Department of Ecology
Statement of Basis

Source Information:

Air Operating Permit (AOP) No.:	000062-1
Source Name:	Kimberly-Clark Worldwide, Inc.. Everett, Washington
County:	Snohomish
Issued Date:	December 12, 2011
Effective Date:	December 12, 2011
Expiration Date:	December 12, 2016
Unified Business Identification Number:	B313008012

Permitting Authority Information:

Preparer:	Robert Carruthers, P.E.
Ecology Program/Region:	Industrial Section
Address:	300 Desmond Drive P.O. Box 47600 Olympia, WA 98504-7600
Phone:	(360) 407-6954
Fax:	(360) 407-6102

Table of Contents

LIST OF ABBREVIATIONS AND ACRONYMS

Btu	British thermal units
CAA	Clean Air Act [42 U.S.C. section 7401 et seq.]
CAM	Compliance assurance monitoring
CEMS	Continuous emission monitoring system
CFR	Code of Federal Regulations
CO	Carbon monoxide
COMS	Continuous opacity monitoring system
CO2	Carbon dioxide
dscf	Dry standard cubic feet
Ecology	Washington State Department of Ecology
EPA	United Stated Environmental Protection Agency
EU	Emission unit
gr/dscf	Grains/dry standard cubic foot (7,000 grains = 1 pound)
HAP	Hazardous air pollutant
hr	Hour
IEU	Insignificant emission unit
lb	Pound
MACT	Maximum Achievable Control Technology
mm	One million
NESHAP	National Emission Standards for Hazardous Air Pollutants (40 CFR Parts 61 and 63)
NOC	Notice of Construction
NOx	Oxides of nitrogen
NSPS	New source performance standards
O2	Oxygen
PM	Particulate matter
PM10	Particulate matter with an aerodynamic diameter equal to 10 microns or less
ppmdv	Parts per million, on a dry volume basis
PSD	Prevention of significant deterioration
PTE	Potential to emit
SCR	Selective catalytic reduction
SO2	Sulfur dioxide
SOx	Oxides of sulfur
tpy	Tons per year
VOC	Volatile organic compound
WAC	Washington Administrative Code

INTRODUCTION

This document, known as the statement of basis or support document, summarizes the legal and factual basis for the permit conditions in the air quality operating permit issued by the Washington State Department of Ecology to the source. Unlike the air quality operating permit, this document is not legally enforceable. This statement of basis summarizes the emitting processes at the facility, air emissions, permitting and compliance history, the statutory or regulatory provisions that relate to the facility, and the steps taken to provide opportunities for public review of the permit. The permittee is obligated to follow the terms of the permit. Any errors or omissions in the summaries provided here do not excuse the permittee from the requirements of the permit.

The format and content of this support document has changed over time to reflect the evolving thought about what constitutes an effective support document. EPA audited Ecology's Title V Permitting in 2006. As a result of this audit, Ecology is currently developing a revamped support document format. The support document for this particular permit renewal effort follows the draft format for the statement of basis outline available at the time of this permit renewal effort.

Very little has been added or changed in permit content from the previous permit iteration. The history of permit changes and what changes have been made during this renewal effort are identified in section 11.0 of this Support Document.

PERMIT AUTHORITY

Title V of the Federal Clean Air Act Amendments required all states to develop a renewable operating permit program for industrial and commercial sources of air pollution. The Washington State Clean Air Act (RCW 70.94 Revised Code of Washington) was amended in 1991 and 1993 to provide the Department of Ecology and Local Air Agencies with the necessary authority to implement a state-wide operating permit program. The law requires all sources emitting one hundred tons or more per year of a criteria pollutant, ten tons of a hazardous air pollutant, or twenty-five tons in the cumulative of hazardous air pollutants, to obtain an operating permit. Criteria pollutants include sulfur dioxide, nitrogen oxides, particulate matter, carbon monoxide, and volatile organic compounds.

Chapter 173-401 of the Washington Administrative Code (WAC), which specified the requirements of Washington State's Operating Permit Regulation became effective November 4, 1993. United States Environmental Protection Agency (EPA) granted Washington's program interim approval December 9, 1994. Final approval of Washington's program was granted on August 13, 2001. The current version of the regulation was filed on September 16, 2002.

FACILITY INFORMATION

Company History and Information:

Ownership:

Kimberly-Clark Corporation
351 Phelps Drive
Irving, Texas 75038

Responsible Official:

Rick Tucker – Mill Manager
2600 Federal Avenue
Everett, WA 98201

Contacts:

Robert Waddle – Environmental Manager
2600 Federal Avenue
Everett, WA 98201
425-259-7592

Location:

2600 Federal Avenue
Everett, WA 98201

Attainment Classification:

The Everett Area is “in attainment” for all regulated pollutants.

Basis for Title V applicability:

The facility, by definition, is a major source.
Source Industrial Classification – 2611, 2621
NCAICS – 322121

Source Description

Mill Overview

The Kimberly-Clark Worldwide mill in Everett, Washington, is an integrated pulp and paper manufacturing facility; SIC codes 2611 and 2621. The site produces a wide range of tissue products including paper towels, toilet paper, napkins, and wipers. The facility operates continuously 24 hours per day, 7 days a week.

The pulp mill produces bleached sulfite pulp. Most of this pulp is used by the paper mill along with purchased kraft, eucalyptus, and semi-mechanical pulps, and recycled fiber to manufacture tissue products for both commercial and consumer markets.

A site plan of the mill layout is provided as Figure 2-1, and a mill process diagram is provided as Figure 2-2. To describe the process in general terms, wood chips are cooked with acid in digesters to make a pulp slurry. This slurry is then separated into pulp and liquor fractions. The liquor is concentrated and burned as fuel in the plant's recovery boiler (No. 10 boiler) where sulfur is recovered for the manufacture of cooking acid. The wood fiber, or pulp, is bleached. The bleached pulp is either used immediately in the paper mill, or is dried, pressed, and baled for storage.

List of Emission Units

Table 2-1 below lists the emission units at the facility. Emission units that are deemed insignificant pursuant to WAC 173-401 are listed in Appendix C.

Table 2-1
Emission Units List

- No. 10 Recovery Boiler, Acid Plant and Pulping Process
- No. 14 Wood Waste Boiler
- Nos. 7, 8, & 9 Power Boilers
- Bleach Plant
- Tissue Machines Nos. 3, 4, & 5
- Bulk Diesel Tank
- Tissue Converting Core Tube Machines
- Stationary Engines (emergency generators & Riverside Generator)
- Various WAC 173-401 Insignificant Emission Units

Pulping Process

Wood chips from whole logs and sawmill residuals arrive at the plant by truck and barge and are stockpiled onsite in chip piles and silos. The chips are screened and conveyed by a covered belt to a batch digestion process to make pulp. Digestion occurs in an ammonium-based sulfite process that cooks the chips in large-batch digesters by using heat and chemicals. The cooking process separates the wood into its primary fractions: wood fibers and lignin, the binding material that holds the fibers together.

After cooking, the material is washed to remove the cooking liquor and organic solids from the pulp. The spent sulfite liquor (SSL) is concentrated in external film, multiple-effect evaporators to form a liquor of approximately 50 percent solids concentration. This concentrated liquor is then sprayed into the plant's recovery boiler where the organic content in the liquor is burned, producing steam to operate the digesters and evaporators. The fiber pulp product is sent through screens and washers before going to the bleaching process. A diagram of the pulping process is provided in Figure 2-3.

The chemicals used in the cooking acid are ammonium bisulfite and sulfurous acid. Raw materials used to create the cooking acid are anhydrous ammonia, molten sulfur, and water. Each process unit is hooded and vented to the acid plant absorption tower, which collects and recovers sulfur dioxide. The sulfur dioxide recovered from the flue gas is converted to ammonium bisulfite for use in the digestion process.

Wastewater from the pulp mill is discharged to either an onsite primary treatment process for removal of solids or an onsite secondary treatment process for biological treatment before discharge. The treatment process used depends on the source of the wastewater and its constituents. A portion of the primary effluent may also receive secondary treatment.

Pulp Bleaching

The fiber (unbleached pulp), is sent to the bleach plant where chemicals are used to remove residual lignin and brighten the pulp. The bleaching process was converted in October of 2000 from a process utilizing chlorine gas to one utilizing chlorine dioxide. The current three stage process is DEopD (chlorine Dioxide, caustic Extraction with oxygen and peroxide, and then chlorine Dioxide again). After each of the three bleaching stages, the mixture is washed. Wastewater from the bleach plant is sent to secondary wastewater treatment.

The chlorine dioxide is made onsite in a generator. Residual gasses from the generator and from the bleach plant washers are directed to a scrubbing tower where a solution of sodium hydrosulfide is employed to remove any residual chlorine dioxide.

Screening, Drying, and Baling

The bleached pulp is screened and centrifuged to remove dirt and contaminants from the finished pulp. Rejected material is sent to primary treatment. At this point, the cleaned pulp may be pumped to and used immediately in the paper mill, or it may be dried on the pulp drying

machines and stored for later use and/or sale. When needed on site, the dried pulp is rewetted in a pulper to again form slush pulp for the paper mill. Purchased dried pulp is also used daily as part of paper mill recipes.

Paper Mill

The paper mill receives pulp from the sulfite process as well as blends of secondary fiber and purchased pulp. Water is added to the pulp to make a one-half of one percent solution. Wet and dry strengthening agents and optional dyes may be added. On machines 1, 2, 3, and 5, the solution is conveyed to a Fourdrinier wire followed by a felt press and is then dried and "creped" on Yankee dryers. On the rebuilt machine No. 4, through-drying is used. For some products, optional after-dryers may be used after the Yankee dryers. For paper towels and toilet paper, the dried material is rolled, dyes and design imprints may be added, and final embossing and texturing may be done. The product is rewound on rolls and perforation tears are added. A rotating blade then cuts the long roll into smaller ones. For napkins and wipers, the product is cut and folded in the finishing process. The product is wrapped and conveyed to a distribution building for transport.

Paper machine and finishing waste is called broke and is recycled to the mill. Wet and dry broke from the paper machines and finishing areas is placed in a beater. The broke is treated with hypochlorite to bleach the dyes and to aid defibering by breaking down chemicals in the paper.

Hypochlorite is consumed by the reactions with the fiber, dyes, and additives. Excess chlorine is neutralized with sodium bisulfite. The slushed broke is pumped to a broke storage chest and reused in the process.

Utilities

In 1995, five old Dutch oven wood waste (“hog fuel”) boilers were replaced by a new boiler (No. 14 boiler) which is owned by the Snohomish County Public Utility District (SCPUD), but is operated by Kimberly-Clark. The boiler cogenerates some 277,000 megawatt-hours per year of electricity for SCPUD while producing up to 435,000 pounds of steam per hour for the mill. The wood-waste boiler can burn up to approximately 2,000 wet tons of fuel per day. The fuel is provided by local sawmills and wood products companies and consists of sawdust, bark, and other wood waste. In addition, K-C burns approximately 12,000 dry tons of dewatered sludge per year which originates at the on-site primary and secondary wastewater clarifiers. Minor amounts of other fuels are burned, including wood pallets and other waste paper products from onsite operations. Due to a recent change in regulations, the boiler is also permitted to burn used railroad ties containing creosote. Emissions from the No. 14 boiler are vented to a baghouse to remove the particulate material generated.

The recovery boiler (No. 10 boiler) burns spent sulfite liquor, which is liquor that has been concentrated after the digestion process. Sulfur from the cooking mixture that is bound up in the spent sulfite liquor is liberated during combustion and converted to sulfur dioxide. An ammonia absorption tower captures the sulfur dioxide, which is reused. Brinks-type mist eliminators remove mist droplets and particulate emissions. A Dynawave reverse jet caustic scrubber located after the absorption tower before the demisters also removes some particulate as well as

residual sulfur dioxide. The recovery boiler is capable of producing 380,000 pounds of steam per hour. Boiler No. 10 also burns natural gas as necessary to ensure safe startups, shutdowns, and turn-down conditions.

Boilers 7, 8, and 9 are power boilers which normally only operate when the larger boilers are off line for maintenance; they usually burn natural gas, although boilers 8 and 9 can also burn diesel.

Wastewater Treatment

The plant wastewater is treated either with primary clarifiers for pH adjustment and solids removal, or by biological secondary treatment to reduce biochemical oxygen demand and total suspended solids. During secondary treatment, ammonia may be added as a nutrient for the microorganisms. The type of treatment depends on the source of the wastewater. Most of the wastewater from the paper mill and some of the wastewater from the pulp mill, the boilers, and stormwater systems goes to the primary clarifiers. The secondary treatment system primarily receives wastewater from the bleach plant, some pulp mill streams (e.g., pulp screen room), the recovery system (condensates), and some paper mill effluents. Operators have the flexibility to send some of the wastewater generation streams to either or both systems in various splits, depending on what the treatment needs are and the current operational status of the wastewater treatment system. Some primary effluent can also be routed to the secondary treatment system for additional treatment. Treatment plant solids are dewatered and burned in the No. 14 boiler.

