1.0 NOTIFICATION OF COMPLIANCE STATUS

This report serves to satisfy the notification of compliance status under §63.9(h). As required, the report contains the following information:

- The methods that were used to demonstrate compliance (Section 6.1)
- The results of the performance test (Section 4.4), continuous monitoring system (CMS) performance evaluations (Section 5.0), and/or other monitoring procedures or methods that were conducted
- The methods that will be used for determining continuing compliance, including a description of monitoring and reporting requirements and test methods (Section 5.0)
- The type and quantity of hazardous air pollutants emitted by the source (or surrogate pollutants if specified in the relevant standard), reported in units and averaging times and in accordance with the test methods specified in the relevant standard (Section 2.1)
- A description of the air pollution control equipment (or method) for each emission point, including each control device (or method) for each hazardous air pollutant and the control efficiency (percent) for each control device (or method) (Section 3.1)

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in this document are true, accurate and complete, and the Quinnesec mill is in compliance with the HAPs requirement of 40 CFR 63 Subpart MM.

Dennis L Perpich 10-16-2020

Dennis Perpich
Mill Manager
Verso Quinnesec LLC

Date

2.0 INTRODUCTION

2.1 HAZARDOUS AIR POLLUTANT EMISSIONS

Verso Quinnesec LLC (Verso, or the Quinnesec Mill) is considered a major source of Hazardous Air Pollutant (HAP) emissions as defined in 40 CFR Part 63, Subpart A. 40 CFR 63 Subpart MM requires the control of HAP metals from chemical recovery combustion sources by implementing maximum achievable control technology (MACT). HAPs emitted from the Quinnesec Mill's chemical recovery combustion sources were measured as particulate matter (PM). Potential sources of hazardous air pollutant emissions associated with the mill's chemical recovery combustion sources include: Recovery Furnace, Smelt Dissolving Tank, and Lime Kiln. A summary of the performance test emission results are included in Section 4.4.

2.2 SUMMARY OF TEST PROGRAM

The Quinnesec Mill is required by 40 CFR 63.865 to conduct an initial performance test (IPT) and periodic performance tests (PPT) to comply with the NESHAP Chemical Recovery Combustion Sources standard of 40 CFR 63 Subpart MM (MACT II). The IPT was conducted August 3-6, 2004, within 180 days of the effective date of the standard (§63.7(a)). The periodic testing was conducted September 15th – 17th, 2020, within 3 years of the effective date of the revised standard (October 11, 2017).

A notification is due to the state 60 days prior to the PPT and a site-specific test plan must be made available upon request [§63.9(e)]. The notification was submitted to MDEQ on March 17, 2020 along with a Site Specific Test Plan for Performance Testing and CMS Performance Evaluation. A Notification of Compliance Status and report of the PPT results are due postmarked and electronically (CEDRI) within 60 days of completion of the performance test. This report provides the required documentation for the Notification of Compliance Status and performance test results to demonstrate compliance with the applicable Chemical Recovery Combustion Sources HAP standards.

Additionally, as required in the monitoring requirements of the standard at §63.864(j), the initial or periodic performance test is used to establish or reestablish ranges for the applicable continuous monitoring system (CMS) parameters as identified in §63.864(e). Rationale for the selected operating parameter values, monitoring frequency, and averaging time is included in Section 5.0 this document.

A CMS Performance Evaluations were conducted as required by 63.8. See Section 5.1.

2.3 TEST PROGRAM ORGANIZATION

▪ Facility Name	Verso Quinnesec LLC
▪ Contact Name	Paula LaFleur
▪ Address	P.O. Box 191 Norway, MI 49870
▪ Telephone Number	906-779-3494
▪ Email	Paula.lafleur@versoco.com
▪ Testing Contractor Name	Mostardi Platt
▪ Contact Name	Mr. Mark Peterson
▪ Address	888 Industrial Drive, Elmhurst, IL 60126
▪ Telephone Number	630-993-2100
▪ Email	mpeterson@mp-mail.com

3.0 SOURCE DESCRIPTION

3.1 PROCESS & CONTROL EQUIPMENT DESCRIPTION

Black liquor generated by the Kraft pulping process is collected and stored in a weak liquor storage tank prior to chemical recovery. In the recovery process, spent cooking chemicals are recovered by evaporating water from weak black liquor in multiple effect evaporators. The concentrated black liquor is fired in the recovery furnace. The inorganics accumulate on the furnace floor, and are drained off as a molten smelt into the dissolving tank where they are mixed with weak wash to form green liquor. The green liquor is pumped to the causticizing area. The furnace combustion gases pass through a dry electrostatic precipitator where PM is removed. Dissolving tank vent gases are sent to a dynamic wet scrubber system for PM removal.

