



July 29, 2015

Mr. Dave Morgan
Air Quality Division
Department of Environmental Quality
350 Ottawa, N.W.
Grand Rapids, MI 49503



Re: Kraft Plater – ROP No. MI-ROP-N7374-2015

Mr. Morgan:

This letter is in response to the Violation Notice dated July 15, 2015 regarding the Lacks Enterprises, Inc. Kraft Plating facility. The violation is for excess chromium emissions from the chrome etch exhaust stack.

SEQUENCE OF EVENTS

During the week of May 18, 2015 Network Environmental, Inc. performed source testing of the Kraft Plater as required by the ROP. We tested two (2) sources, chrome etch and chrome plate, for total chromium emissions. The chrome etch exhaust has an emission limit of 0.0032 lbs/hour and 0.016 mg/dscm. The etch exhaust system includes an evaporator and a composite mesh pad scrubber. The etch stack was sampled on Tuesday, May 19, 2015.

On Friday, June 19, we received a telephone call from Network Environmental personnel informing us that preliminary lab results indicated that the chrome etch exhaust had exceeded the permit limits for total chromium emissions. The test results reported an average emission rate of 0.0039 lbs/hour and 0.019 mg/dscm. We requested that Network Environmental review and verify their calculations as well as have the analytical laboratory retest the samples to confirm the results.

On Tuesday, June 23, while waiting for confirmation of the test results, we contacted Viron International, Inc., the manufacturer of the scrubber, to send a technical representative to inspect the scrubber and look for possible causes of the excess emissions. The covers were removed to reveal the tops of the mesh pads to check for issues that could potentially allow air to bypass the pads. Viron found no signs of air bypass. They verified that the pads were installed properly and appeared to be in good working condition.

On Wednesday, June 24, we received a telephone call from Network Environmental confirming that the test results were accurate. The lab re-test results indicated an average emission rate of 0.0033 lbs/hour and 0.017 mg/dscm. We contacted Dave Morgan to inform him of the excess emissions and the plating line was shut down immediately. Viron International, Inc. was called back on site for a more in-depth inspection of the equipment. Upon removal of the viewing ports from the sides of the scrubber, it was discovered that the stage 3 mesh pads had approximately an inch of standing water in the shallow channel in which they sit. A sample of this water tested positive for total chrome. Viron confirmed that this channel should have been manufactured to include small drain holes and should not contain any standing water. The stage 3 mesh pads were completely removed from the scrubber, their integrity was verified to be in good condition, and drain holes were drilled into the bottom of the stage 2 and 3 channels (stage 1 was also done at a later date) by a representative from Viron International, Inc. Also, baffles were inserted at the top of the stage 2 mesh pads by Viron, at their recommendation, to increase the velocity of air flow through the pad to improve the overall removal efficiency of the scrubber.

On Thursday, June 25, we met with Dave Morgan at the Kraft Plater to discuss the test results, causes for the test failure, corrective actions, and plans to move forward. Normal production resumed later that afternoon, assuming the drain holes and increased velocity had corrected the problem.

On Tuesday, June 30, Network Environmental, Inc. retested the chrome etch exhaust stack.

On Friday, July 3, we installed a new mist eliminator pad into the chrome etch evaporator.

On Tuesday, July 7, we received a telephone call from Network Environmental informing us that the test results indicated that the chrome etch exhaust had again exceeded the permitted limits for total chromium. The test results reported an average emission rate of 0.0048 lbs/hour and 0.025 mg/dscm. We contacted Dave Morgan and informed him that we were still out of compliance and immediately shut down the plating line. We assumed the next logical problem to be a deteriorated integrity of the stage 2 mesh pads. We promptly called Viron International, Inc. and placed an expedited order for new stage 2 mesh pads. The previously inserted baffles were removed from the top of the stage 2 mesh pads as they appeared to have worsened the results. The plating line started back up on second shift at a reduced production rate (22 bars/hour instead of 30 bars/hour) in order to reduce the emission rate to the scrubber.

On Saturday, July 11, we separated the piping for the return water from the stage 3 washdowns from the other stages, as a precautionary measure, to ensure there was no possibility for air to migrate through the piping, bypassing the mesh pads and exiting through the stack. Clear piping was installed as a visual check to confirm there is water in the p-trap, which also prevents air from passing through the plumbing. When the old plumbing was disconnected, we confirmed the p-trap to be full of water, indicating that it had been functioning properly. Additionally, we had Viron inspect the evaporator unit at which time it was discovered that the airflow through the unit was not properly balanced and had not been balanced

upon installation by the manufacturer. The airflow through the unit measured 40,000+ CFM. The unit is rated for up to 30,000 CFM with an optimum flow rate of 28,000 CFM. We had Viron properly balance the airflow so that it is now measuring a rate of 27,000 – 28,000 CFM.

On Tuesday, July 14, we received the new stage 2 mesh pads. Representatives from Viron as well as a support technician from Kimre, Inc. (the mesh pad manufacturer) were on site for assistance. The representative from Kimre confirmed that the old stage 2 pads had been installed correctly. After the stage 2 pads were removed from the scrubber the Kimre representative visually inspected some of the layers of the pads and determined them to be in good working condition. Representatives from Viron assisted with the proper installation of the new stage 2 mesh pads into the scrubber.

On Friday, July 17, Network Environmental, Inc. again retested the chrome etch exhaust stack at a full production rate of 30 bars/hour.

On Wednesday, July 22, we received a telephone call from Network Environmental informing us that the test results indicated that the chrome etch exhaust was in compliance and emissions were under the allowable limits of our ROP. The test results reported an average emission rate of 0.00055 lbs/hour and 0.0027 mg/dscm.

DURATION

The duration of the cited exceedance of the total chromium emission limit was from Tuesday, May 19, 2015 through Tuesday, July 7th, 2015 (when we shut the plating line down after receiving results from the June 30th re-test indicating we had failed again). Beginning the afternoon of July 7th, we ran a reduced production rate until we were able to confirm compliance with the July 17th re-test. The exceedance period included approximately 36 production days.

CAUSE and CORRECTIVE ACTIONS

The root cause of the exceedance of the total chromium emission limits is subject to future research and testing. We are developing a test plan to conduct engineering studies to help us determine the root cause of the cited exceedance. We plan to have a discussion with Dave Morgan in the near future to go over our plans for testing.

The chrome etch exhaust corrective actions are identified in the above SEQUENCE OF EVENTS which restored the scrubber and evaporator units to normal operations. These actions were successful as shown by results for the July 17 test (0.00055 lbs/hour and 0.0027 mg/dscm). After we are able to come to conclusion on the cause of exceedance, we will identify and implement any necessary and future corrective actions to ensure future compliance.

Please contact me if you have any questions or require additional information.

Sincerely,

A handwritten signature in black ink that reads "Karen Baweja". The script is fluid and cursive, with the first letters of each word being capitalized and prominent.

Karen Baweja
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cc: Jim Green
Nick Ponstein
Jim Morrissey
Dan Jaracz
Jeff Cowdrey