FIGURE 2-1. FACILITY SITE MAP.

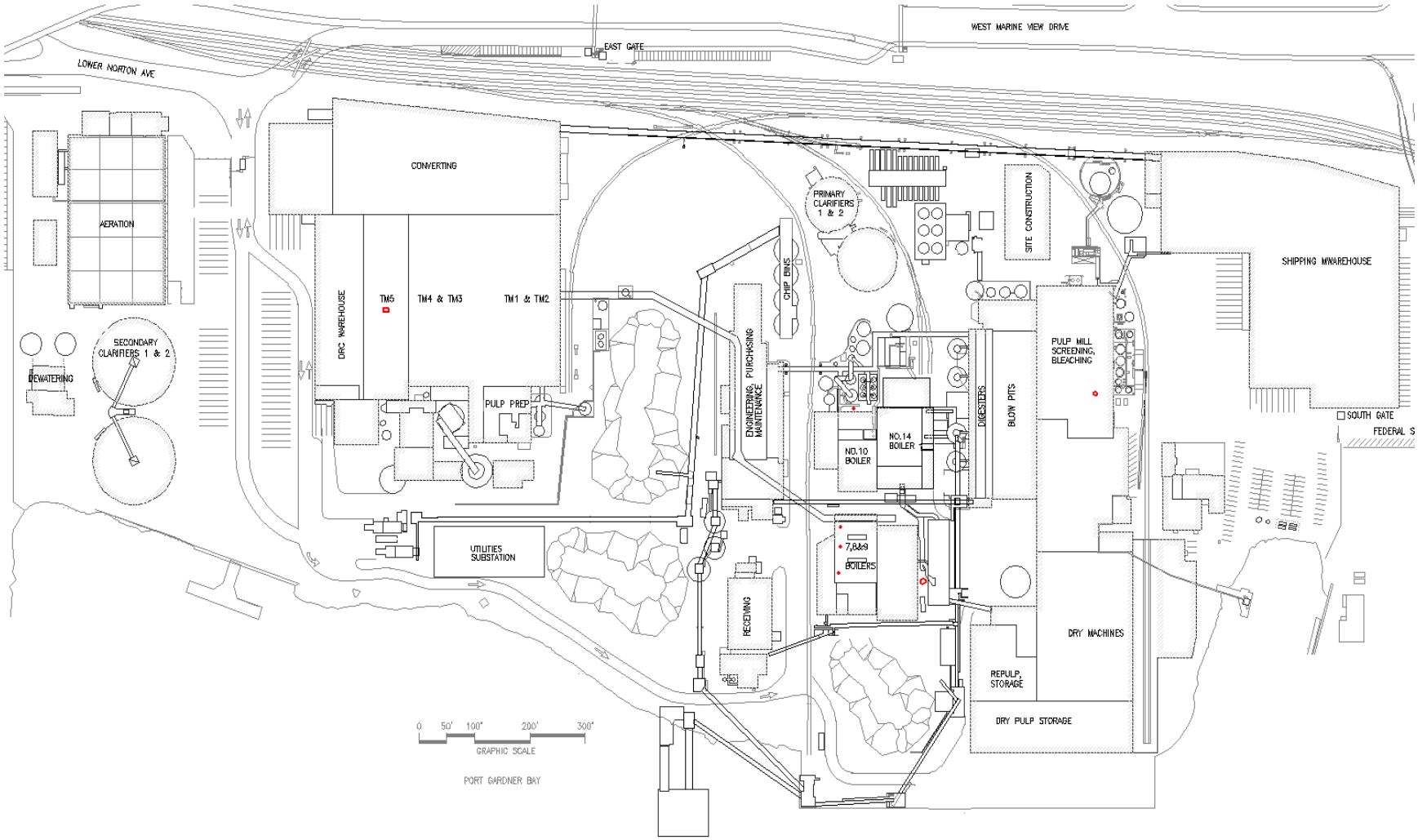
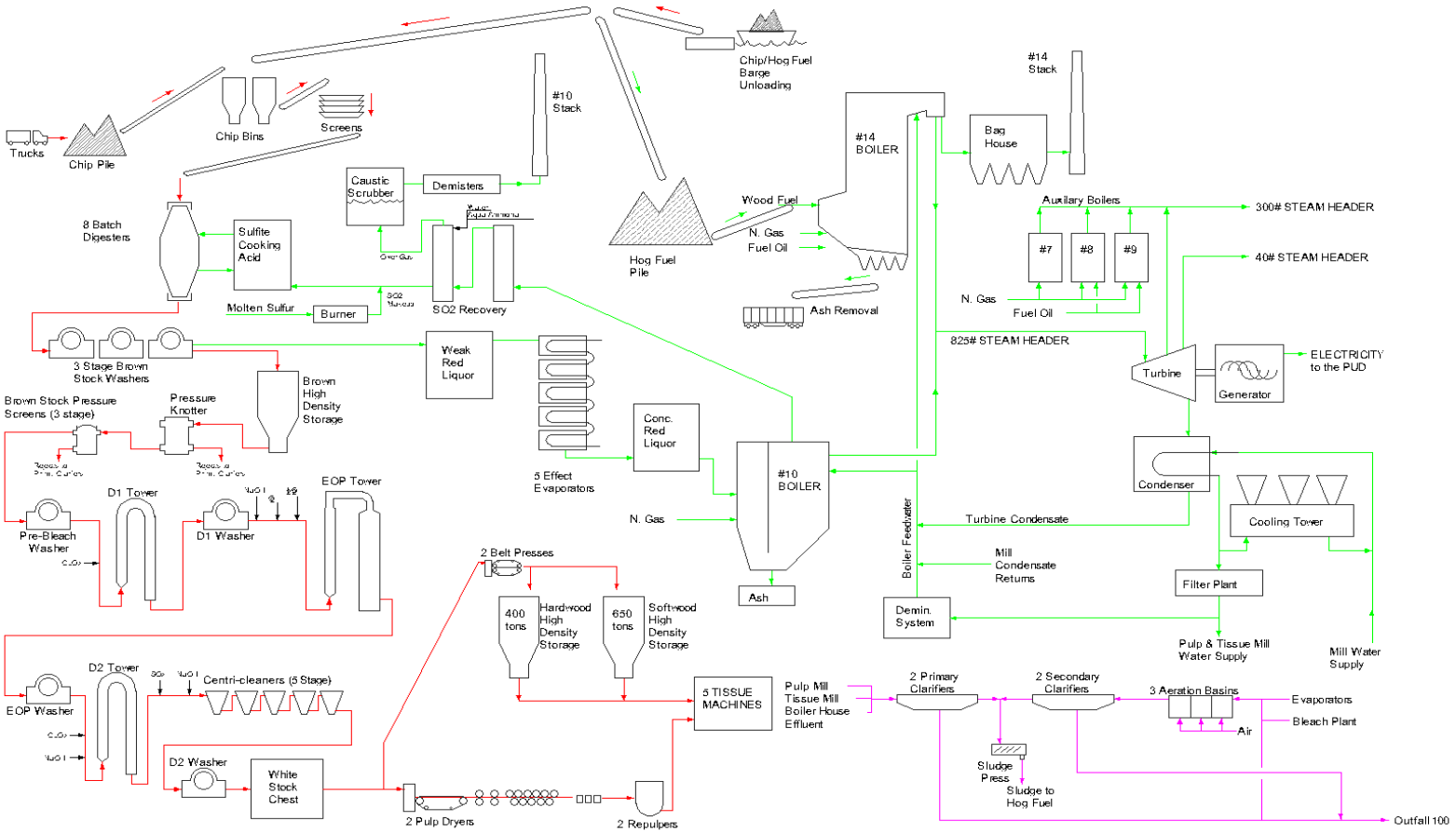


FIGURE 2-2. FACILITY PROCESS DIAGRAM.



Overview of Significant Regulatory Changes and Significant Compliance Demonstration Procedures

Determinations of Compliance

Compliance determinations made in this Permit signify that Kimberly-Clark considers the facility currently in compliance with the stated applicable requirement and that it anticipates that this unit will, in the future, remain in compliance with the applicable requirement.

Due to unavoidable conditions, including startups, shutdowns, and malfunctions, Kimberly-Clark has experienced measured exceedances of certain applicable requirements cited in this application. Kimberly-Clark has reported these exceedances as required. Kimberly-Clark does not consider these exceedances indicative of noncompliance, and where applicable, considers the sources in compliance with the applicable requirement.

Compliance with numerical limits is evaluated by comparing actual emissions, rounded to the same number of significant digits as the numeric limit specified by rule, to the numeric limit itself.

Where applicable, emissions data is from calendar year 2009 and has formed the basis for determinations of compliance with the applicable requirements. This same emissions data was also used to forecast future compliance with applicable requirements.

Specific Areas of Compliance

Compliance Assurance Measure (CAM)

Ecology reviewed and concurred with the Kimberly-Clark CAM evaluation submitted as part of the 2010 permit renewal application. Emission limitations were reviewed to identify whether the CAM rule applied to individual emission units on a pollutant-by-pollutant basis. In performing this applicability determination, the mill compiled a list of each regulated pollutant for each emission unit and evaluated each pollutant based on the following CAM criteria:

1. Is the emission unit subject to an emission limitation or standard for the applicable regulated air pollutant (or a surrogate thereof) other than an emission limitation or standard that is exempt under 40 CFR 64.2(b)(1)?
2. Does the emission unit use a control device to achieve compliance with the emission limitation or standard?
3. Does the emission unit have potential pre-control emissions of the applicable regulated air pollutant that are equal to or greater than 100 percent of the amount, in tons per year, required for the emission unit to be classified as a major source?

For an emission unit to be subject to a CAM requirement for a given pollutant, the answer to all three of the above questions must be affirmative. A negative finding for anyone of the three criteria alleviates the Permittee from the requirement to propose a compliance assurance monitoring plan for a specific regulated pollutant from an emission unit.

In addition to the evaluation criteria provided, the following CAM Rule exemptions promulgated in 40 CFR 64.2(b)(1) were considered:

- The requirements of Part 64 shall not apply to emission limitations or standards proposed by EP A after November 15, 1990 pursuant to section 111 or 112 of the Clean Air Act (40 CFR 64.2(b)(1)(i)); and
- The requirements of Part 64 shall not apply to emission limitations or standards for which a Part 70 or 71 permit specifies a continuous compliance determination method (40 CFR 64.2(b)(1)(vi)).

An analysis of 40 CFR part 64 Compliance Assurance Monitoring (CAM) applicability to the emission units at the Kimberly Clark Everett Facility that are subject to emission limits is provided as follows. None of the emission units at the facility are subject to CAM.