Lime mud (calcium carbonate) from the causticizing area is converted to lime in a rotary lime kiln. The lime mud is dried and heated to a high temperature in the kiln where lime mud is converted to lime (calcium oxide). The lime is sent to the slaker process. The lime kiln is heated directly with natural gas. Low Volume, High Concentration (LVHC) gases and foul methanol are also incinerated in the kiln. Exhaust gases from the lime kiln are sent to a venturi scrubber for PM removal.

(See Appendix A for Process Diagrams)

Detailed below are Verso's MACT II regulated sources along with the type of control equipment and MACT II applicable monitoring instrumentation.

- Recovery Furnace
  Control Equipment: Dry Bottom ESP, estimated PM removal efficiency >99.5%
  Monitoring Equipment: Opacity (COMS)

- Smelt Dissolving Tank
  Control Equipment: Dynamic Wet Scrubber, estimated PM removal efficiency >99.5%
  Monitoring Equipment: Scrubber Fan Amps and Liquid Flow
  Note: An Alternative Monitoring Request has been submitted and approved for this device. The dissolving tank scrubber is a low pressure dynamic scrubber with a constant speed fan. Verso has received approval to monitor fan amperage (% of full load) as an indicator of fan run status in lieu of establishing a minimum scrubber fan amperage value during the performance test. The EPA approval letter is attached to this report.

- Lime Kiln
  Control Equipment: Venturi Scrubber, estimated PM removal efficiency >99.5%
  Monitoring Equipment: Scrubber Liquid Flow and Pressure Drop (dP)

4.0 SUMMARY AND DISCUSSION OF RESULTS

4.1 OBJECTIVES

The purpose of the periodic performance test is to demonstrate compliance with the HAP metals standard as outlined in §63.862(a). Also, the PPT is intended to establish or reestablish ranges (operating limits) for the applicable continuous monitoring system (CMS) parameters as identified in §63.864. The CMS must measure appropriate parameters to demonstrate continuous compliance with the standard.

4.2 TEST MATRIX

Table 4-1 describes the PPT testing program.

Table 4-1 PPT Test Program

Sampling Location	No. of Runs	Minimum Sample Run Time	No. of Performance Tests	Sampling Firm	Sample/ Type of Pollutant	Sampling Method	Analytical Method
Recovery Furnace, Smelt Dissolving Tank, and Lime Kiln	3	60 minutes	1 test at normal operating conditions	Mostardi Platt	Particulate matter	40 CFR 60 Appendix A, Method 5	40 CFR 60 Appendix A Method 5
					Flow	40 CFR 60, Appendix A, Method 2	40 CFR 60, Appendix A, Method 2
					Oxygen	40 CFR 60, Appendix A, Method 3A	40 CFR 60, Appendix A, Method 3A
					Moisture	40 CFR 60, Appendix A, Method 4	40 CFR 60, Appendix A, Method 4

4.3 MILL OPERATIONS

The Recovery Furnace, Smelt Dissolving Tank, and Lime Kiln were operating under normal, representative conditions during the performance testing as required by §63.865. Source operating data is included in the attached stack test report.

4.4 SUMMARY OF RESULTS

Detailed in Table 4-2 are the results obtained from the September 15-17, 2020, PPT. The PPT results clearly demonstrate that the Quinnesec Mill's Recovery Furnace, Smelt Dissolving Tank, and Lime Kiln are in compliance with MACT II limits and Verso's Title V Renewable Operating Permit (ROP) limits. Results are an average of three test runs. The complete Stack Test Report is attached.

Table 4-2 Periodic Performance Test Method 5 Particulate Results Summary

Emission Unit	Test Date	Test Results, PM		MACT II Limit	ROP Limit 1	ROP Limit 2
Recovery Furnace	9/15/2020	0.016 gr/dscf @ 8% O_2	39.5 lb/r	0.044 gr/dscf @ 8% O_2 *[40 CFR 63.862(a)(i)(A)]*	--	--
Smelt Dissolving Tank	9/16/2020	0.09 lb/ton BLS fired	7.7 lb/hr	0.20 lb/ton BLS fired *[40 CFR 63.862(a)(i)(B)]*	0.107 lb/ton BLS fired	8.5 lb/hr
Lime Kiln	9/17/2020	0.014 gr/dscf @ 10% O_2	4.1 lb/hr	0.064 gr/dscf @ 10% O_2 *[40 CFR 63.862(a)(i)(C)]*	16.9 lb/hr	--

5.0 CONTINUOUS MONITORING SYSTEM (CMS) PARAMETER MONITORING

The Quinnesec Mill is required by 40 CFR 63.8(e) to conduct a performance evaluation for each source CMS.

