LACKS
ENTERPRISES, INC.

September 27, 2016

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 September 9, 2016 regarding the Lacks Enterprises, Inc. Kraft Plating facility. The violation is for excess chromium emissions from the chrome etch exhaust stack.

SEQUENCE OF EVENTS

2015

On July 17, 2015, Network Environmental, Inc. performed source testing of the Kraft Plater chrome etch exhaust system for total chromium emissions. The testing was conducted in response to the previously reported failures which occurred on May 19, 2015 and June 30, 2016 in order to verify that the implemented corrective actions had resolved the issue.

On July 22, 2015, we received a telephone call from Network Environmental informing us that the test results reported an average emission rate of 0.00055 lbs/hour and 0.0027 mg/dscm. This was below the emission limits of 0.0032 lbs/hour and 0.016 mg/dscm established in MI-ROP-N7374-2015.

On August 25, 2015, we conducted 3 engineering studies, including removal efficiency, on the chrome etch unit in order to gain understanding on the root cause of the previously failed tests and determine which of the previously implemented corrective actions was the ultimate solution. The results of the study were inconclusive.

On August 26, 2015, we conducted a compliance test on the chrome etch unit after returning the unit back to normal operating parameters. This test was completed to ensure we were back in compliance following the previous day's engineering studies.

On September 19, 2015, we received results from Network Environmental indicating that the emissions were in compliance. Results reported an average emission rate of 0.0012 lbs/hour and 0.0054 mg/m3 which are below our permitted emission limits.

On October 10, 2015, representatives from the scrubber manufacturer, Viron International, Inc., were on-site for another inspection of the scrubber unit. At this time they determined that the efficiency of the unit would benefit from a tightening of the pad fitment within the unit. They added two ¼ inch thick PVC flat shim plates to each pad section (one on each side), in order to tighten up the fitment and mitigate any chance of future air bypass or excess emissions.

On October 30, 2015, Viron returned to inspect the chrome plate scrubber unit to determine if it also required the shim plates. They were not able to install any shims on this system, and thus determine the pad fitment was tight and correct. This led them to the conclusion that the loose pads in the chrome etch unit may have been the root cause of the previously failed compliance tests.

2016

On May 6, 2016, the annual composite mesh pad scrubber inspections and preventative maintenance tasks were conducted on the chrome plate and chrome etch units at the Kraft Plating facility. This inspection includes removing the mesh pad covers for visual inspection and examining behind the stage 3 pads for any visible signs of chrome. At this time there were no findings to indicate that the unit was malfunctioning or that any excess emissions had occurred.

On July 14, 2016, Network Environmental, Inc. performed unofficial emissions testing and removal efficiency on the chrome etch unit. The testing was intended to confirm that the previously discussed shim plates were the true solution and that the earlier implemented corrective actions were holding up.

On the evening of August 3, 2016, we received a telephone call from Network Environmental personnel informing us that preliminary lab results indicated that the chrome etch exhaust had again exceeded the permitted limits for total chromium emissions. The test results reported an average emission rate of 0.00455 lbs/hour and 0.0228 mg/m3 which is above the limits of 0.0032 lbs/hour and 0.016 mg/dscm. Immediately after receiving the preliminary results the Kraft Plating facility reduced its production rate down to 22 bars per hour (the engineering study was conducted at a rate of 30 bars per hour).

On the morning of August 4, 2016, we requested that Network Environmental verify their calculations and have the analytical laboratory retest the samples. Representatives from Viron International, Inc. came on-site for a meeting to discuss possible solutions.

On August 5, 2016, while awaiting confirmation of the test results from Network Environmental, Kraft Plater ceased production at 7:00 a.m. Representatives from Viron arrived back on-site to inspect the interior and exterior of the scrubber unit for signs of bypass, gaps, cracks, leaks, damage, or other

irregularities. Upon inspection, it was noted that there were definite signs of chrome bypass on the back side of the stage 2 and stage 3 mesh pads within the unit. We called Dave Morgan immediately following the inspection to notify him of the findings and that we had likely exceeded our emission limits.

In order to increase the overall efficiency of the unit, Viron stitched four additional layers of fine mesh padding to the front of all 3 sections of the stage 2 pads. Viron assured us that the additional layers would yield greater removal efficiency. Viron also fabricated PVC c-channel caps which they placed on top of the stage 2 pads. These caps were then sealed around the perimeter with expandable foam to minimize any potential bypass over the top, prior to reinstallation of the access covers. The unit was cleaned to remove any excess chrome.

On August 8, 2016, production was started back up at a reduced rate of 22 bars per hour.

On August 10, 2016, we received a telephone call from Network Environmental which confirmed the test results.

On August 13, 2016, after receiving additional materials, Viron wrapped the perimeter of the stage 2 pads with four layers of fine mesh strips which overlapped the front and back of the pads by several inches. All of the layers were stitched together. The purpose of the perimeter wrapping was to act as a gasket to seal any potential voids between the scrubber housing and the pads to prevent bypass. Additionally, Viron installed custom PVC T-caps with a top gasket which would seal against the access covers. These caps were a design improvement over the previously installed c-channel style caps. The upper perimeter was again sealed with expandable foam prior to the reinstallation of the top access covers.

On August 20, 2016, Viron was on-site for a final inspection of the scrubber unit to inspect for any visual signs of chrome bypass. No evidence of bypass was detected.

On August 26, 2016, Network Environmental conducted compliance testing of the chrome etch stack in order to confirm compliance and verify that the previously discussed improvements to the unit were operating properly.

On August 31, 2016, we received a telephone call from Network Environmental stating that results indicated we were below our emission limits. Test results reported an average emission rate of 0.000853 lbs/hour and 0.0043 mg/dscm which are below our emission limits of 0.0032 lbs/hour and 0.016 mg/dscm.

DURATION

The duration of the exceedance was approximately 15 days. The unofficial emissions testing was conducted on July 14, 2016 and the Kraft Plater operated 15 production days until it reduced its production rate on August 3, 2016 in order to reduce emissions in response to the test results.

CAUSE and CORRECTIVE ACTIONS

We believe the root cause of the failed tests and excess emissions to be a poorly constructed scrubber unit which includes small imperfections and irregularities which allowed limited amounts of chrome etch exhaust to bypass the composite mesh pads and exit through the stack.

The corrective actions which are identified in the above SEQUENCE OF EVENTS are considered to be a temporary fix to restore the scrubber to normal operation and ensure compliance while necessary steps are taken to implement a permanent solution.

Lacks Enterprises, Inc. is committed to the purchase and installation of a brand new composite mesh pad scrubber system and believe that the new unit will address the root cause of the issues and ensure future compliance. We have yet to determine who the supplier of this new unit will be but have begun diligent research into alternative options including site visits to other companies with similar units as well as walkthroughs of the Kraft facility with new suppliers. As soon as we determine which option is the best fit for us, we will move forward with having the unit constructed and installed. Additional information will be provided as it becomes available.

For additional information regarding the violations, cause and corrective actions from the 2015 emissions testing, please reference the attached Violation Notice response letter dated July 29, 2015.

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

Sincerely,

Karen Baweja

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