Emission Unit	Pollutant	Emission Limit	Requirement Citation	Is CAM Required? Y/N	Reason Why CAM is Not Required
No. 10 Recovery Boiler	PM	0.06 gr/dscf at 8% O2	WAC 173-410-040(2)(b)	No	40 CFR §64.2(b)(1)(i); Emissions are limited by a standard pursuant to section 111 or 112 of the FCAA proposed by the USEPA after 11/15/1990.
		0.040 gr/dscf at 8% O2	40 CFR §63.862(a)(2)		
		2.5 lb/ADUT	Reg. Order DE 78-106		
	SO2	300 ppm hourly average	WAC 173-410-040(1)(e)	No	40 CFR §64.2(b)(1)(vi); Emissions are monitored by a continuous compliance determination method that is specified in the facility part 70 permit.
			Reg. Order DE 78-106		
		20 lb/ADUT daily average	WAC 173-410-040(1)(a)		
			Reg. Order DE 78-106		
	NOx	1400 tons per year rolling 365 day annual average for No. 10 and No. 14 boilers together	Reg. Order DE 98-AQI028	No	40 CFR §64.2(b)(1)(vi); Emissions are monitored by a continuous compliance determination method that is specified in the facility part 70 permit.
	Ammonia	10 ppm at 7% O2	Reg. Order DE 98-AQI028	No	40 CFR §64.2(a)(2); A control device is not used to achieve compliance with the standard.
	TRS	17.5 ppm	WAC 173-410-040(5)		40 CFR §64.2(b)(1)(vi); Emissions are monitored by a continuous compliance determination method that is specified in the facility part 70 permit.
No. 14 Power Boiler	PM	0.011 grains/SDCF @ 7% O2 and 17.4 pounds/hour	Reg. Order DE 98-AQI028	No	40 CFR §64.2(b)(1)(i); Emissions are limited by a standard pursuant to section 111 or 112 of the FCAA proposed by the USEPA after 11/15/1990.
		0.10 grains/SDCF @ 7% O2	WAC-173-410-040(2)(c)(iii)		
		0.10lb/MMBTU derived from fossil fuel or fossil fuel and wood residue	40 CFR §60.43b; 40 CFR §60.49b		
	PM10	0.084 grains/SDCF @ 7% O2 and 11.6 lbs./hour	Reg. Order DE 98-AQI028		

Emission Unit	Pollutant	Emission Limit	Requirement Citation	Is CAM Required? Y/N	Reason Why CAM is Not Required
	SO2	347 tons per year on a 365 day rolling average basis (=79.2 lbs./hr)	Reg. Order DE 98-AQI028	No	40 CFR §64.2(b)(1)(vi); Emissions are monitored by a continuous compliance determination method that is specified in the facility part 70 permit.
		0.80 lb/MM BTU derived from fossil fuel or fossil fuel and wood residue	40 CFR 60.49b		
	NOx	1400 tons per year rolling 365 day annual average for No. 10 and No. 14 boilers together	Reg. Order DE 98-AQI028	No	40 CFR §64.2(b)(1)(vi); Emissions are monitored by a continuous compliance determination method that is specified in the facility part 70 permit.
		150 ppm @ 7% O2 on a 30 day rolling average basis	Reg. Order DE 98-AQI028		
		180 lbs/hour on a 30 day rolling average basis	Reg. Order DE 98-AQI028		
		0.30 lb/MM BTU	40 CFR §60.44b		
	CO	511 ppm @ 7% O2 on a 365 day rolling average basis	Reg Order DE 98-AQI028	No	40 CFR §64.2(b)(1)(vi); Emissions are monitored by a continuous compliance determination method that is specified in the facility part 70 permit.
		763 ppm @ 7% O2 on a 30 day rolling average basis			
		359 lbs./hour on a 365 day rolling average basis			
	VOC	34.5 pounds/hour	Reg. Order DE 98-AQI028	No	40 CFR §64.2(a)(2); A control device is not used to achieve compliance with the standard.
Bleach Plant	Chlorinated HAPS	10 ppm	40 CFR §63.445(c)	No	40 CFR §64.2(b)(1)(i); Emissions are limited by a standard pursuant to section 111 or 112 of the FCAA proposed by the USEPA after 11/15/1990.
	Chlorine Dioxide	0.019 lbs/hr	Order DE 99AQIS-2		
Power Boilers 7, 8, 9	SO2	1000 ppm @ 7% O2 60 minute average	WAC 173-400-040(6)	No	40 CFR §64.2(a)(2); A control device is not used to achieve compliance with the standard.
TM-5	PM	50 lb/day	Order DE 79-335	No	40 CFR §64.2(a)(3); The unit does not have the potential to emit major-source levels of these pollutants.
	SO2	1000 ppm @ 7% O2 60 minute average	WAC 173-400-040(6)		
	Hydrocarbon	100 lb/day	Order DE 79-335		

Emission Unit	Pollutant	Emission Limit	Requirement Citation	Is CAM Required? Y/N	Reason Why CAM is Not Required
Pulping Operations	SO2	1000 ppm hourly average	WAC 173-410-040(1)(f)	No	40 CFR §64.2(b)(1)(vi); Emissions are monitored by a continuous compliance determination method that is specified in the facility part 70 permit.
Gas Burners TM 1- 4	SO2	1000 ppm @ 7% O2 hourly average	WAC 173-400-040(6)	No	40 CFR §64.2(a)(2); A control device is not used to achieve compliance with the standard.
Core Tube Machines	HAP	0.016-0.04 kg HAP/kg glue	40 CFR §63.3320(b)(2)	No	40 CFR §64.2(b)(1)(i); Emissions are limited by a standard pursuant to section 111 or 112 of the FCAA proposed by the USEPA after 11/15/1990.
Riverside Truck Dump Engine	HAP	CO 230 ppm @ 15% O2 (HAP surrogate)	40 CFR §63.6602	No	40 CFR §64.2(b)(1)(i); Emissions are limited by a standard pursuant to section 111 or 112 of the FCAA proposed by the USEPA after 11/15/1990.

MACT STANDARDS

The permittee is regulated by the 40 CFR Part 63, National Emission Standards for Hazardous Air Pollutants for Source Categories. At present the following Part 63 Source Category standards apply to the KCWW mill:

1. 40 CFR 63 Subpart S regulates HAP emissions from the pulping and bleaching processes. Subpart S requires the mill to meet maximum achievable control technology (MACT) hazardous air pollutant (HAP) emission standards for emissions from the digesters vents, the brown stock washer vents, and the spent sulfite liquor evaporator vents and for emissions from the bleaching system. 40 CFR 63 Subpart S is commonly known as the MACT I standard.
2. 40 CFR 63 Subpart MM regulates emissions of HAP metals from recovery boilers. 40 CFR Part 63 Subpart MM is commonly known as MACT II.
3. 40 CFR 63 Subpart JJJJ regulates emissions from solvents used in web coating processes. This rule establishes limits on HAP emissions from the core tube machines in the tissue converting process.
4. 40 CFR 63 Subpart ZZZZ regulates HAP emissions from certain stationary reciprocating internal combustion engines. This rule will become effective in March 2013.

MACT I requirements

On April 15, 1998, the Environmental Protection Agency promulgated Subpart S to 40 CFR Part 63 - National Emission Standards for Hazardous Air Pollutants for Source Categories to enact maximum achievable control technology (MACT) standards for pulping and bleaching processes. Subpart S is commonly referred to as MACT-1, or the cluster rule. The MACT I requirements were adopted by reference into state regulation at WAC 173-400-075 (5). KCWW was in compliance with Subpart S by the April 16, 2001 effective date.

On November 2, 2001 (), Ecology issued regulatory order DE 01AQIS-3298 to KCWW to clarify the specific applicability of the MACT I. Order DE 01AQIS-3298 was rescinded by

permit 1908-AQ05 for the sake of simplification because the MACT I requirements are applicable as a matter of federal and state regulation and were incorporated in to the facility air operating permit; additional specification by regulatory order is not necessary..

MACT I defined in 40 CFR Part 63, Subpart S requires that emissions be controlled so that the total emissions from the following emission points - digester system vents, evaporator system vents, and each pulp washing vents, in total, must not emit more than 1.1 kilograms of total HAP or methanol per oven dried mega gram of pulp (2.2 pounds per oven dried ton of pulp – (ODTP)) [40 CFR Part 63, §63.444(c)(2)(i)]. As an alternative, compliance may be demonstrated by showing removal of 87 percent or more (by weight) of the total HAPs or methanol in the affected vent streams [40 CFR Part 63, §63.444(c)(2)(ii)]. Under MACT I, methanol is the surrogate pollutant for HAPs. The company chose to be in compliance with the 2.2 lbs. HAPs/ODTP option available under Subpart S. The company had already installed a closed vent system for the pulping process including the brown stock washer, the digesters, the acid plant, and the recovery boiler. This system routes captured gases to the Acid Plant for SO_2 and particulate recovery and exhausts the gases through the recovery system stack. There are no separate vents for the pulping processes.

Unlike some sulfite operations, the Everett mill has never had nuisance scrubbers on the digesters as all digester gasses relieve back through high and low pressure accumulators to the sulfite cooking acid production system. Vent gasses from the red liquor evaporators are hard-piped back to the acid-making system; digester dump and washer feed tank vents, along with pulp washing and red liquor storage system exhaust piping, enter the acid-making system as well. These gasses, along with fortified sulfur dioxide gas from the sulfur burners, exhaust gas from the sulfite recovery boiler, and aqueous ammonia, enter the absorption tower where ammonium bisulfite cooking acid is manufactured. The secondary system and SSL evaporators discharge liquid effluents to the "contaminated hot well." To prevent losses of SO_2, all contributors to the hot well are hard piped to it, and this sump is in turn hard piped to the activated sludge wastewater treatment system. Gaseous emissions from the contaminated hot well are recovered and vented to the Acid Plant for SO_2 recovery. Residual exhaust gasses from the absorption tower travel to the Dynawave scrubber and the demisters for removal of SO_2 and particulate matter before discharge from the sulfite recovery boiler stack.

The company performed an analysis on the requirements of MACT I for all of the systems that generate HAPs. The recovery system stack is the only emission point that emitted gaseous HAPs. They evaluated the recovery stack emissions for methanol – a MACT I specified surrogate for HAPs – when performing the 2002 over all mill methanol balance and found that it emitted 0.105 pounds of methanol per oven dried ton of pulp (ODTP). The total mill emission from all three MACT I regulated sources is 0.105 lbs. methanol per ODTP. The permittee meets the limit of 2.2 pounds of methanol per ODTP with no emission controls necessary; therefore, the continuous monitoring system required by 40 CFR 63.453 is not applicable since there is no control equipment. These data came from the tests performed in the 2002 methanol balance. However, they will have to perform the annual leak test and the monthly inspections on the closed system.

MACT 1 requires monthly visual inspections and annual instrumental leak testing of each affected closed vent (collection) system. The rule specifies that positive pressure sections of the closed vent system be tested with an organic vapor analyzer to detect leaks of methanol. On March 23, 2004, the permittee requested an alternate testing procedure. Their request was directed through

Ecology's office to the Environmental Protection Agency (EPA) in Research Triangular Park, North Carolina. The alternative requested was allowance to test for sulfur dioxide instead of methanol to determine if there were any leaks in the closed vent system. On May 7, 2004, EPA approved the monitoring of sulfur dioxide instead of methanol for the annual leak test to be performed with an electrochemical sensor (Industrial Scientific Corporation Model ATX 612 or an EPA approved equivalent). A leak was redefined as 5 ppmv sulfur dioxide instead of 500 ppmv methanol. This approach was approved because methanol levels are low and sulfur dioxide is always present in the pulping system closed vent system, thereby making sulfur dioxide a more reliable indication of leakage.

The SO_2 collection and control system was installed in 1974, when the No. 10 boiler was built. The Dynawave scrubber was installed in 1990 for additional SO_2 removal and to keep excessive particulate away from the mist eliminator, which prior to the Dynawave installation plugged frequently. This system thus preceded the Cluster Rule by a number of years, and was not installed for the purpose of removing hazardous air pollutants (HAPs). The section of 40 CFR Part 63 Subpart S concerned with pulping operations addresses the emissions of hazardous air pollutants, primarily a kraft mill issue. Methanol, as the far most prevalent HAP present, is used as a surrogate for monitoring purposes. The Cluster Rule does not deal with SO_2. Methanol is used as a surrogate for pulping system HAP. The only discharge point for methanol is the No. 10 boiler stack.

When the Cluster Rule was originally proposed in 1993, the facility performed tests on the No. 10 boiler exhaust stack, to determine if any methanol could be detected. The first three tests were conducted by the Roy F. Weston Company utilizing the NCASI test method. A fourth test was performed by AmTest and utilized EPA Method 308, as found in 40 CFR Part 63 Appendix A. The final analysis also utilized Method 308, and was run as a formal performance test to satisfy the terms of 40 CFR 63.444(c)(2); the data was submitted to Ecology on June 12, 2001.

Pulp Mill Methanol Emissions

Date	Av. Conc., ppm	Lb./Hour	Lb/ODUT
12/20/93	2.3	1.0	0.07
2/14/95	11.1	5.1	0.27
6/16/95	2.3	1.0	0.04
12/7/98	11.0	5.7	0.32
5/1/01	8.8	3.6	0.18
Average:	7.1	3.3	0.17

Each test result is the average of three runs. Roughly half the test results were below the detection limit; in order to compute averages, a value equal to one half the detection limit was used for calculation in those cases.

The requirements of 40 CFR 63.444(c)(2) limit total methanol emissions from pulping operations to 2.2 pounds per oven dried unbleached ton. The tests above show that the No. 10 boiler emissions are well in compliance with this limit. Although not installed for this purpose, the acid making and SO_2 collection systems (the "secondary systems") appear to do more than an adequate job of collecting methanol and similar HAPs.

An overall methanol balance for the site prepared for toxic release inventory (TRI) reporting purposes has been developed, which indicates that emissions of methanol via volatilization from the secondary wastewater treatment plant are considerably less than those from the No. 10 boiler. The balance was developed with actual measurements of effluents from different parts of the processes, and validated against theoretical limits as found in the literature.

