DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: Scheduled Inspection

B719246346

FACILITY: VERSO QUINNESEC, LLC		**SRN / ID:** B7192
LOCATION: W-6791 US HIGHWAY 2, QUINNESEC		**DISTRICT:** Upper Peninsula
CITY: QUINNESEC		**COUNTY:** DICKINSON
CONTACT: PAULA LAFLEUR , ENVIRONMENTAL ENGINEER (12/2017)		**ACTIVITY DATE:** 09/04/2018
STAFF: Joe Scanlan	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** MAJOR
SUBJECT: Announced inspection for a facility walk-through and to determine compliance with MI-ROP-B7192-2013		
RESOLVED COMPLAINTS:		

Section 1 - Verso Paper Quinnesec Mill

Verso Paper, formerly International Paper Corporation and prior to that, Champion International Corporation is a Kraft pulp and paper mill that was constructed in Quinnesec, Dickinson County, Michigan, in 1981. The mill converts hardwood logs into wood pulp and paper through a variety of process operations.

The hardwood pulp is produced from roundwood, which is chipped on-site or from purchased chips delivered to the Mill. The Kraft cooking process is used to separate the lignin and wood fiber to produce unbleached pulp from wood chips. Pulp is produced in a continuous digester, washed, separated from wood knots, and screened. The pulp is further delignified in oxygen reactors. After oxygen delignification, the pulp is further washed and bleached.

The organic or lignin laden filtrates (black liquor) from the pulping, oxygen delignification, and washing processes are concentrated through evaporators. The black liquor generated in this process is concentrated and burned in a recovery furnace. The recovery furnace produces steam for energy generation and heat for the pulp and paper making processes. The molten inorganic ash (smelt) from the recovery furnace is dissolved in water to make green liquor, which is processed into reusable cooking chemicals. The causticizing process combines lime with the green liquor in a slaker reactor to produce sodium hydroxide and sodium sulfide solution (white liquor). The lime mud from slaking is washed and then re-burned in a rotary kiln to produce reusable lime.
The mill uses two power boilers to produce steam for energy generation and to provide heat for the pulping and paper making processes. The mill operates steam-driven turbines to produce a portion of the electricity required by the facility.

Product paper is manufactured from a combination of hardwood pulp produced on-site and purchased pulp on the mill's Q-41 paper machine. Market pulp from on-site production is produced on the mill's Q-40 pulp drying machine. Paper produced on the Q-41 Paper Machine is processed and shipped in roll form to final customers. Market pulp is produced on the Q-40 pulp-drying machine as bales of sheets for final sale.

Section 2 - Specialty Minerals, Inc.

Specialty Minerals, Inc. operates process equipment at the Quinnesec mill. The process equipment operated by Specialty Minerals, Inc. is identified as a second section or partition of the Quinnesec mill proposed Renewable Operating Permit. These processes use exhaust gases from either the lime kiln, waste fuel boiler, or the package boiler as a CO2 source for precipitated calcium carbonate (PCC) production. The process equipment includes PCC storage silos and transfer operations.

The following table lists stationary source emission information as reported to the Michigan Air Emissions Reporting System in the 2017 submittal.

TOTAL STATIONARY SOURCE EMISSIONS

Pollutant	Tons per Year
Carbon Monoxide (CO)	1081.04
Lead (Pb)	0.02
Nitrogen Oxides (NO_x)	1156.35
Particulate Matter (PM)	137.54
Sulfur Dioxide (SO_2)	133.81
Volatile Organic Compounds (VOCs)	71.65
Ammonia	53.98
Individual Hazardous Air Pollutants (HAPs) **	
HCl	0.13
Total Hazardous Air Pollutants (HAPs)	0.13

**As listed pursuant to Section 112(b) of the federal Clean Air Act.

See Parts C and D in the draft ROP for summary tables of all processes at the stationary source that are subject to process-specific emission limits or standards.

Regulatory Analysis

The following is a general description and history of the source. Any determinations of regulatory non-applicability for this source are explained below in the Non-Applicable Requirement part of the Staff Report and identified in Part E of the ROP.

The stationary source is located in Dickinson County, which is currently designated by the U.S. Environmental Protection Agency (USEPA) as attainment/unclassified for all criteria pollutants.

