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Comprehensive Emissions Test Report

Escanaba Mill
Methanol
Compliance Testing

Testing Date(s): July 10, 2015
Report Date: August 17, 2015
Revision Date: No revision to date

Subject Facility:
Verso Corporation
Escanaba Mill
7100 County Road 426
Escanaba, MI 49829

Regulatory Permit No.:
MI-ROP-A0884-2008a
SRN: A0884

Subject Emission Sources:
Thermal Oxidizer

Test Locations:
Exhaust

Report Prepared For:

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7100 County Road 426
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Pace Project No. 12-15-0724A

Regulatory Summary

Subject Facility: Verso Corporation
Plant Address: Escanaba Mill
7100 County Road 426
Escanaba, MI 49829

Air Permit No.: MI-ROP-A0884-2008a
Facility ID No.: SRN: A0884

Emission Unit IDs	Emission Unit Name	Regulated Constituent	Regulatory Citations	Regulatory Limit	Average Test Result
EUCO33 EUOC33	Thermal Oxidizer System	Total HAP measured as Methanol	40 CFR Part 63, Subpart S	≤ 20 ppmv, dry @ 10% oxygen	≤ 2.62 ppmv, dry @ 10% oxygen

Executive Summary

Verso Corporation contracted Pace Analytical Services, Inc. to perform methanol emission compliance testing on the Thermal Oxidizer System Exhaust at the Escanaba Paper Company Mill located in Escanaba, Michigan. Testing was performed on July 10, 2015. Summary results are highlighted in the following table:

Test Results Summary

Parameter	Run 1	Run 2	Run 3	Average
Thermal Oxidizer Exhaust				
Methanol, PPMv- Dry @ 10% O_2	<2.41	<2.40	3.05	≤2.62

Introduction

Pace Analytical Services, Inc. personnel conducted methanol emission compliance testing on the Thermal Oxidizer System Exhaust at the Escanaba Paper Company Mill located in Escanaba, Michigan. Tom Rehling and Dan Luoma performed on-site testing activities. Terry Borgerding provided administrative project management. Paula LaFleur with Verso Corporation coordinated plant activities during testing. Joel Asher and Jeremy Howe from the Michigan Department of Environmental Quality (MDEQ) were on-site to witness the testing event. Pace Analytical Services, Inc. prepared a comprehensive test protocol that was submitted to the MDEQ and approved prior to testing. On-site activities consisted of the following measurements:

- Methanol, three independent one-hour monitoring periods.
- Moisture, three independent one-hour samplings.
- Orsat gas composition, integrated samples collected concurrent with constituent test runs.
- Airflow, three independent measurements concurrent with constituent test runs.

The project objectives of this repeat performance test are to demonstrate compliance with 63.443(d)(2) by achieving a thermal oxidizer outlet total HAP concentration of 20 ppm or less by volume corrected to 10% O_2 on a dry basis and to confirm and/or re-establish an acceptable operating range(s) for the CMS identified in 63.453(b). The CMS utilized to demonstrate continuous compliance with the standard includes Thermal Oxidizer outlet temperature monitoring.

Results of the testing show that when the Thermal Oxidizer operates within the parametric range measured during the test runs, the methanol limit of 20 ppm PPMv-Dry @ 10% O_2 will be achieved.

The parametric monitoring data and methanol test results are summarized in the table below.

Thermal Oxidizer Outlet Temperature (°F)	Methanol ppmvd @ 10% O_2	Averaging time (hrs)
1339	2.62	three one-hour test runs

These measurements were performed at normal process operating conditions. Quality protocols comply with regulatory compliance testing requirements.

Subsequent sections summarize the test results and provide descriptions of the process and test methods. Supporting information and raw data are in the appendices.

Results Summary

Results of methanol determinations are summarized in Table 1. The methanol emission concentration averaged ≤2.62 PPMv-Dry @ 10% oxygen. The methanol emission concentration for this source is ≤20 PPMv-Dry@ 10% oxygen. Subsequent tables provide detail of the moisture, gas composition and airflow determinations used in calculating emission results.

The compliance testing initially was started at 1102 but was aborted 40 minutes into the run due to a process upset. Testing was re-started at 1445 and three complete one-hour test runs were performed.

The data in this report are indicative of emission characteristics of the measured sources for process conditions at the time of the test. Representations to other sources and test conditions are beyond the scope of this report. Gas-phase FTIR test methods are considered accurate to +/-30%.