The balance indicates that some 16.2 #/ODUT of methanol are produced in the pulping process. Of this amount, approximately 0.2 #/ton is lost from the recovery boiler stack. The remaining 16.0 #/ton passes to the contaminated hot well and thence to secondary wastewater treatment. The wastewater treatment system is a large sink for methanol. According to NCASI factors, in secondary treatment some 99.8% of the methanol is biodegraded, while 0.1% passes to the effluent and 0.1% is volatilized. Thus of the 16.0 #/ton of methanol entering secondary treatment, theoretically only 0.016 #/ton enters the atmosphere, a tenth of the amount lost from Number 10 boiler. So evaluating the emissions from No. 10 boiler should be an acceptable way to gauge compliance with the 2.2 #/ton limit.

No further testing will be required within the permit except the annual leak test for sulfur dioxide. However, a one-time percent removal of methanol across the wastewater treatment system was required in the conformational email dated September 16, 2004 affirming that the mill was not required to have any controls on the pulping system for methanol. The MACT I regulations for sulfite mills do not require efficiency study of methanol removal across wastewater treatment systems. Although the study was not required by MACT I regulations, Ecology wanted to obtain the efficiency of methanol removal through the company's secondary wastewater treatment system in order to ascertain the final fate of the methanol. The study showed that 97.87 percent of the methanol was being destroyed in the company's wastewater treatment system derived from an average of five tests conducted February 2005 through April 2005. The percent removal required in the MACT I rule for sulfite mill from air sources control devices is 87 percent. The removal efficiency of the wastewater treatment system is greater than that required for MACT I air sources for sulfite mills. Therefore, the option of no control devices is the correct option. The company will not be required to perform any further monitoring for methanol related to the wastewater treatment system. However, they are required to perform future performance tests if they should change the amount of methanol routed to the recovery stack emission point as defined in the above email.

The MACT I regulations required that the permittee control the emissions from the bleaching system. On November 16, 1999, a notice of construction (NOC order) was issued by Ecology for the construction of the chlorine dioxide generator.

The treatment device outlet mass emission rate of (0.001 kg of total chlorinated HAPs excluding chloroform per megagram of oven dried ton of pulp (0.002 lb/ODTP) or an outlet concentration of less than 10 ppmv or less of chlorinated HAPs excluding chloroform (40 CFR 63.445(c). The order allowed chlorine to be used as a surrogate for the total chlorinated HAPs.

On January 6, 2011, Kimberly-Clark submitted an update to the chlorine dioxide/40 CFR part 63 Subpart S continuous monitoring plan for the Bleaching Process control system. Testing was done to evaluate surrogate monitoring parameters intended to assure compliance with the chlorine limit of 10 ppmv. The previous plan was approved in 2008 and is site specific pursuant to 40 CFR part

63.453(m). Based on the test results summarized below the surrogate parameter setpoints for compliance determination are to maintain the scrubbing liquor top tray flow rate at ≥ 90 gpm as a 3-hr avg and maintain the ORP at ≤ -219 mV. The test results are as follows:

Test Date/Run	Chlorinated HAP emissions as Cl_2 (ppm uncorr.)	Chlorine Dioxide emissions (lb/yr)	Scrubberant Flowrate Top Tray (avg. gpm)	Scrubberant ORP (mV)
11/17/2010 run 1	0.0 (ND)	0.0 (ND)	90	-225
11/17/2010 run 2	0.0 (ND)	0.0 (ND)	90	-203
11/17/2010 run 3	0.0 (ND)	0.0 (ND)	90	-229
Average	0.0	0.0	90	-219

In addition, the company will be required to perform monthly inspections on the closed vent systems that serve the pulping system and the bleaching system, including the chlorine dioxide generator. The company will be required to record the information of the inspections required by 40 CFR 63.453 (k) (1) – (4). The company has no bypass line on the bleaching system closed vent system; therefore, 40 CFR 63.453 (k)(5) does not apply and is not included as a requirement. The bleaching system closed vent system does not have any positive pressure sections, therefore, monitoring via detection of sulfur dioxide is not required.

The current national pollutant discharge elimination system (NPDES) permit was issued on December 24, 2003 and modified on November 15, 2004. The NPDES permit required the company to be in compliance with 40 CFR Part 430.54. Therefore, the company is in compliance with the chloroform reduction requirements of 40 CFR Part 63.445 (d)(1)(iv).

MACT II requirements

The Environmental Protection Agency (EPA) promulgated 40 CFR Part 63 Subpart MM (National Emission Standards for Hazardous Air Pollutant (HAPs) for the Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-Alone Semi-chemical Pulp Mills on January 12, 2001 – MACT II requirements. The MACT II requirement was adopted by reference by WAC 173-400-075 (5). As part of these regulations, KCWW in Everett, Washington was required to control particulate as a surrogate for HAPs emissions from their sulfite recovery furnace. The limit for particulate emitted under MACT II is 0.04 gr/dscfm corrected to 8% oxygen. The permittee submitted eleven years of particulate data from stack tests performed on the emissions from the recovery furnace. The highest value in the data was 0.02 gr/dscfm at 8% oxygen. The Permittee requested that the initial performance test be waived. On February 16, 2004 the performance test was waived by Ecology.

The recovery furnace at KCWW facility controls particulate with a wet scrubber and six banks of Brinks demisters. Part 63 Subpart MM of 40 CFR (MACT II) requires the emissions from the recovery stack to be control for particulate to no greater than 0.04 grains/dscf. The test data for the source showed that the Brinks demisters control system met the particulate limit imposed by MACT II. The Brinks demister control system is considered another method of control from those defined in Part 63.864(a) (1) through a(3). Part 63.864(a)(5) states that facility with control devices

other than those defined in Part 63.864(a) (1) through a(3) must monitor parameters approved by the Administrator using method and procedures in Part 63.865(f) which require a monitoring plan be submitted and approved by the Administrator. The Administrator is defined as a state that has been delegated the authority of this part.

Ecology reviewed the initial plan and approved it on October 12, 2004. A revised monitoring plan was submitted on May 20, 2005 and approved by Ecology on October 4, 2005. As allowed by 40 CFR Part 63.864(j)(3) the permittee changed the surrogate operating parameters with Ecology approval. The monitoring plan was again revised and submitted to Ecology on August 11, 2010. Ecology approved the August 11, 2010 submittal on August 31, 2010. The approved monitoring plan satisfies the continuous monitoring system requirements of 40 CFR Part 63.864(d).

The approved monitoring plan features the following parameters:

Monitoring Dynawave scrubberant recirculation flow-rate,
Monitoring pressure drop across the Dynawave Scrubber, and
Ensure that no less than four demister tanks are in continuous operation.

The rational for parameter selection is supported by emissions testing (reference testing of June 16, 2010, summarized below) with additional explanation provided as follows.

Dynawave Scrubber liquor recirculation rate

The Dynawave Scrubber is a reverse jet liquid/gas scrubber utilizing aqueous caustic scrubbing liquor. PM abatement effectiveness depends on contact between the flue gas and the scrubbing liquor. Scrubberant recirculation rate is an indicator of gas/liquid contact. Low flow rate indicates inadequate scrubber liquor supply with respect to gas flow. Higher flow rates tend to improve scrubber effectiveness. Average scrubberant flow through the Dynawave Scrubber was 2,350 gallons per minute (gpm) during emissions testing on June 16, 2010 that showed particulate and opacity emissions well below their applicable limits. Therefore, a minimum flow rate parameter value of 2,400 gpm is approved.

Monitoring pressure drop across the Dynawave Scrubber

Pressure drop across the scrubber is an indicator of gas/liquid contact, and is therefore an indicator of scrubber effectiveness. Low pressure differential indicates that there is reduced gas/liquid contact and likely diminished emission abatement. Average pressure differential across the Dynawave Scrubber was 3.5 inches of water during emissions testing on June 16, 2010 that showed particulate and opacity emissions well below their applicable limits. Therefore, a minimum pressure drop value of 3.5 inches water is approved.

Ensure that no less than four demister tanks are in continuous operation

The demister manufacturer recommends the flowrate through each demister tank be maintained below approximately 25,000 acfm in order to attain the best performance. The maximum possible flowrate through the flue gas system is approximately 100,000 acfm, based on maximum fuel combustion rate, stoichiometry and standard excess air settings. The manufacturer's recommendation

will not be exceeded if no less than four tanks are in operation at all times. Only four demister tanks were on-line during emissions testing on June 16, 2010 that showed particulate and opacity emissions well below their applicable limits. Therefore, not less than four demister tanks continuously on-line is approved.

Below is a Summary of Performance Test and Monitoring Parameter Values which form the basis for the approval of the continuous parameter monitoring plan for the #10 RB.

Particulate Emissions Testing

Test Date/Run	Stack PM Emissions (Limit is 0.044 gr/dscf @ 8% O2)	Scrubberant Flowrate (average gpm)	Scrubber Pressure Drop (inches H2O)	Number of Demisters Operating
06/16/2010 run 1	0.0090	2358	3.6	4
06/16/2010 run 2	0.0095	2354	3.6	4
06/16/2010 run 3	0.0094	2345	3.5	4
Average	0.0093	2352	3.5	4

Visible Emissions (USEPA Reference Method 9)

Test Date/Run	Opacity (Limit is 35%)	Scrubber Flowrate (average gpm)	Scrubber Pressure Drop (inches H2O)	Number of Demisters Operating
06/16/2010 run 1	15	2351	3.3	4
06/16/2010 run 2	26	2345	3.4	4
06/16/2010 run 3	23	2346	3.5	4
Average	22	2347	3.4	4

Industrial Boiler MACT Standard

On May 16, 2011 EPA used the Administrative Procedure ACT (APA) to stay the most recent Boiler MACT standards to gain time to respond to industry petitions that sought an immediate and indefinite stay of the rules' May 20 effective date. The stay was set forth in the federal register (76 FR 28662) on May 18, 2011. The stay will be in place until either EPA completes its reconsideration of the rules or pending litigation over the rules is resolved.

The Boiler MACT standards have been in flux as interested parties contest the proposed standards and as EPA attempts to reach resolution. The earlier boiler MACT regulations were vacated by the United States Court of Appeals on July 30, 2007. EPA published the most recently proposed 40 CFR 63, Subpart DDDDD, National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters on June 4, 2010. EPA reissued "Power Boiler" MACT standards in Federal Register Vol.76, No. 54 dated Monday,

March 21, 2011. These Boiler MACT standards were to be effective as of May 20, 2011. Affected sources such as Kimberly-Clark would have needed to comply with the standards by March 21, 2014. Condition K has been built into the permit as a place holder to incorporate whatever eventual standards emerge. The mill's solid fuel boiler #14 would have been subject to the previous boiler MACT because its design heat input is estimated at 804.2 MMBTU/hr which is greater than the proposed Boiler MACT heat input threshold of 10 MMBtu/hr. Further information will be incorporated into the permit as it becomes known principally through the notification requirement specified by 40 CFR 63.7545.

Green House Gases (GHG)

For sources with a Title V permit, addressing GHG emissions became effective January 2, 2011. Kimberly-Clark triggered both EPA's Tailoring Rule and Washington State's WAC 173-441 regulation implementing GHG requirements because GHG emissions from the sulfite mill operations are above 25,000 metric tons per year. In Federal Register Vol. 76 No. 54 published Monday, March21, 2011, EPA subsequently proposed deferring for a period of three (3) years the application of the Prevention of Significant Deterioration (PSD) and Title V permitting requirements to biogenic carbon dioxide (CO2) emissions from bioenergy and other biogenic stationary sources. This deferral action is taken as part of the process of granting the Petition for Reconsideration filed by the National Alliance of Forest Owners (NAFO) on August 3, 2010, related to the PSD and Title V Greenhouse Gas Tailoring Rule. GHG reporting under 40 CFR part 98 is still required by September 30, 2011.

The applicable requirements of WAC 173-441, a state-only-enforceable requirement, have been incorporated into the 2011 renewal permit.

REGULATORY ORDERS

The advent of the Title V program resulted in an examination of the content of then current orders. Efforts were made to in effect "modernize" the orders to facilitate the implementation of the Title V Program. Order No. 1908 was issued in 2005 as part of this effort. Order No. 1908 rescinded or modified portions of previously issued orders that were no longer germane. The new order brings the requirements up to date with the mill configuration and the current regulations.

Still applicable are several notice of construction orders (NOCs) which were issued for new sources or modifications made to the mill. The orders which are included in entirety into the permit are as follows:

Order 1908.	Administrative Order issued to amend previous orders and facilitate Title V permitting.
Order DE 98-AQI028.	NOC approval for #14 Boiler.
Order DE 04AQIS-5956.	NOC approval for creosote wood utilization in #14 Boiler.
Order DE 99AQIS-2.	NOC approval for chlorine dioxide scrubber and bleach plant modification.