The stationary source is subject to Title 40 of the Code of Federal Regulations (CFR), Part 70, because the potential to emit exceeds 100 tons per year, the potential to emit of any single HAP regulated by the federal Clean Air Act, Section 112, is equal to or more than 10 tons per year, the potential to emit of all HAPs combined is more than 25 tons per year, and the potential to emit of Greenhouse Gases is 100,000 tons per year or more calculated as carbon dioxide equivalents (CO2e) and 100 tons per year or more on a mass basis.

On April 26, 1995 the stationary source fulfilled the requirement of an initial performance test as required in EU0508-S1, Bleach Plant Process, Special Condition V.1, therefore, that condition has been deleted for this renewal.

EU0204-S1, EU0368-S1, EU0508-S1, EU0513-S1, EU0514-S1, EU0765-S1, EU0767-S1, EU0815-S1, EU0816-S1, EU0917-S1, EU1019-S1, EU1121-S1, EU1122-S1, EU1125-S1, EU1127-S1, EU1137-S1, EU2334-S1, FGMOD08-S1, FGWFBMOD-S1, EU2550-S2, and EU2551-S2 at the stationary source were subject to review under the Prevention of Significant Deterioration regulations of CFR 40 Part 52.21 because at the time of New Source Review permitting the potential to emit of all criteria pollutants were greater than tons per year.

At this time, there are no GHG applicable requirements to include in the ROP. The mandatory Greenhouse Gas Reporting Rule under 40 CFR 98 is not an ROP applicable requirement and is not included in the ROP.

EU0508-S1, EU0512-S1, and EU0514-S1 BLEACH PLANT PROCESS and EXTRACTION STAGES, EU0610-S1 ClO2 GENERATING PLANT, EU0611-S1 METHANOL STORAGE TANK, and EU0815-S1 CHEMICAL RECOVERY are subject to Toxics review under Rule 224.

EU0204-S1 DIGESTER SYSTEM, EU0205-S1 DIGESTER BLOW TANK, EU0368-S1 BROWN STOCK WASHERS, EU0765-S1 EVAPORATOR SYSTEM, EU0766-S1 HOTWELL, EU0767-S1 CONDENSATE STRIPPER, EU0815-S1 CHEMICAL RECOVERY FURNACE, EU0816-S1 SMELT DISSOLVING TANK, and EU0917-S1 LIME KILN, at the stationary source are subject to the New Source Performance Standards for Kraft Pulp Mills promulgated in 40 CFR Part 60, Subparts A and BB.

EU1121-S1 WASTE FUEL BOILER and EU1122-S1 PACKAGE BOILER at the stationary source are subject to the New Source Performance Standards for Fossil-Fuel-Fired Steam Generators for Which Construction Is Commenced After August 17, 1971 promulgated in 40 CFR Part 60, Subparts A and D, and the Maximum Achievable Control Technology (MACT) standards under the National Emission Standard for Hazardous Air Pollutants for Major Sources for Industrial, Commercial, and Institutional Boilers and Process Heaters, 40 CFR Part 63, Subpart DDDDD. This MACT standard, which was originally promulgated on September 13, 2004, was vacated and remanded by the United States Court of Appeals for the District of Columbia Circuit on July 30, 2007. On March 20, 2011, EPA re-promulgated the Boiler MACT with an effective date of May 20, 2011. EPA then stayed the effective date of the standard on May 18, 2011. On January 9, 2012, the D.C. Circuit Court vacated EPA's stay. On January 31, 2013, the EPA issued the final reconsidered rule. Compliance with the final rule was required by January 31, 2016. The Boiler MACT is cited as an applicable requirement in EU1121-S1 WASTE FUEL BOILER and EU1122-S1 PACKAGE BOILER tables.

EU0368-S1 BROWN STOCK WASHER, EU0460-S1 OXYGEN DELIGNIFICATION, EU0508-S1, EU0513-S1, and EU0514-S1 the BLEACH PLANT PROCESS, EU0767-S1 CONDENSATE STRIPPER, EU2334-S1 CVG SYSTEM, EU2335-S1 DVG SYSTEM, and EU2336-S1 CONDENSATE SOURCE GROUP at the stationary source are subject to the Maximum Achievable Control Technology (MACT) Standards for the Pulp and Paper Industry promulgated in 40 CFR Part 63, Subparts A and S.

EU0815-S1 CHEMICAL RECOVERY FURNACE, EU0816-S1 SMELT DISSOLVING TANK, and EU0917 LIME KILN at the stationary source are subject to the Maximum Achievable Control Technology (MACT) Standards for the Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-Alone Semi-chemical Pulp Mills promulgated in 40 CFR Part 63, Subparts A and MM.