5.1 CMS PERFORMANCE EVALUATION

Recovery Furnace Continuous Opacity Monitor (COMS):

A 40 CFR 60, Appendix B (PS-1) compliant continuous opacity monitor (SICK Dusthunter T200) is installed on the recovery furnace flue gas duct. Performance specification testing was conducted in October and November of 2019. A report of the performance test results dated January 22, 2020 was submitted to EGLE and EPA Region V. The opacity meter meets all PS-1 certification requirements.

The recovery furnace COMS is checked daily, quarterly, and annually for proper operation in accordance with QA/QC requirements contained in PS-1 and 40 CFR 60 Appendix F Procedure 3. Results of all COMS QA activities are include in the Quarterly Excess Emissions and QA Reports which are routinely submitted to EGLE and EPA. Critical spare replace parts for the COMS are maintained on-site.

Smelt Dissolving Tank Continuous Parameter Monitoring System (CPMS):

The scrubber fan amps sensor and flow meters were inspected for proper calibration and operation prior to the IPT. The flow meters continuously monitor total scrubber liquid flow to the scrubber. The flow meters are certified by the manufacture to be accurate within +/- 5 percent of the design scrubbing flow rate.

In the absence of promulgated performance specifications, these monitoring systems are maintained and operated according to manufacturer's recommendations and/or operation experience. CMS instrumentation is inspected on a routine basis (see Appendix B for CMS Specifications and Maintenance Schedule). Critical spare replace parts for these instruments are maintained on-site.

The EPA granted approval for Verso to use no-load scrubber fan amps as an indicator of fan operating status in lieu of establishing a minimum fan amp limit during the performance test. EPA approval letter is attached to this report.

Lime Kiln Continuous Parameter Monitoring System (CPMS):

The scrubber recirculation flow meter and scrubber differential pressure meters were calibrated/inspected for proper operation prior to the IPT. The instruments used for the measurement of flow and pressure drop are certified by the manufacture to be accurate within +/- 5 percent of the design scrubbing flow rate or +/- 2 inches of water guage pressure.

In the absence of promulgated performance specifications, these monitoring systems are maintained and operated according to manufacturer's recommendations and/or operation experience. CMS instrumentation is inspected on a routine basis (see Appendix B for CMS Specifications and Maintenance Schedule). Critical spare replace parts for these instruments are maintained on-site.

The CMSs consists of field instruments, recorders and controls connected to operator displays and the Proficy data collection system. CMS operation is monitored on continuous basis by the computer control system. Operators call mill maintenance in the event of a CMS device malfunction. The Proficy reporting program logs CMS failures and summarizes downtime via daily and monthly reports. The Proficy system is monitored continuously to insure that proper communication is taking place.

5.2 ESTABLISMENT OF CMS OPERATING RANGES

The basis for the establishment of operating limits for continuous compliance demonstration is detailed in the Table 5-1 below.

Table 5-1 Basis of Operating Parameter Limits

Source	Operating Parameter	Basis for Establishing Operating Limit
Lime Kiln	Scrubber Flow	§63.864(j) – The minimum operating limit for a wet scrubber is established as the lowest of the 1-hour average pressure drop [and differential pressure] values associated with each test run demonstrating compliance with the applicable emission limit in §63.862.
	Scrubber Differential Pressure	
Smelt Dissolving Tank	Scrubber Flow	
	Scrubber Fan Amps	The minimum operating limit is established as the no-load scrubber fan amp value per 7/31/2019 EPA alternative monitoring approval (see attached).

Below in Table 5-2 are the established operating ranges for each source CMS as required by §63.864(j) and §63.864(k)(i).