Order DE 1522 AQ04.	NOC approval for #3 Paper Machine.
Order DE 02AQIS-3575.	NOC approval for #4 Paper Machine.
Oder DE 79-335.	NOC approval for #5 Paper Machine.

These orders establish source-specific limitations. Some of these orders go way back in time when existing WAC based limitations were sometimes included in an order. Part of the order modernization effort consisted of removing order conditions which merely restated underlying regulation. Orders are not intended to be separate legal sources for default limitations that are based in state regulations. Therefore, for limits derived directly from state regulations that were included in regulatory orders, Ecology considers the regulation and not the Order to be the "applicable requirement" for purposes of Title V.

Federal Air Quality Requirements: Applicability for MACT, NSPS, NESHAP, or CAM

NESHAP Applicable: MACT Subparts S, MM, KK, DDDDD, JJJJ, ZZZZ when finalized
NSPS: Subpart Db
CAM: Non Applicable – See Section 11 Attachments

State Air Quality Requirements: Applicability for BACT, PSD, LAER, or Acid Rain

PSD Applicable: Not Applicable
LAER Applicable: Not Applicable
BACT Applicable: #14 Boiler, Chlorine Dioxide Scrubber and Bleach Plant Modification, Paper Machines

Compliance/Enforcement history and remedies:

All emission units have been properly permitted and are operating in compliance with regulatory requirements at the time of the Title V Air Permit Application renewal dated 03/25/2010. There are no outstanding enforcement actions nor have there been any enforcement actions during the previous permit term.

EMISSION UNIT DESCRIPTION

Emission Unit Control Device and Emission Inventory ID

In keeping with the submission of the Facility Annual Air Inventory, the following table lists the point and segment number as per the Annual Air Inventory Report along with a brief description.

Plant Number: S-061-0002

Point Number	Segment Number	Source and Control Description	Modification History
12	01	Recovery Boiler #10 – wet scrubber (reverse-jet Dynawave followed by mist eliminator	No modification. Startup 1974.
22	01	Boilers #7-9 – no controls	No modification. Startup 1955
23	01	Wood Boiler #14 – Cogeneration – fabric filter	Startup 1995
24	01	Bleach Plant – fluidized bed scrubber	No modifications. Startup 2000
25	01	Paper Machine #5	No modifications. Startup 1979.
26	01	Paper Machine #4	Modified in 2000. Startup 1955.
26	01	Paper Machines #1-3	Paper Machine #3 modified in 2004. No modifications to #1-2. Startup 1954.

State-only vs. federally enforceable requirements

The few permit conditions which are state-only and not federally enforceable requirements are identified as state-only within the permit itself. No further explanation is provided here on the assumption that the permit condition is self explanatory.

Emission Limit Discussion

Monitoring and Gap Filling

Ecology has preferentially relied on direct source testing as the most robust and accurate method of determining compliance and, through frequency of testing, assuring compliance. Source testing is resource and time intensive. More frequent monitoring requires the use of some sort of indirect surrogate parameter. The frequency of direct source testing has been stipulated through Orders, which are included in Appendix B of this permit. Ecology has attempted to reconcile frequency of monitoring with accuracy of monitoring by relying on both direct periodic source testing and more frequent indirect monitoring using surrogate parameters. Acknowledging the surrogate monitoring parameters as compliance indicators but not necessarily compliance determinants addresses the qualitative concerns regarding surrogate monitoring parameters. Where surrogate monitoring

parameters have been employed, the Permit has been structured such that noncompliance with the surrogate limitation requires corrective action. Failure to take corrective action and bring the surrogate parameter within bounds constitutes noncompliance with the need to follow good operation and maintenance as required by WAC 173-410-040(4). The Permit thus combines periodic direct source testing which definitively determines compliance with surrogate monitoring requirements indicating compliance to achieve an overall monitoring program intended to meet the Title V requirement of monitoring sufficient to assure compliance.

The frequency of both direct source testing and the application of surrogate parameters intended to indirectly infer compliance with the underlying applicable requirement is based on best professional judgment of the historical probability of exceeding the imposed limitation and the potential magnitude of an exceedance.

Emission units such as the lime kilns and smelt tanks have wet scrubbers as emission control equipment or as part of the emission control equipment train. The requirement to monitor and maintain scrubber flow at certain set points was, prior to the advent of Title V Permits, initially imposed as an indicator of proper operation and maintenance regarding opacity and particulate emission minimization. Particulate source testing and visual observations of opacity indicate that the surrogate scrubbing parameters stipulated can be used as indicators of compliance with the opacity and particulate emission limits.

For some units, such as recovery furnaces, opacity is proposed as a compliance indicator for particulate emissions. At this time, Ecology does not know of a definitive relationship between opacity and particulate emissions for all emission units such that opacity could be used as a predictive emissions parameter. Nonetheless, there is a relationship such that the opacity levels selected, the opacity limits themselves, are believed to adequately function as surrogate indicators which infer compliance with the underlying applicable requirement.

Incorporated into the Permit is an allowance for a reduction in source testing frequency which may be allowed if particulate emission control meets certain criteria. Ecology has introduced this allowance as an incentive to encourage improved emission control. The first criterion, which must be met to allow consideration of source testing frequency reduction, is a proven history of performance. This requires a source to achieve consecutive months of compliance before a reduction in source testing can be considered. Noncompliance triggers a reversion to the original source testing frequency.

Simply meeting the threshold for a reduction in testing frequency is not the only criteria for gaining a reduction in source testing frequency. Subjective criteria are also evaluated and ultimately best professional engineering judgment is exercised. Primary factors also considered include historical emission trends and degree of confidence in maintaining emission limit compliance between source testing events. For example, a unit from which particulate emissions have been historically increasing would probably not gain the source testing frequency allowance. It possibly could be argued that such a unit was already trending toward noncompliance with WAC 173-405-040(10) which requires operation and maintenance of a facility and emission that operated only periodically probably would not be granted a reduction in monitoring frequency because of possible problems developing from its “mothballed” status. A reduction in testing frequency would also be dependent on the strength of surrogate information available indicating limit compliance between testing

events, if a surrogate parameter was deemed control equipment in a manner consistent with good air pollution control practices. Also a unit adequate for compliance indication when coupled with monthly testing but not adequate as a stand-alone compliance indicator, a reduction in testing frequency would not be granted despite achieving the 75% emission allowance threshold.

Where the respective Order is the basis of authority for the required source testing and establishes the frequency of source testing, the mechanism for achieving a reduction in source testing frequency is modification of the underlying Order. The current wording in the title V permit allowing the consideration of such a reduction is designed as a placeholder such that modification of the underlying Order will not require opening the Title V permit for modification. A 30-day public comment period will still occur associated with modification of the Order.

Representative Source Tests

Kimberly Clark's (KC) source tests represent compliance with the standard because the time period over which the sources are tested is representative of the operation of the source throughout the month. The period of source testing is representative of operations during the entire month for the following reasons.

Source tests are 'blind' in nature. The only communication between the testers and operators is to verify that parameters meet or exceed the previous month's average operating conditions. Boiler operators are not given long lead times by the source testers, in order that they may "tune-up" their boiler.

Source tests are conducted at or above the previous month's average operating parameters. Source tests are designed to utilize operating conditions that best emulate past plant operating parameters in order to show continuous compliance. To accomplish this, source tests are conducted at or above the previous month's average operating standards in terms of both production rates and unit operating configurations. It is assumed that the greater the operating parameters, the greater the mass emissions. Thus, if the operating parameters exceed the previous month's averages and still meet standards, the overall assessment is that the source test was representative and the system was in continuous compliance.

Additional surrogate monitoring parameters. In addition to direct source testing conducted periodically, which definitely determines compliance, Ecology has proposed minimum operating conditions in numerous air pollution control equipment as a surrogate monitoring requirements intended to indicate compliance to achieve an overall monitoring program that meets the Title V requirement of monitoring sufficient to assure compliance.

Sulfite Recovery Boiler/Secondary System (No. 10 Boiler)

Process Description

The No. 10 Recovery Boiler is a Babcock & Wilcox unit that burns spent sulfite pulping liquor (SSL) and is a part of the acid recovery process. The boiler commenced operation in 1974 and is capable of burning approximately 1,375,000 pounds (dry solids) of spent liquor per day and producing approximately 380,000 pounds of steam per hour. Before exhausting to the atmosphere, the exhaust gas from the boiler passes to the "secondary system," which consists of a cooling tower, an absorption tower, a scrubber, and a demister.

All of the sulfur dioxide (SO_2) emission sources in the pulping operations are also collected and passed to the secondary system (see Section 6 for a more complete description). Acid production is the primary process function of this equipment, but the entire system also functions for pollution control purposes to remove SO_2 and particulate. The absorption tower produces the sulfite cooking acid by reacting SO_2 with ammonia, and hence also serves to remove most of the SO_2 from the boiler exhaust and other gas streams. The scrubber (a reverse-jet Dynawave unit) provides additional SO_2 and particulate matter control. The final step is a demister system to remove the remaining particulate and fine water droplets.

Emission Points

The No. 10 Boiler stack is the single emission point for the sulfite recovery boiler and the mill pulping operations and is assigned Ecology emission point number 12. The stack dimensions are 202 feet in height and 6 feet in diameter. The stack flue gas is relatively low temperature (75-100°F) and is at or near the water saturation point (typically condensing within the stack).

Operating Conditions

The recovery boiler operates as a base-load boiler for the mill because the chemical recovery operation tracks directly with the pulp production processes. Even though the digesters are a batch operation, there are a sufficient number of digesters to approach a steady-state operation for spent liquor burning.

Operational scenario options do not really apply in this case because the boiler burns whatever liquor is available. K-C does have the option to burn natural gas to supplement the operation at times but does not routinely do so during normal operations. Natural gas is burned to stabilize the system during startups, shutdowns, malfunctions, and low-fire modes.

Emission Estimates

Emissions from Boiler #10 are summarized below as reported in the CY 2009 emission inventory.

Criteria Pollutant	Emissions (tons/year) 2008	2009
Particulate Total	19	18
PM_{10}	18	14
$PM_{2.5}$	18	14
SO_2	26	31
NOx as NO_2	171	183
VOC	253	233
CO	403	238
NH_3 (ammonia)	1	1
Toxic and other non-criteria pollutants	**Emissions (pounds/year)**	
Lead	14	13
Mercury	2	2
Methanol	15850	14530
Formaldehyde		341
Manganese		155

Applicable Regulatory Requirements

Most of the specifically applicable requirements for the No. 10 boiler are identified in Regulatory Order No. 1908-AQ05 issued by the Washington State Department of Ecology on August 31, 2005. This order consolidated requirements from previous orders.

The No. 10 Boiler is also subject to particulate emissions limits established via WAC 173-410 and 40 CFR part 63 subpart MM. Subpart MM establishes specific monitoring and reporting requirements.

Compliance Assurance Monitoring (CAM) Program Applicability (40 CFR part 64) – There are no parameters requiring a CAM plan for the No. 10 Boiler. CAM applicability is documented in Appendix A.

Compliance Status

The No. 10 boiler is in compliance with all of the identified regulatory requirements.

Monitoring, Recordkeeping, and Reporting

Continuous monitoring systems (CMS) are installed for measurement of SO_2, NOx, and total reduced sulfur (TRS). A CO CMS and pitot flow meter are operated for process control. KC executes an approved parameter monitoring plan to continuously monitor compliance with the applicable 40 CFR part 63 subpart MM particulate limit. This plan, dated May 18, 2005, specifies monitoring of opacity and the functional status of the Brinks Demister. Data produced by the above systems are continuously recorded, as are all required audit and CMS malfunction and maintenance data. Particulate emissions are measured and reported at least yearly (quarterly, progressing to annually, in the event of any excess PM emission test result).

Monitoring data, including excess emission and CEMS downtime reports, are submitted monthly. These additional reports are submitted:

- Quarterly CEMS audit report
- Semiannual §63.867(c) MACT parameter monitoring excursion report (quarterly if any excursions)
- Semiannual §63.10(e) MACT parameter monitoring excess emission and performance report
- Semiannual §63.10(d)(5) SSMP report (immediate if SSMP inconsistency)

Cogeneration Boiler (No. 14)

Process Description

The No. 14 wood waste boiler was constructed in 1995 to replace five Dutch oven hog fuel boilers that were constructed in the 1930's. The boiler was financed by the Snohomish County Public Utility District, which contractually owns the boiler and the electricity generated, while K-C operates the boiler and extracts steam for various processes (co-generation). The boiler has a design heat input capacity of 804.2 MMBtu/hr burning wood waste plus sludge at 435,000 pounds of steam per hour (Maximum Continuous Rating) as well as producing 325,000 megawatt-hours of electrical power per year. Upon construction of the boiler, the existing fabric filter emission control system (installed in 1979) was upgraded to include additional bags and the bag filtering material was updated to one having improved filtration efficiency.