EU2336-S1 CONDENSATE SOURCE GROUP at the stationary source is subject to the Maximum Achievable Control Technology (MACT) Standards for the Individual Drain Systems promulgated in 40 CFR Part 63, Subparts A and RR.

The monitoring conditions contained in the ROP are necessary to demonstrate compliance with all applicable requirements and are consistent with the "Procedure for Evaluating Periodic Monitoring Submittals."

EU0101-S1 CHIP SCREENING OPERATIONS, EU0102-S1 CHIP PRODUCTION OPERATIONS, EU0815-S1 CHEMICAL RECOVERY FURNACE, EU0816-S1 SMELT DISSOLVING TANK, EU1125-S1 COAL CRUSHING/UNLOADING & HANDLING, EU1127 FUEL HOGGING OPERATIONS, EU1128-S1 PURCHASED FUEL HOGGING and EU1137-S1 HOGGED FUEL/COAL TRANSFER at the stationary source are subject to the federal Compliance Assurance Monitoring (CAM) rule under 40 CFR Part 64. These emission units have control devices and potential pre-control emissions of particulate matter greater than the major source threshold level.

Because EU0815-S1 CHEMICAL RECOVERY FURNACE and EU0816-S1 SMELT DISSOLVING TANK are subject to the MACT Standards for the Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-Alone Semi-chemical Pulp Mills promulgated in 40 CFR Part 63, Subparts A and MM. and EU1121-S1 WASTE FUEL BOILER is subject to the MACT standards under the National Emission Standard for Hazardous Air Pollutants for Major Sources for Industrial, Commercial, and Institutional Boilers and Process Heaters, 40 CFR Part 63, Subpart DDDDD the CAM requirements are not applicable to these three emission units based upon Section 64.2 of the Part 64 CAM rules.

Source-wide Permit to Install (PTI)

Rule 214a requires the issuance of a Source-wide PTI within the ROP for conditions established pursuant to Rule 201. All terms and conditions that were initially established in a PTI are identified with a footnote designation in the integrated ROP/PTI document.

The following table lists all individual PTIs that were incorporated into previous ROPs. PTIs issued after the effective date of ROP No. MI-ROP-B7192-2013 are identified in Appendix 6 of the ROP.

PTI Numbers			
379-07	67-07	257-05	69-05A
381-94	829-92	24-90A	65-88
749-87	652-87	179-87	33-80E
33-80D	33-80C	33-80B	33-80A
33-80			

PTI# 55-12B (issued 10/31/2018) will be rolled into the renewal ROP.

Processes Not Identified in ROP

The following table lists processes that were included in the ROP application as exempt devices under Rule 212(4). These processes are not subject to any process-specific emission limits or standards in any applicable requirement.

Exempt Emission Unit ID	Description of Exempt Emission Unit	Rule 212(4) Exemption	Rule 201 Exemption
23-TK-020	Two (2) 12,000-gallon diesel tanks	Rule 212(4)(c)	Rule 284(d)
01-CU-006 – 01-CU-031	Space Heaters #1-7, Wood Prep Building	Rule 212(4)(b)	Rule 282(b)(i)
11-CU-005 – 11-CU-013	Natural gas heaters #1 – 9	Rule 212(4)(b)	Rule 282(b)(i)
16-CU-042	Natural gas heater	Rule 212(4)(b)	Rule 282(b)(i)
16-CU-043	Natural gas heater #2 Waste	Rule 212(4)(b)	Rule 282(b)(i)
16-CU-050 – 16-CU-051	Natural gas heaters #1 and 2, Aeration	Rule 212(4)(b)	Rule 282(b)(i)
16-CU-058	Natural gas heater Polymer Building	Rule 212(4)(b)	Rule 282(b)(i)
16-CU-064	Natural gas heater Effluent	Rule 212(4)(b)	Rule 282(b)(i)
23-CU-005	Admin. Building Boiler	Rule 212(4)(b)	Rule 282(b)(i)
23-CU-008 – 23-CU-017	Natural gas heaters #1 – 10	Rule 212(4)(b)	Rule 282(b)(i)

Draft ROP Terms/Conditions Not Agreed to by Applicant

This permit does not contain any terms and/or conditions that the AQD and the applicant did not agree upon pursuant to Rule 214(2).