Table 5-2 CMS Operating Limits

Source	CMS	CMS Operating Limit	Averaging Period
Recovery Furnace	Opacity	35% (maximum)	6 minutes
Smelt Dissolving Tank	Scrubber Flow	150 gpm (minimum)	3 hour rolling
	Scrubber Fan Amps	39% of full load amps (minimum)	3 hour rolling
Lime Kiln	Scrubber Flow	389 gpm (minimum)	3 hour rolling
	Scrubber Differential Pressure	32 inches H20 (minimum)	3 hour rolling

Data obtained from scrubber CPMS collected during the Lime Kiln and Smelt Dissolving Tank PPT runs was used in the development of the scrubber CPMS operating limits for scrubber flows and differential pressure. This data is summarized in the following Tables 5-3 and 5-4.

Table 5-3 Lime Kiln MACT II Method 5 Test Run Process Data

Run	Start Time	End Time	CaO (tons/day product)	Lime Kiln Scrubber		PM (gr/dscf@ 10% O2
				Pressure Drop (psi)	Flow Rate (gpm)	
Run 1	9/17/20 11:41	9/17/20 13:01	338	33	407	0.013
Run 2	9/17/20 13:44	9/17/20 15:01	338	33	430	0.015
Run 3	9/17/20 15:45	9/17/20 17:01	338	32	389	0.013

Table 5-4 Smelt Dissolving Tank MACT II Method 5 Test Run Process Data

Run	Start Time	End Time	BLS Feed to Recovery Furnace (kpph)	Fan Amperage (% full load)[1]	Scrubber Flow (gpm)	PM lb/ton BLS fired
Run 1	9/16/20 14:52	9/16/20 16:06	176.0	79	198	0.069
Run 2	9/16/20 16:45	9/16/20 18:01	176.1	75	150	0.096
Run 3	9/16/20 18:42	9/16/20 19:58	176.1	78	170	0.096

[1]As approved by the EPA on July 31, 2019 (see attached approval letter) the minimum fan amperage was established as 39% of full load amps during a no load amp test conducted on February 19, 2019.

5.3 CMS DATA MANAGEMENT AND REDUCTION

A summary of the data management and reduction process is provided in Tables 5-1 and 5-2 below. Full details of the computer CMS and COMs data management systems may be found in the mill site-specific QA/QC plan and SSM plan. An internal Recordkeeping and Reporting System (PI/Proficy/VIM CEMLink6) is used to track both excess emissions and CMS downtime, the details of this system may also be found in the site QA/QC plan.

CMS data reduction and averaging for continuous compliance as described in Tables 5-5 and 5-6.

Table 5-5 Recovery Furnace Opacity Data Collection, Reduction and Averaging

Frequency of Data Collection	Data Reduction	Averaging Period	Validation Criteria
Determine and record opacity once every 10 seconds	Reduce data to 6-minute averages	6 minute, 10-consecutive 6-minute	A valid 6-minute average must have at least 36 equally spaced data points

Table 5-6 Lime Kiln and Smelt Dissolving Tank Data Collection, Reduction and Averaging

Frequency of Data Collection	Data Reduction	Averaging Period	Validation Criteria
Determine and record pressure drop and flow or alternate at least once every 15 minutes [§63.864(e)(10)]	Reduce data to 1-hour averages. A valid hour must have at least 4 equally spaced data points except during periods when calibration, quality assurance, or maintenance activities. During these periods, a valid hourly average shall consist of at least two data points with each representing a 15-minute period. [§63.8(g)(2)]	3 hour rolling average computed from the previous three, 1-hr averages	Rolling 3 hour average must have at least 2 out of 3 valid hours

15-Min Average Determination

The DCS reads parameters on a real time basis. PI, mill process data software, samples the source tag PI data once per minute and filters it for: running (PTE) status, non-flat lined signals, and "in-range" data. Proficy, the reporting system software, determines a 15 minute block average from one or more qualified data points within the period.

1-Hour Average Determination

Proficy uses the qualified 15 minute averages to compute a 1 hour block average. Four 15 minute averages are required to compute a 1 Hour average, except during periods when QA or maintenance is performed. During these periods a valid hourly average shall consist of at least 2 15-minute averages. If a one hour average cannot be calculated, Proficy reports a 1 hour CMS downtime event.

3-Hour Average Determination

Proficy uses the block 1-hour averages to compute a 3-hour Rolling Average every hour. Two 1-hour averages must be present to compute a 3-hour average. For continuous compliance, failing to calculate a 3 Hour average does not constitute a CMS downtime event. Failing to meet an established operating limit results in a Proficy created excess emission event. A violation occurs when there are 6 days with excess emission events for any source within a semi-annual reporting period.