Emission Points

Boiler No. 14 has a single emission point, the wood-waste boiler exhaust stack that was utilized by the original boilers. The stack was refurbished in 2004 which reduced the inside diameter. The stack outlet diameter is 12 feet 5 inches, and the stack height is 172 feet above ground level. The Ecology emission point number is 23.

Operating Conditions

Fuel to the No. 14 boiler is primarily wood waste, land clearing debris, in-mill rejected paper, used creosote treated railroad ties, and wastewater treatment plant sludge that is generated on-site. Up to 12 tons per day of non-wood fuel may be combusted, under the terms of supplemental regulatory order (DE04-AQIS-5956). The primary backup fuel for this boiler is natural gas. The secondary backup fuel is No. 2 distillate with sulfur content not to exceed 0.05 percent by weight.

Steam is produced for electrical power production and internal mill uses. The distribution between users of the steam produced can vary, depending on power grid and mill operational demands. During maintenance or emergency situations, or when the boiler is firing only fossil fuel, the baghouse may be bypassed. This is standard practice during both start-up, when the boiler is warming up, and shutdown, when the boiler is cooling. Bypassing is necessary because low temperatures will cause condensation in the bags that may lead to plugging and deterioration.

Kimberly-Clark is required by its insurers to perform annual flame safety tests on the No. 14 boiler. All fossil fuels able to be burned in the boiler have to be tested for flame safety. Flame safety checks are performed to verify that the boiler controls and systems work properly to protect against the hazard of a furnace explosion (from a collection of unburned fuel in the boiler) which in turn reduces the risk of personal injury, equipment damage, and plant downtime. No. 14 boiler has the capability to burn No. 2 distillate and as such a yearly No. 2 distillate safety test is required. During the diesel firing test, the atomizing steam is throttled to disrupt the air/fuel ratio and when the atomizing steam drops to a specific pressure the boiler must automatically trip for a successful test. During this test the stack flue gas becomes very dark and heavy due to the upset air/fuel ratio. The dark emissions are present for approximately 15 minutes (the duration of the test), and visible emissions will exceed 10 percent opacity during this period.

Emission Estimates

Emissions from Boiler #14 are summarized below as reported in the CY 2009 emission inventory.

Criteria Pollutant	**Emissions (tons/year)**	
	2008	**2009**
Particulate Total	22	18
PM_{10}	8	13
$PM_{2.5}$	7	2
SO_2	275	329
NOx as NO_2	570	490
VOC	4	4.5
CO	67	77
NH_3 (ammonia)	1	1
Toxic and other non-criteria pollutants	**Emissions (pounds/year)**	

Hydrochloric Acid	166125	197090
Lead	3	30
Mercury		11
Methanol	3020	3477
Formaldehyde		341
Manganese		15
Chromium		11

Applicable Regulatory Requirements

The boiler was originally permitted by a Notice of Construction approval Regulatory Order No. DE 93-AQI064 dated July 1, 1993. The boiler was subsequently repermitted, and this order was replaced by Order No. DE 98-AQI028 on July 15, 1998. Order No. DE 98-AQI028 is still current as the principal document regulating the boiler operations and emissions, but a more recent Order No. DE 04AQIS-5956 was issued February 20, 2004 following a revision to the state incinerator rule, WAC 173-434. This limited order was issued primarily to authorize the burning of wood treated with creosote in the boiler, but it also grants permission for the destruction of controlled substances by law enforcement agencies, the burning of outdated postage stamps, and the use of oil contaminated paper generated on site for fuel. Table 4-1 below lists the ongoing requirements that are specifically applicable to the boiler.

The boiler is subject to 40 CFR part 60 subpart Db, which presents limitations and monitoring requirements on sulfur dioxide, particulate, and nitrogen oxides emissions and opacity.

EPA promulgated 40 CFR part 63 subpart DDDDD (National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters) on September 13, 2004 and this rule would have applied to the No. 14 Boiler, but the rule was vacated by the United States Court of Appeals on July 30, 2007. This rule may be re-promulgated during the term of the renewed air operating permit, but it is not an applicable requirement at this time.

CAM Applicability – There are no parameters requiring a CAM plan for the No. 14 Boiler. CAM applicability is documented in Appendix A.

Compliance Status

The No. 14 boiler is in compliance with all identified regulatory requirements.

Monitoring, Recordkeeping, and Reporting

Continuous monitoring systems (CMS) are installed for measurement of SO_2, NOx, CO, and opacity. A pitot flow velocity meter and stack moisture analyzer are installed and are used for pollutant mass flow estimation (flows may alternatively be estimated via combustion gas F-factors (RM-19 or approved alternative)). Data produced by the above systems are continuously recorded, as are all required audit and CMS malfunction and maintenance data. Baghouse integrity is evaluated through periodic inspections. Particulate emissions are measured and reported at least yearly. VOC emissions are also measured annually.

Monitoring data, including excess emission and CEMS downtime are recorded continuously, and submitted monthly. These additional reports are submitted:

- Quarterly CEMS audit report
- Semiannual §60.7(c) excess emission and CEMS performance report

Power Boilers (Numbers 7, 8, 9)

Process Description

The three power boilers at the Kimberly-Clark mill are used primarily to provide back up steam generation when either the No. 10 boiler or No. 14 boiler is out of service. Boiler No. 7 was installed in 1953 and is a Riley F type, rated at 150,000 pounds of steam per hour (190 mmBtu/hr). It burns natural gas only. Boiler No. 8 is a Combustion Engineering model BU50-BPX and was installed in 1954. Boiler No. 9 is identical to No. 8 and was installed in 1955. Boilers 8 and 9 have a rating of 165,000 pounds of steam per hour (209 mmBtu/hour) each. Boilers 8 and 9 normally burn natural gas, but can also burn diesel fuel. Due to the age and configuration, there are no emission controls or CEMS installed or required to be installed on these boilers.

Emission Points

Each boiler has its own stack, providing three separate emission points. The Ecology emission point number is 22 for the three stacks, combined. The stack dimensions (for each stack) are 102 feet in height and 6 feet in diameter.

Operating Conditions

These three power boilers can provide both peak steam demand service as well as backup to the recovery boiler (No. 10) and the wood-waste boiler (No. 14). The mill's operational steam needs

dictate when these boilers operate. Gas is used preferentially to diesel, which normally is employed only during periods of gas curtailment.

Kimberly-Clark is required by its insurers to perform annual flame safety tests on the No. 8 and 9 boilers. All fossil fuels able to be burned in the boilers have to be tested for flame safety. Flame safety checks are performed to verify boiler controls and systems work properly to protect against the hazard of a furnace explosion (from a collection of unburned fuel in the boiler) which in turn reduces the risk of personal injury, equipment damage, and plant downtime. No. 8 and 9 boilers have the capability to burn diesel and as such a yearly diesel test is required for each. During each diesel firing test, the atomizing steam is throttled to disrupt the air/fuel ratio and when the atomizing steam drops to a specific pressure each boiler must automatically trip for a successful test. During these tests the stack flue gas for each boiler becomes very dark and heavy due to the upset air/fuel ratio. The dark emissions are present for approximately 15 minutes each (the duration of the test), but visible emissions will necessarily exceed 20 percent during this period.

Emission Estimates

Emissions from Boilers 7-9 are summarized below as reported in the CY 2009 emission inventory.

Criteria Pollutant	Emissions (tons/year) 2008	2009
Particulate Total	0	1
PM_{10}	0	1
$PM_{2.5}$	0	1
SO_2		0
NOx as NO_2	43	42
VOC	1	1
CO	13	13
NH_3 (ammonia)		
Toxic and other non-criteria pollutants	**Emissions (pounds/year)**	
Formeldehyde		23

. Applicable Regulatory Requirements

All of the specific applicable requirements for the power boilers (Boilers 7, 8, and 9) are identified in Ecology's air quality regulation for sulfite pulp mills (WAC 173-410) and from the NOC approval for the cogeneration boiler project (Regulatory Order DE 98-AQI028).

EPA promulgated 40 CFR part 63 subpart DDDDD (National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters) on September 13, 2004 and this rule would have applied to Boilers 7, 8, and 9, but the rule was vacated by the United States Court of Appeals on July 30, 2007. This rule may be re-promulgated during the term of the renewed air operating permit, but it is not an applicable requirement at this time.

CAM Applicability – The Nos. 7, 8 and 9 power boilers are exempt from the CAM requirements because they have no active pollution control device. CAM applicability is documented in Appendix A.

Compliance Status

The power boilers (Nos. 7, 8 and 9) are in compliance with all identified regulatory requirements.

Recordkeeping and Monitoring

Fuel consumption records for the power boilers are recorded and reported to Ecology monthly. Fuel sulfur content records are kept, as required.

Pulping Operations

Process Description

Kimberly-Clark cooks wood chips utilizing eight batch digesters. To perform a cook, a digester is loaded with wood chips and ammonium bisulfite cooking acid and the chips are then "cooked" for 8-9 hours. Toward the end of the cook, digester gas is relieved to high and low pressure accumulators (60 and 30 psig respectively), and finally via an eductor system to the acid storage tank. The digester is then emptied of pulp into one of two dump tanks. Spent cooking liquor is employed to help flush out the digesters. During this process all gasses are vented to the closed vent system.

After the dump tanks, the pulp is pumped to a washer feed tank. Because this slurry of pulp and spent sulfite liquor has a high SO_2 content, vapor is given off as the tank is filled. Emissions from the dump tanks and the washer feed tank are vented into the closed vent system.

The pulp is then washed in three counter-current two-stage pressure washers. Washed, cleaned pulp next passes to the high density storage chest, and thence to the bleach plant. The washers are vented to the closed vent system. Each washer is equipped with a filtrate tank which receives the wash liquor (spent sulfite liquor). A portion of the liquor is returned to the flushing liquor tanks for reuse in the digester dumping operations. The remainder is discharged to the liquor filters (where any remaining fiber is removed) and then to the weak liquor storage tank. These pieces of equipment all vent to the closed vent system. Figure 3-1, above, depicts the SO_2 collection and recovery systems.

The recovered spent liquor is concentrated from approximately 12.5% solids to 52.5% solids in a six body, five effect evaporator. Each evaporator body is vented to a tail gas condenser to recover water vapor (condensate). Remaining gasses (primarily sulfur dioxide) are routed to the closed vent system. The condensate is hard-piped to the "contaminated hot well" (also vented into the SO_2 collection manifold). Liquor in the hot well is hard-piped to the secondary treatment plant.

The concentrated spent liquor is burned in a Babcock and Wilcox boiler (No. 10 Recovery Boiler) to produce steam. Boiler flue gas passes to a cooling tower and then to an absorption tower. The absorption tower is a 17 foot diameter packed bed tower, consisting of two beds, one ten feet deep and the other five feet deep. An aqueous ammonia solution is introduced to the absorption tower which reacts with the sulfur dioxide to make ammonium bisulfite cooking acid (NH_4HSO_3). Concentrated SO_2 gas manufactured on-site from the burning of elemental sulfur is introduced prior to the tower to supplement the SO_2 that is captured from the SO2 recovery system and from burning spent sulfite liquor. The raw acid is collected from the absorption tower and pumped to the acid settling tank and thence to the fortification tower, where additional concentrated SO_2 is added, as needed. This acid passes to the acid storage tank and thence to the digesters.

Vent gas from the absorption tower (un-reacted SO_2 and combustion by-products) passes to the Dynawave scrubber for additional particulate and SO_2 removal. Caustic is added here to regulate the pH to 6.0, which controls residual SO_2 emissions. After the scrubber, the exhaust gasses pass to

a Brinks mist eliminator, which contains cylindrically shaped fiberglass mats called candles. These remove additional particulate matter and fine water droplets. The final exhaust then exits from the No. 10 stack.

Except for maintenance shutdowns, the pulp mill generally operates 24 hours a day seven days a week. Production levels do not vary greatly from year to year. In 2007 the total pulp production was 132,039 air dry unbleached short tons (ADUST), while in 2008 production was 153,717 ADUST. The principal raw material is wood chips. The principal chemicals used to convert the chips to sulfite pulp are sulfur dioxide and ammonia. Most of the SO_2 is made on site from the burning of elemental sulfur, while the ammonia is purchased and arrives by rail car.

Emission Points

The No. 10 Recovery Boiler stack is the only emission point in the pulping system. See Section 3 for additional details on the stack and SO2 recovery system.

