating at the time of the inspection. The general operation and maintenance of the carbon treatment and micron filtration waste water treatment system appeared to be satisfactory. 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 storm water pollution prevention plan (SWPPP) was updated on April 30, 2005. The annual site certification inspection was completed on October 7, 2010. Employee training is conducted throughout the year, with the latest training conducted in May 2010. The SWPPP is currently undergoing revision, and training is scheduled for the fall of 2011.

NPDES Permit Compliance Review

A review of the electronic discharge self-monitoring reports (eDMRs) received by Ohio EPA for the period May 1, 2010 through May 1, 2011 indicates apparent noncompliance of the terms and conditions of your NPDES permit. Specific instances of noncompliance are as follows:

Limit Violations

Station	Reporting Code	Parameter	Limit Type	Limit	Reported Value	Violation Date
602	80082	CBOD 5 day	30D Conc	25	31.5	10/1/2010
003	00530	Total Suspended Solids	30D Qty	417	517.842	4/1/2011
602	80082	CBOD 5 day	30D Conc	25	33.4	4/1/2011
602	80082	CBOD 5 day	1D Conc	40	48.	4/29/2011

The October 2010 violation was responded to by Millennium on November 8, 2010 and November 17, 2010. As noted above, floating solids were noted as going over the weirs at the South Pond and Middle Pond prior to Outfall 003. The nature of this material must be determined by analytical testing and measures proposed to eliminate this carryover. Ohio EPA has no record of a response to the April 2011 violations. Please provide a written explanation as to the cause of the April 2011 violations, along with measures to ensure that they are not repeated.

Reporting Violations

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

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Station	Reporting Code	Parameter	Limit Type	Limit	Reported Value	Violation Date
003	31648	E. coli			AK	9/2/2010

A response provided to Ohio EPA on October 28, 2010 indicates that a pump was out of service for repair, resulting in fecal matter accumulation in the filter system. Millennium objects to the violation. Regardless of Millennium's objections, the violation stands. Millennium is required to monitor and report fecal coliform results. No additional information is needed to respond to the violation.

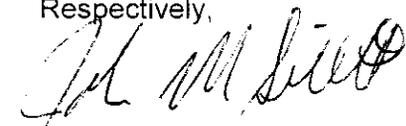
Based upon the inspection findings and the overall compliance record of the facility, Millennium Inorganic Chemicals is considered to be in substantial compliance with the terms and conditions of its NPDES permit for its Plant 2 Facility in Ashtabula, Ohio.

Comment

1. Storm Water Pollution Prevention Plan: A review of your SWPPP indicates that this document has not been updated in several years. These documents should be reviewed at least annually and revised accordingly. The SWPPP document must also reflect specific contacts and telephone numbers, and your annual inspections indicate that the inspection forms should be revised and ensure that employees properly document inspections. The SWPPP also contained references to appendices which are not in the document and the numbering of the appendices was not consistent between the main plan and its appendices. Please provide a schedule of when you expect to have the SWPPP document updated and provide this office with a copy of the revised SWPPP document for review.
2. Draft NPDES Permit: At the conclusion of the inspection, we discussed your comments to the pending draft NPDES permit. Ohio EPA will be responding to your comments under separate cover.

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/mt

pc: Chris Moody, Ohio EPA, NEDO, DSW

File: Industrial/Millennium Plant 2/PC