Compliance Status

Recently the facility requested to modify PTI# 55-12 to allow for an increase in the daily maximum material limits of black liquor solids (BLS) for the mill's Chemical Recovery Furnace (EU0815-S1) and an increase in the daily pulping limit affecting the Digester (EU0204-S1) and also the Smelt Dissolving Tank (EU0816-S1). This change will allow the mill to achieve their permitted annual production level of 755,000 tons BLS/yr and 572,959 tons of pulp/yr. The request is to specifically change the existing daily BLS firing rate limit from 4.20 million lbs/day to 4.44 MM lbs/day and to increase the existing daily pulping rate limit from 1632 tons pulp/day to 1725 tons of pulp/day. The facility used the most recent air toxics screening levels established by DEQ in their request. PTI# 55-12b was issued on October 31, 2018 (PTI# 55-12a was applied for, however the facility subsequently retracted the application--hence 12b).

AQD district staff is also in the process of drafting a renewal ROP for issuance in early 2019. PTI# 55-12b will be rolled into the new ROP along with additional Boiler MACT emission/material limits, process/operational restrictions, performance testing/sampling, monitoring/recordkeeping, and reporting requirements. These items will be addressed in detail in the accompanying Staff Report for the renewal ROP

A review of testing results from 2011 for the Recovery Furnace, Lime Kiln, SMI Carbonator System, and Smelt Dissolving Tank show these emission units are well below the facility's permitted emission threshold limits. A review of test results from 2017 for the Waste Fuel Recovery Boiler also show the emission unit to be well below the units permitted emission threshold limit. Additional review of the facility's 2017 MAERS submittal also show the facility is in compliance with the emission threshold limits as permitted in MI-ROP-B7192-2013.

Review of the facility's 2018 Semi-Annual report (1/1/18 - 6/30/18), Boiler MACT DDDDD report, Quarterly MACT II Excess Emissions & CMS Performance, the CEMS/COMS Excess Emission

and Quality Assurance Reports, were completed as well.

CEMS gas concentration analyzers were upgraded to Thermo IQ series instruments and sampling systems (probe boxes/umbilical lines/sample pumps) in mid-April 2018. The VIM data acquisition and handling system software was also upgraded from CEMLink5 to CEMLink6.

Deviation Report Summary 1/1/18 - 7/25/18

EMISSION UNIT	DESCRIPTION OF DEVIATION	DURATION	TABLE/CONDITION
CVG System (EU2334)	Diluted Vent Gas (DVG) vented to atmosphere	6.61 hrs	EU2334 SC III.4
DVG System (EU2335) Brown Stock Washer (EU0368) Oxygen Dilignification System (EU0460)	DVG vented to atmosphere	1.64 hrs	EU2335 SC III.1-III.4; EU0368 & EU0460 SC IX.1
Lime Kiln (EU0917)	Lime Kiln Scrubber dP was < the MACT II lower established limit of 30" H2O	One 3-hr rolling avg period	EU0917 SC III.3 & 4
Bleach Plant Process (EU0508)	D1/D2 bleaching stage scrubber 3-hr rolling avg pH below MACT I min of 10.46	3 hrs	EU0508 SC III.9
Recovery Furnace (EU0815)	MACT II opacity exceedance > 20%	3 hrs	EU0815 SC VI.1.d
Smelt Dissolving Tank (EU0816)	SDT scrubber flow 3 hr rolling avg < 150 gal/min	4 hrs	EU0816 SC III.2 and VI.3
Smelt Dissolving Tank (EU0816)	SDT scrubber bypassed	6 hrs	EU0816 SC III.2 and VI.3
Recovery Furnace (EU0815)	MACT II opacity exceedance > 20%	12.3 hrs	EU0815 SC VI.1.d
Recovery Furnace (EU0815)	MACT II opacity exceedance > 20%	1.2 hrs	EU0815 SC VI.1.d
Fuel Hogging Operations (EU1127)	Baghouse out of service	28 days	EU1127 SC III.1
CVG System (EU2334)	Unscrubbed CVGs vented to atmosphere in excess of 5 mins	9.28 mins	EU2334 SC III.2 & III.4
Waste Fuel Boiler (EU1121)	3 hr NOx lb/MMBtu avg emission rate > 0.30 while fueled by natural gas & wood	3 hrs	EU1121 Table I footnote (b)

The facility is excellent at reporting deviations immediately following events and communicates well with district staff. Deviations and exceedances are dealt with promptly by facility staff.

I did not observe any violations during my inspection and the facility is currently in compliance with all applicable requirements of ROP MI-ROP-B7192-2013.

NAME _____ DATE 10/1/18 SUPERVISOR _____