Operating Conditions

There are no alternative operating scenarios identified for this operation. Kimberly-Clark operates eight digesters in a batch mode. Both hardwood and softwood chips are used, but whether or not hardwood or softwood pulp is being produced does not impact emissions.

Emission Estimates

Emissions from the Pulping Operation are addressed in combination with No. 10 Recovery Boiler emissions because these emission sources share the same exhaust cleanup equipment and stack. These data represent actual emissions and will vary from year to year based on operational conditions at the mill.

Applicable Regulatory Requirements

Table 6-1 indicates the ongoing requirements that are specifically applicable to the Pulping Operation. Notably, the digesters, evaporators, and pulp washing systems are subject to a 2.2 lbs HAP per oven dried ton of pulp (ODP) emission limit pursuant to 40 CFR part 63 subpart S (Cluster Rule MACT I). Kimberly-Clark previously demonstrated that, due to the inherent configuration of the processes and materials used, this emission limit is consistently met without operation of any add-on control systems. Accordingly, the only subpart S requirements that are relevant to the Pulping Operation, is periodic monitoring of the closed vent collection system function.

The positive pressure regions of the closed vent system must be monitored annually for leaks pursuant to subpart S §63.453(k) and §63.457(d). Typically, this is done via detection of methanol leaks with a portable organic vapor monitor. However, instead of an organic vapor analyzer, Kimberly-Clark utilizes a portable SO_2 monitor to detect leaks. This use of SO_2 as a surrogate for methanol for leak testing was approved by Ecology, and confirmed by EPA in a letter dated May 7, 2004. The approval indicated use of a leak definition of 5 ppm SO_2 above

background. The negative pressure regions of the closed vent system are monitored annually via anemometer or another technique available under §63.457(e). The entire system is monitored monthly via visual inspection.

CAM Applicability - There are no parameters requiring a CAM plan for the Pulping Operations. CAM applicability is documented in Appendix A.

Compliance Status

The Kimberly-Clark Pulping Operation currently is in compliance with all applicable requirements.

Monitoring, Recordkeeping, and Reporting

Recordkeeping and reporting requirements are included in the Applicable Requirements summary (Table 6-1). The only monitoring requirements applicable directly to the Pulping Operation are MACT subpart S work practice requirements that pertain to the functional status of the closed vent system that serves the digesters, pulp washers, and evaporators. This system must be visually inspected monthly, and annual measurements must be made to detect leakage or maintenance of negative pressure, as appropriate to the region of the vent system. MACT subpart S also requires recordkeeping to document these inspections and measurements, and follow-up repairs in the event a defect is found. There are no specifically applicable reporting requirements.

Bleach Plant

Process Description

The screened raw pulp from the pulp mill is brown in color due to the presence of residual lignin compounds. It is treated in the bleach plant to remove the remaining lignin so that the finished pulp will be suitable for tissue manufacture and subsequent sale. The brown pulp is whitened using bleaching chemicals. After bleaching, the whitened pulp is further screened and cleaned using centricleaners and then the pulp is either pumped in slurry form to the paper mill or is dried on pulp drying machines for storage and subsequent reuse or sale.

Prior to October 2000, the bleach plant used a typical three-stage chlorination process with the sequence being CE_oH (Chlorine, caustic Extraction with oxygen, and sodium Hypochlorite). This original bleaching process had numerous emission points from the individual bleaching cells and from the pulp washers following each bleaching stage. However, to comply with the requirements of the EPA Cluster Rule, in October of 2000 the bleaching process was changed to an elemental chlorine free (ECF) sequence and a new bleach plant scrubber was installed. The current bleaching sequence is $DE_{op}D$: a chlorine Dioxide first stage, caustic Extraction in the second stage with oxygen and peroxide, and a chlorine Dioxide third stage. A chlorine dioxide (ClO_2) generator was also installed to make ClO_2 on site for use in the first and third stages. A diagram of the bleaching process is provided in Figure 2-2.

Emission Points

All beach plant unit operations vent to the bleach plant scrubber, as does residual chlorine dioxide gas from the ClO_2 generation system. The scrubber is a fluidized bed device manufactured by Bionomic Industries. The scrubbing medium is caustic and sodium hydrosulfide. The Ecology emission point number is 24. The scrubber stack sits on the bleach plant roof, 76 feet above ground level. The stack exit is 18 inches in diameter.

Operating Conditions

The $DE_{op}D$ bleaching sequence is a continuous process. Other than minor changes in chemical charge to address differences in pulp quality and species (both softwood and hardwood pulps are processed at different times), normal operations do not change much from day to day. The scrubber is capable of reducing emissions of chlorinated compounds below required levels regardless of pulp grade.

Periodic maintenance of the scrubber is required to ensure its optimization and efficiency as a pollution control device. The scrubber nozzles and interior surfaces tend gather deposition after a few months of operation, which can reduce the flow of scrubbing liquid and thus reduce scrubber efficiency. The scrubber is periodically washed with hydrochloric acid to remove this build-up. During this washing process, manufacture of chlorine dioxide and operation of the bleaching process are shutdown.

Emission Estimates

Emissions from the Bleach Plant are summarized below as reported in the CY 2009 emission inventory.

Criteria Pollutant	**Emissions (tons/year)**	
	2008	**2009**
Particulate Total	0	0
PM_{10}	0	0
$PM_{2.5}$	0	0
SO_2	0	0
NOx as NO_2	0	0
VOC	6	5
CO	42	15
NH_3 (ammonia)		0
Toxic and other non-criteria pollutants	**Emissions (pounds/year)**	
Methanol	238	204

Applicable Regulatory Requirements

Table 7-1 states the ongoing requirements that are specifically applicable to the Bleaching Process. Applicable requirements stem principally from Ecology Regulatory Order No. DE 99AQIS-2, and MACT 40 CFR part 63 subpart S.

Notably, 40 CFR part 63 subpart S limits chlorinated HAP emissions, and Order DE 99AQIS-2 limits chlorine dioxide emissions. Kimberly Clark operates the Bleach Plant Scrubber to abate chlorinated HAP and chlorine dioxide emissions in accordance with an approved site specific monitoring plan (the current plan was approved on January 31, 2008). The plan identifies relevant monitoring parameters and specifies parameter threshold values associated with compliant operation. The system used to monitor scrubber performance is considered a continuous monitoring system under subparts S and A of part 63, and, accordingly, has specific monitoring system performance requirements.

In addition to these emission limits and monitoring system requirements, MACT subpart S and Order DE 99AQIS-2 require periodic evaluations of the closed vent system that is used to capture off-gasses from the Bleach Plant.

CAM Applicability - There are no parameters requiring a CAM plan for the Bleach Plant Scrubber. CAM applicability is documented in Appendix A.

Compliance Status

The bleach plant is in compliance with all of the identified regulatory requirements.

Monitoring, Recordkeeping, and Reporting

Testing and reporting requirements are noted in Table 7-1. MACT subpart S work practice requirements pertain to the functional status of the closed vent collection system that serves the bleaching system. This system must be visually inspected monthly, and annual measurements must be made to detect leakage or maintenance of negative pressure, as appropriate to the region of the closed vent system. MACT subpart S also requires recordkeeping to document these inspections and measurements, and follow-up repairs in the event a defect is found. In addition, subpart S requires continuous monitoring of parameters associated with compliant operation of the process and the Bleach Plant Scrubber. Monitoring data, including excess emission and CMS downtime reports are submitted monthly. These additional reports are submitted:

- Semiannual §63.10(e) MACT parameter monitoring excess emission and performance report
- Semiannual §63.10(d)(5) SSMP report (immediate if SSMP inconsistency)

Ecology Order DE 99AQIS-2 requires annual testing of CO and chlorine dioxide emissions from the Bleach Plant Scrubber.

Number 1-3 Paper Machine Hood Systems

Process Description

The Everett Mill's No. 3 paper machine (TM-3) was installed in 1954 and produces tissue products by the "light dry crepe" process. The machine historically dried paper utilizing a conventional steam-heated Yankee dryer hood. However, in November 2004, a project was completed to install two new 12.5 mmBtu/hr natural gas burners on this machine, and to cascade waste heat from both the No. 3 and the adjacent No. 1 tissue machines back to No. 3. This project improved the energy efficiency of the process. Ecology approved this energy savings project via Notice of Construction Approval Order No. 1522-AQ04 on July 9, 2004.

Tissue Machines 1 and 2 (TM-1 and TM-2) have not been recently constructed or modified. TM-1 is equipped with two Maxon burners for a total natural gas firing rate capacity of 20 mmBtu/hr. TM-2 is equipped with two Maxon burners for a total natural gas firing rate capacity of 18 mmBtu/hr.

Emission Points

TMs 1-3 are vented to stacks located on the roof of the paper mill, exiting about 12 feet above the building roof and 80 feet above ground level. No Ecology emission point numbers have been assigned.

Operating Conditions

For TM-3 the emissions from natural gas combustion from the burners vary according to how much waste heat is available from No. 1 and No. 3 machines. The majority of the time, reuse of waste heat results in emissions much lower than the maximum burner potential to emit. Firing rate varies in accordance with the heat needed by the paper making process.

Emission Estimates

Emissions from Paper Machines 1-3 are summarized below as reported in the CY 2009 emission inventory.

Criteria Pollutant	Emissions (tons/year) 2008	2009
Particulate Total	7.4	8.5
PM_{10}	7	8.1
$PM_{2.5}$		1
SO_2	0	0
NOx as NO_2	4.8	5.4
VOC	3.1	3.2
CO	6.8	7.7

Applicable Regulatory Requirements

Specific applicable regulatory requirements for TM-3 are in Ecology Order No. 1522-AQ04. All of these permit conditions are one-time requirements that have been met, and there are no specifically applicable on-going requirements for TMs 1-3.

CAM Applicability – There are no parameters requiring a CAM plan for TMs 1-3. CAM applicability is documented in Appendix A.

Compliance Status

Paper machines 1-3 are in compliance with all identified regulatory requirements.

Monitoring, Recordkeeping, and Reporting

There are no ongoing recordkeeping or monitoring requirements except for generally applicable requirements.

Number 4 Paper Machine Hood System

Process Description

The Everett Mill's No. 4 Paper Machine (TM-4) was installed in 1955 to produce tissue products by the Heavy Wet Crepe process. In 2000, the machine was rebuilt and modified to utilize the Uncreped Through Air Dry (UCTAD) process (Ecology Order No. 02AQIS-3575). With this process, hot air is blown through the sheet to dry the paper. New Maxon low-NOx gas fired burners (total capacity 90 mmBtu/hr) were installed to heat the through-dry air.

Emission Points

The exhaust stack for TM-4 (EM-4) sits on the roof of the paper mill, exiting 43 feet 7 inches above the roof and 112 feet above ground level. The inside diameter of the stack is 73 inches. The Ecology emission point number is 26.

Operating Conditions

The machine produces a variety of towel grades of varying basis weights; the heavier weight grades require more heat for drying than lighter weight grades. It is not possible to run TM-4 with the dryer burners off line.

Emission Estimates

Emissions from Paper Machine #4 are summarized below as reported in the CY 2009 emission inventory.

.

Criteria Pollutant	Emissions (tons/year) 2008	2009
Particulate Total	1	2
PM_{10}	1	2
$PM_{2.5}$	1	2
SO_2	0	0
NOx as NO_2	7	6
VOC	12	11
CO	17	16

Applicable Regulatory Requirements

The only specific applicable regulatory requirements are in Ecology Order No. 02AQIS-3575. All of the permit conditions are one-time requirements that have been met, and there are no specifically applicable on-going requirements.

CAM Applicability – There are no parameters requiring a CAM plan for TM-4. CAM applicability is documented in Appendix A.

Compliance Status

The No. 4 paper machine is in compliance with all of the identified regulatory requirements.

Monitoring, Recordkeeping, and Reporting

There are no ongoing recordkeeping or monitoring requirements except for generally applicable requirements.

Number 5 Paper Machine Catalytic Oxidizer

Process Description

The Everett Mill's No. 5 paper machine (TM-5) was installed in 1979 (Ecology Order No. DE 79-335). TM-5 is different from conventional paper machines in that it uses a proprietary process to manufacture towel and wiper products. In this process, chemicals are added to the paper before it "cures" on a dryer. The additive contains a small amount of carrier solvent thereby releasing some volatile organic compound (VOC) emissions during and after application.

The original installation featured a catalytic oxidizer to destroy VOC. In 2008, Kimberly-Clark demonstrated that the VOC emission limit could be easily met through restrictions on the VOC content of the additives. Accordingly, Ecology permitted removal of the catalyst (letter dated 05/20/2009).