6.0 SAMPLING AND ANALYTICAL PROCEDURES

6.1 TEST METHODS

The following methods were used for the Periodic Performance Test conducted at Verso Corporation's Quinnesec Mill on September 15-17, 2020. During this time, three test runs where conducted on the Recovery Furnace, Smelt Dissolving Tank, and Lime Kiln flue gases for particulate matter (surrogate for HAP metals). Samples were collected and analyzed according to the following methods:

Sampling Method:

40 CFR Part 60 Appendix A, Method 5 with a minimum sample run time of 60 minutes, minimum sample volume of 31.8 dscf, and water cleanup solvent as specified at §63.865(b)(1).

Analytical Method:

40 CFR Part 60 Appendix A Method 5

6.2 SAMPLE IDENTIFICATION AND CUSTODY

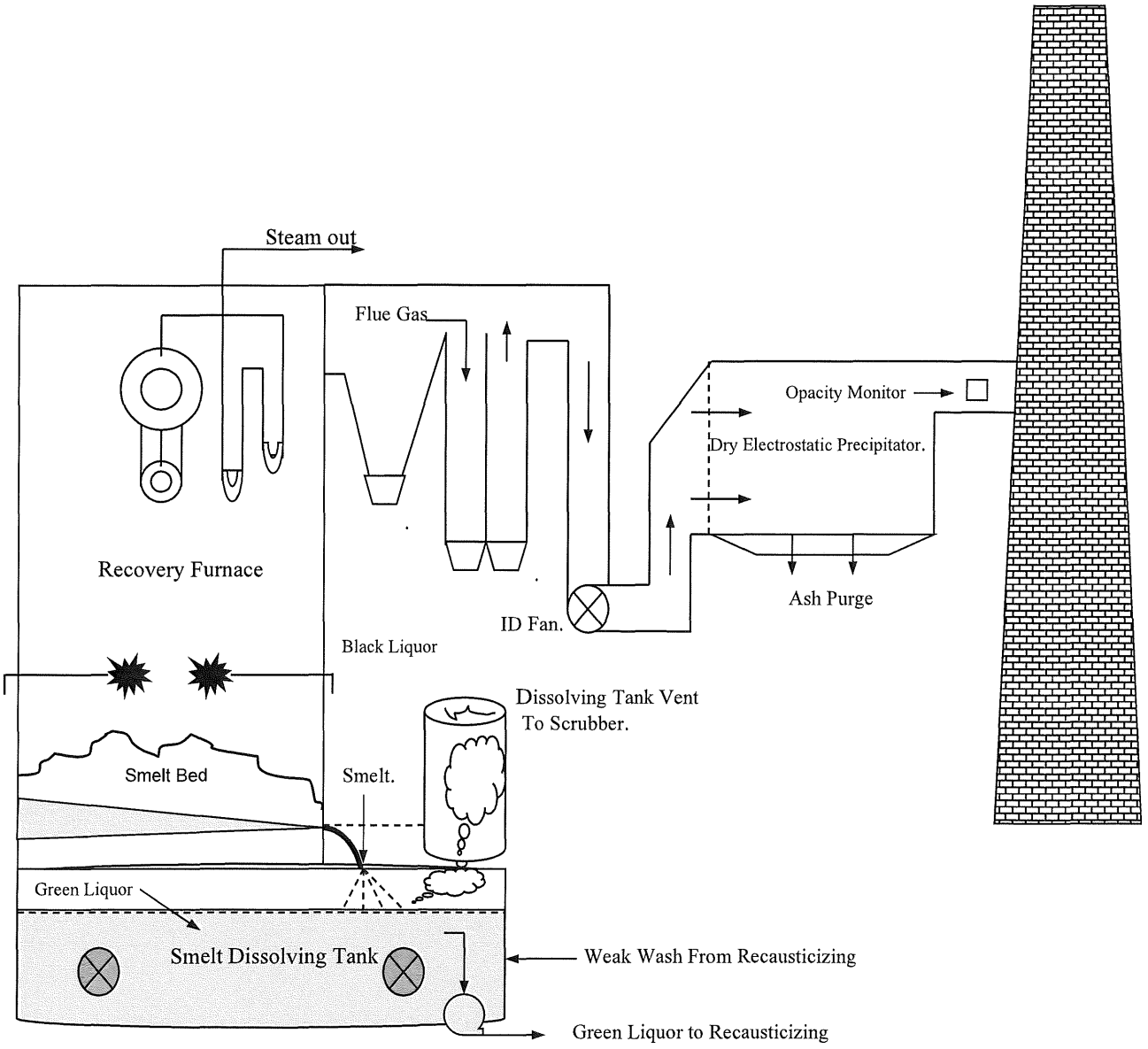
The contracted stack testing firm Mostradi Platt collected samples on site and performed analyses at their laboratory in accordance with EPA methods (see Attached Stack Testing Report).

