

DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY DIVISION  
**ACTIVITY REPORT: Stack Test Observation**

N695072189

<b>FACILITY:</b> General Motors LLC-Lansing Delta Township		<b>SRN / ID:</b> N6950
<b>LOCATION:</b> 8175 Millett Highway, LANSING		<b>DISTRICT:</b> Lansing
<b>CITY:</b> LANSING		<b>COUNTY:</b> EATON
<b>CONTACT:</b> Patrick Doyle , Environmental Engineer		<b>ACTIVITY DATE:</b> 03/15/2024
<b>STAFF:</b> David Rauch	<b>COMPLIANCE STATUS:</b> Compliance	<b>SOURCE CLASS:</b> MAJOR
<b>SUBJECT:</b> A stack test was conducted as an engineering study to determine if the Primer Booth Oven RTO can have the temperature lowered below the 1546F and still maintain the material emissions limits and opacity limits.		
<b>RESOLVED COMPLAINTS:</b>		

On March 15, 2024 the AQD staff sent an approval letter to AQD staff observed the stack testing of the Regenerative Thermal Oxidizer (RTO) for the Primer Surfacer at General Motors(GM) Lansing Delta Twp plant. Testing will be done on Primer Surfacer and the test parameters will be looking at PM.

**AQD Staff:**

David Rauch LDO

**RWDI Representative:**

Mason Sakshaug

**GM Delta Representative:**

Jessica Alderton

Patrick Doyle

Prior to the test GM understood that if any of the tests failed that the site would need to report an exceedance and return the RTO to the appropriate temperature.

**Stack Test Observations**

Arrived on the site just after 7:00AM on March 26<sup>th</sup> and was met by Patrick Doyle in the security check in area. When I arrived at the stack the RWDI testing team was already set up and running Test 1. This test was being conducted as an engineering study to determine an appropriate temperature to maintain the limits within the ROP while lowering the temperature below the 1546F set point that is in the ROP. All 3 test runs on March 26<sup>th</sup> went smoothly without any issues.

Based the results of this study GM can lower the RTO temperature to 1400F and remain within the limits of the ROP. The engineering study on the second day at 1200F was not successful at maintaining the limits of the ROP.

**Test 1: 1400°F PM Emissions**

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<b>March 26<sup>th</sup></b>	<b>Run 1</b>	<b>Run 2</b>	<b>Run 3</b>	<b>Average</b>
<b>PM lbs/hour</b> <b>(Limit=1.1)</b>	<b>0.21</b>	<b>0.24</b>	<b>0.19</b>	<b>0.21</b>
<b>Lb/ 1000 lbs of exhaust (dry)</b> <b>(Limit=0.011)</b>	<b>0.0020</b>	<b>0.0023</b>	<b>0.0018</b>	<b>0.0020</b>
<b>VE Opacity</b> <b>(Limit=20%)</b>	<b>Opacity= 0%</b>	<b>Opacity= 0%</b>	<b>Opacity= 0%</b>	<b>Opacity= 0%</b>
<b>Jobs in Oven</b> <b>Vehicle Count in Oven</b>	<b>39</b>	<b>33</b>	<b>43</b>	<b>38</b>

**Test 2: 1200°F PM Emissions**

<b>April 12<sup>th</sup></b>	<b>Run 1</b>	<b>Run 2</b>	<b>Run 3</b>	<b>Average</b>
<b>PM lbs/hour</b> <b>(Limit=1.1)</b>	<b>1.35</b>	<b>1.55</b>	<b>1.16</b>	<b>1.35</b>
<b>Lb/ 1000 lbs of exhaust (dry)</b> <b>(Limit=0.011)</b>	<b>0.013</b>	<b>0.014</b>	<b>0.011</b>	<b>0.013</b>
<b>VE Opacity</b> <b>(Limit=20%)</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>

<b>Jobs in Oven</b>	<b>49</b>	<b>54</b>	<b>36</b>	<b>46</b>
<b>Vehicle Count in Oven</b>				

**Test 1: RTO Temperatures and times:**

<b>March 26<sup>th</sup></b>	<b>Run 1 (Temp/Time)</b>	<b>Run 2(Temp/Time)</b>	<b>Run 3(Temp/Time)</b>
<b>0 mins</b>	<b>1396 (6:55am)</b>	<b>1395 (9:30am)</b>	<b>1396 (12:23pm)</b>
<b>15 mins</b>	<b>1395 (7:10)</b>	<b>1396 (9:45)</b>	<b>1396 (12:38)</b>
<b>30 mins</b>	<b>1396 (7:25)</b>	<b>1396 (10:00)</b>	<b>1396 (12:53)</b>
<b>45 mins</b>	<b>1396 (7:40)</b>	<b>1396 (10:15)</b>	<b>1396 (1:08)</b>
<b>1hr</b>	<b>1396 (7:55)</b>	<b>1396 (10:30)</b>	<b>1396 (1:23)</b>
<b>1hr 15 mins</b>	<b>1396 (8:10)</b>	<b>1395 (10:45)</b>	<b>1396 (1:38)</b>
<b>1hr 30 mins</b>	<b>1396 (8:26)</b>	<b>1395 (11:00)</b>	<b>1396 (1:53)</b>
<b>1hr 45 mins</b>	<b>1396 (8:41)</b>	<b>1396 (11:15)</b>	<b>1395 (2:08)</b>
<b>2hrs</b>	<b>1396 (8:55am)</b>	<b>1396 (11:30am)</b>	<b>1396 (2:23pm)</b>

**Test 2: RTO Temperatures and times:**

<b>April 12<sup>th</sup></b>	<b>Run 1 (Temp/Time)</b>	<b>Run 2 (Temp/Time)</b>	<b>Run 3 (Temp/Time)</b>
<b>0 mins</b>	<b>1195 (7:00am)</b>	<b>1196 (9:43am)</b>	<b>1196 (12:16pm)</b>
<b>15 mins</b>	<b>1197 (7:15)</b>	<b>1196 (9:58)</b>	<b>1196 (12:31)</b>

30 mins	1197 (7:30)	1197 (10:13)	1196 (12:46)
45 mins	1197 (7:45)	1196 (10:28)	1196 (1:01)
1hr	1196 (8:00)	1196 (10:43)	1197 (1:16)
1hr 15 mins	1196 (8:15)	1196 (10:58)	1197 (1:31)
1hr 30 mins	1196 (8:30)	1196 (11:13)	1196 (1:46)
1hr 45 mins	1196 (8:45)	1197 (11:28)	1196 (2:01)
2hrs	1197 (9:00am)	1196 (11:43am)	1196 (2:16pm)

### Summary

After reviewing the final results of the stack test it can be determined that GM-Delta (N6950) can operate their Primer Surfacers RTO at 1400F and maintain the limits set in MI-ROP-N6950-2020a. However, after the April 12<sup>th</sup> stack test, GM-Delta had to report an exceedance as the 1200F was too low of a temperature to maintain the limits of their ROP. GM reported an exceedance per Rule 912. During the stack test no opacity was observed.

NAME David Rauch

DATE 06/07/2024

SUPERVISOR RB