6.3 QA/QC ACTIVITIES

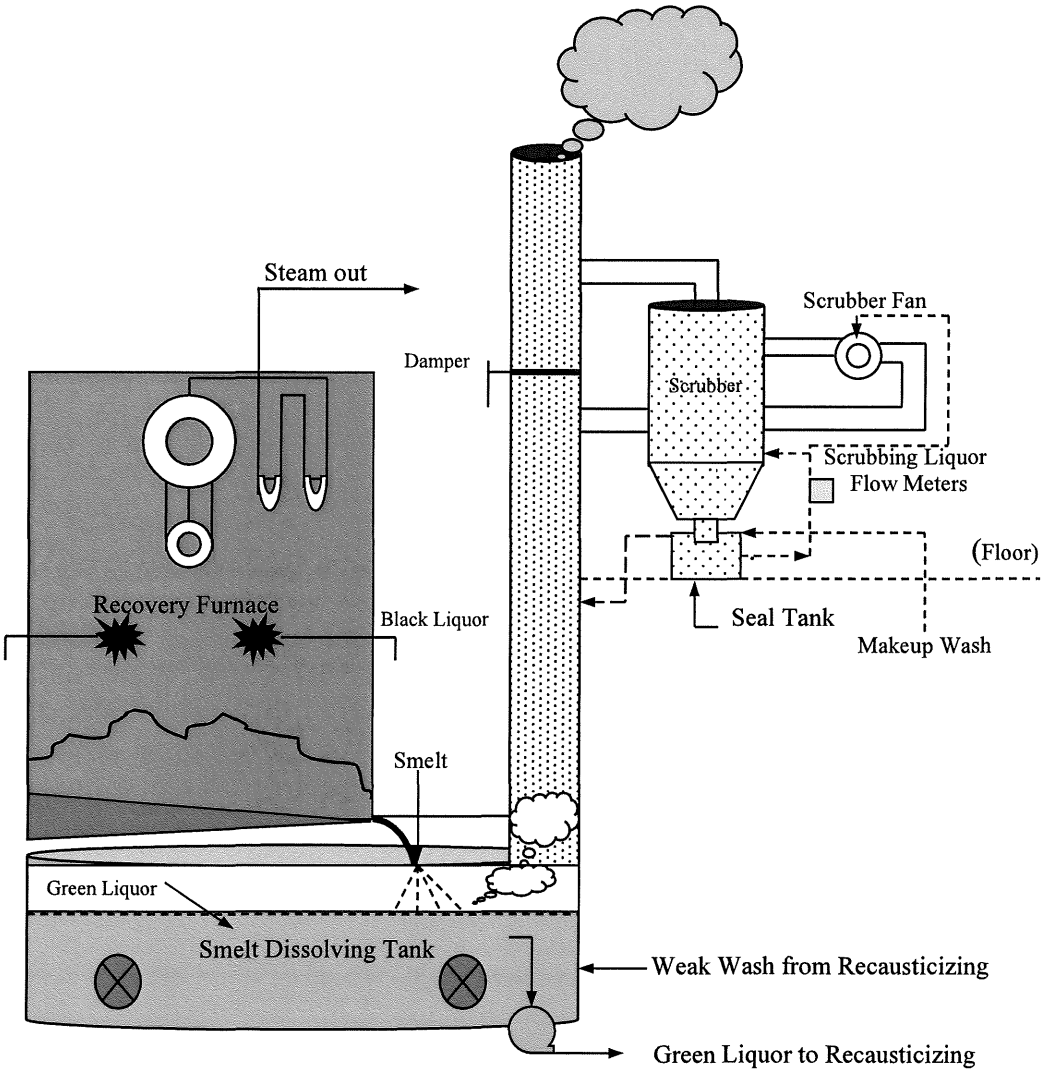
The performance test incorporates the appropriate QA/QC procedures specified in Test Method 5.

APPENDIX A - PROCESS DIAGRAMS

RECOVERY BOILER PROCESS DIAGRAM



SMELT DISSOLVING TANK PROCESS DIAGRAM



LIME KILN PROCESS DIAGRAM