Natural gas-fired burners are used to provide heat to the process. The Yankee Wet end and Yankee Dry end burners are rated at 14.05 mmBTU/hr each. The cure burner is rated at 26 mmBTU/hr.

Emission Points

The exhaust gas flow from the paper dryer discharges through a 44 inch vent on the paper mill roof. The Ecology emission point number is 25.

Operating Conditions

Kimberly-Clark makes a variety of towel and wiper products on the No. 5 machine. Different brands use different furnish components. Additives, agents, and dyes can vary widely between products and within the same product options. Kimberly-Clark has demonstrated that VOC emissions during utilization of the highest VOC-content additives will not cause an exceedance of the VOC limit.

Emission Estimates

Emissions from Paper Machine #5 are summarized below as reported in the CY 2009 emission inventory.

Criteria Pollutant	Emissions (tons/year) 2008	2009
Particulate Total	0	1
PM_{10}		1
$PM_{2.5}$		1
SO_2	0	0
NOx as NO_2	13	10
VOC	4	5
CO	11	8

Applicable Regulatory Requirements

Specifically applicable requirements for the No. 5 machine are identified in Table 10-1. These requirements stem from Ecology Order DE 79-335.

CAM Applicability – There are no parameters requiring a CAM plan for TM-5. CAM applicability is documented in Appendix A.

Compliance Status

The No. 5 Tissue Machine is in compliance with the identified applicable requirements.

Monitoring, Recordkeeping, and Reporting

Ecology Order DE 79-335 does not specify any monitoring, recordkeeping, or reporting requirements associated with the PM and VOC limits applicable to TM-5. The current air operating permit requires (as a "gap filling" measure) monthly PM emissions estimation via EPA document AP-42 and annual stack testing for VOC. Historical VOC test results are summarized below:

VOCs(LBS/DAY) measured by EPA RM 25A. Limit is 100 lbs/day set by Order DE 79-335.

3/18/2005	9.4	Note: The test result for 1/26/2009 reflects worst case latex
4/13/2006	1.17	formulation and addition rates done as part of an evaluation
7/22/2006	7.2	of operations without the catalytic emissions control.
10/31/2006	5.8	These results do not reflect typical operation.
5/10/2007	14.0	
1/2008	9.96	
1/26/2009	49.6	
6/17/2010	8.9	

Diesel Storage Tank

Process Description

The subject tank is used for storage of No. 2 distillate fuel oil used in Boilers 8, 9, and 14. The tank capacity is 250,000 gallons and it is provided with full secondary spill containment (to 110% tank capacity). The tank is 28 feet in height and 38 ½ feet in diameter. It has an 8 inch diameter "top-hat" atmospheric vent. The tank is equipped with level alarms and automatic shutoffs for both loading and unloading operations.

Emission Points

The only emission point is the atmospheric vent on top of the tank.

Operating Conditions

The tank will always contain some diesel, but will normally contain more in the winter as its purpose is to provide backup fuel in the event of a natural gas curtailment. These interruptions in gas service occur primarily during winter cold weather periods.

Emission Estimates

Due to the low vapor pressure and intermittent usage of the diesel fuel, tank emissions are insignificant.

Applicable Requirements

There are no design requirements, emission limitations, monitoring requirements, or reporting requirements associated with the tank. 40 CFR part 60 subpart Kb §60.116b(b) requires the site to retain records of tank dimensions and capacity. No other requirements apply.

CAM Applicability – The diesel storage tank is exempt from CAM requirements because there is no applicable emission limit.

Compliance Status

The tank is in compliance with identified regulatory requirements.

Monitoring, Recordkeeping and Reporting

The only recordkeeping required is for the site to retain data on tank dimensions and capacity. This information is kept on-file at Kimberly-Clark.

Core Tube Machines

Process Description

The tissue paper converting processes produce disposable paper toweling and bathroom tissue consumer size rolls from full size parent rolls off the tissue formation machine. One of the support processes for these converting machines makes the finished product roll cores from purchased materials, typically an unbleached linerboard paper approximately four inches wide. In this process, glue from a dip tank is applied with a transfer roll to the linerboard paper which is then "spiral wrapped" around a steel rod to form the core in a continuous process. The continuous "core tube" is cut to a length matching the width of the tissue converting winder. The population of core tube machines at the Everett Mill is described below in Table 12-1.

Emissions are very low, and these devices have previously been considered to be insignificant emission units. In December 2002, EPA promulgated 40 CFR part 63 subpart JJJJ (National Emission Standards for Hazardous Air Pollutants: Paper and Other Web Coating). Because the core tube manufacturing process is a web coating process, EPA clarified on 11/18/2005 that this process is affected by subpart JJJJ if it is located at a major source of HAP emissions.

Table 12-1
Core Tube Machine Data

Tube Machines	Date Installed	Glue	Organic HAP limit
1st floor TM#3	April 2005	CORE-TITE 32-1357	0.016 kg HAP/ kg glue
1st floor TM#1	1981	CORE-TITE 32-1306	0.04 kg HAP/ kg glue
1st floor TM#2	1999	CORE-TITE 32-1306	0.04 kg HAP/ kg glue
2nd floor Unit 8-1	1989	CORE-TITE 32-1306	0.04 kg HAP/ kg glue
2nd floor Unit 8-2	1989	CORE-TITE 32-1306	0.04 kg HAP/ kg glue
2nd floor Unit 16	1995	CORE-TITE 32-1306	0.04 kg HAP/ kg glue
2nd floor Unit 9-2	1991	CORE-TITE 32-1306	0.04 kg HAP/ kg glue
2nd floor Unit 15	1996	CORE-TITE 32-1306	0.04 kg HAP/ kg glue
4th floor (1 machine)	2000	Swift 48100	0.04 kg HAP/ kg glue

Emission Points

Each core tube machine is vented to the general room ventilation system.

Operating Conditions

Each core tube machine operates at a rate that is compatible with the production rate of the converting area that it serves. The glue product used is only very rarely changed.

Emission Estimates

Emissions from the core tube machines are insignificant. Based on material safety data sheet information, none of the glues used contain any amount of volatile organic compounds or hazardous air pollutants. The process does not generate new pollutants.

Applicable Regulatory Requirements

Kimberly-Clark is choosing to comply with the HAP content limitations specified at 40 CFR §63.3320(b)(2) on an "as purchased" basis. Compliance is demonstrated and monitored by retention of manufacturer's data regarding the HAP content of the glues used. Table 12-2, below, indicates the applicable requirements.

CAM Applicability – The core tube machines are exempt from the CAM requirements because they have no active pollution control device and the only applicable emission limit is a federal limit promulgated pursuant to the Federal Clean Air Act section 112. CAM applicability is documented in Appendix A.

Compliance Status

The core tube machines are in compliance with all identified regulatory requirements.

Monitoring, Recordkeeping, and Reporting

Compliance with subpart JJJJ is and monitored by retention of manufacturer's data regarding the HAP content of the glues used. For this compliance option, subpart JJJJ requires submittal of semiannual reports with specific information regarding the compliance status during the reporting period.

Stationary Engines

Process Description

Seven emergency generators are permanently installed at the Everett Facility. One rental electric power generator is utilized at the Riverside Chip/Fuel Storage Facility to power the portable truck dumper. Information regarding these engines is provided below in Table 13-1.

Table 13-1
Stationary Engine Data

Location /ID	Genset Make	Engine Make	Engine Mod.	Engine SN	Fuel	HP	Manuf. Date	Install. Date
Tissue West Emergency Generator	Kohler 100 kW	Cummins	6BT5.9	44331630	diesel	173	1/25/89	1989
Tissue East Emergency Generator	Kohler 100 kW	John Deere	CD6059TF	CD6059T186050	diesel	166	1/17/95	1995
TM-5 Basement Emergency Pump	Godwin CD 150 M Pump	John Deere	4039DF001	T04039D425435	diesel	60	1993	~1994
Pulp Mill Emergency Generator	Kohler 20 kW	John Deere	4039DF001	T04039D385850	diesel	66	10/92	~1995
Warehouse Emergency Generator	Kohler 100 kW	John Deere	6059TF	T06059T383148	diesel	166	08/92	1993
WWTP Emergency Generator	Sentry Pro 8500 W	Briggs & Stratton	350447 (35HOHV) Type 1160E1	99070811	propane	18	7/08/99	2000
Boiler-House Emergency Generator	Onan 15 kW	Onan	15.0JC-18R/17164A5	G84071780	natural gas	~50	not available	1980's
Riverside Truck Dump Power	MQ Power 150 (120 kW)	Volvo (Deutz)	TAD720GE	5300852265	diesel	191	7/21/03	~2004 (replaced previous unit)

The Riverside Truck Dump Generator engine is the only engine on-site that is not for emergency use only. This engine operates only when the truck dump is being operated. This generator unit is rented and is on a wheeled trailer. The current unit replaced a previously installed unit. A generator has been used at the Riverside Facility to power the truck dump since approximately 1991. The current engine meets the EPA requirements applicable to engine manufacturers for the subject model year (EPA engine family number 3DZXL07.1034).

Operating Conditions

The emergency generators are utilized only during unplanned electricity outages and for periodic engine testing. The truck dump generator is utilized only when the dumper is in use. Annual usage of the engine at the truck dump is approximately 170 hours/year.

Emission Estimates

Emissions from the emergency generators are insignificant and are not quantified. Emissions from the truck dump generator engine are estimated below in Table 13-2.

Table 13-2
Truck Dump Generator Estimated Emissions

Pollutant	Emission Factor (lb/hp-hr)*	Emissions (lbs/yr)**
NOx	0.031	1007
CO	6.68E-03	217
SOx	2.05E-03	67
PM-10	2.20E-03	71
TOC	2.50E-03	81

*AP-42 Table 3.3-1 (10/96)

**Assumes full rate (191 hp) and 170 hrs/yr

Applicable Regulatory Requirements

Stationary engines are potentially subject to the following federal regulations:

- NSPS 40 CFR part 60 subpart IIII – Applies to new compression ignition engines ordered after 7/11/05 and that are manufactured after 4/1/06. Applies to engines modified or reconstructed after 7/11/05.
- NSPS 40 CFR part 60 subpart JJJJ – Applies to spark ignition engines ordered after 6/12/06 and that are manufactured after applicable dates of which the earliest is 7/1/07.
  NESHAP 40 CFR part 63 subpart ZZZZ – This rule formerly applied only to certain existing and all new reciprocating internal combustion engines (RICE) with site ratings greater than 500 hp. On February 17, 2010, EPA issued an amendment to this rule to extend applicability to existing and new compression engines with site ratings less than 500 hp. Another amendment to address spark ignited RICE will be released by EPA later in 2010. Neither of these rule changes has been published in the Federal Register yet. The date the rule changes apply (applicability date) will be three years after publication in the Federal Register (effective date).

NSPS subpart JJJJ applies only to spark ignition engines. There are two stationary spark ignition engines at the facility; an 18 hp portable generator located at the Waste Water Treatment Plant and a Boilerhouse Emergency Generator spark ignition engine. . Pursuant to §60.4233(a), this engine is exempt from subpart JJJJ because it was manufactured prior to July 1, 2008.

NSPS subpart IIII does not apply to any of the engines on-site because they were all ordered, manufactured, and installed prior to the applicability date for this rule (engines ordered after 7/11/05). None of the engines have been modified or reconstructed since the applicability date.

Pursuant to the definitions in 40 CFR part 63 subpart ZZZZ, all of the engines on site are stationary existing reciprocating internal combustion engines (RICE). Table 13-3, below, indicates the requirements that will apply to the stationary engines on-site after the applicability date of 40 CFR part 63 subpart ZZZZ. These requirements may need to be updated for the spark ignited engines if pending further changes to subpart ZZZZ produce applicable requirements.

Compliance Status

The stationary engines referenced above are in compliance with all applicable regulatory requirements.

Monitoring, Recordkeeping, and Reporting

There are no specific monitoring, recordkeeping or reporting requirements at the time of renewal application submittal, only general requirements apply. After the subpart ZZZZ applicability date, the requirements indicated in Table 13-3a will apply.

Table 13-3a Stationary Engines; Specifically Applicable Requirements
(not applicable until 3 years after the rule effective date (March 3, 2010))

Pollutant or Parameter	Limit	Averaging Period	Regulatory Citation	Current AOP Citation	Compliance Determination Method	Compliance Monitoring Method	Recordkeeping	Reporting
Riverside Truck Dump Engine (Existing Non-Emergency, Non-Blackstart CI RICE 100<hp<300)								
HAP (CO surrogate)	CO limited to less than 230 ppmdv @ 15% O2 (except during startup)	average of three RM test runs	40 CFR part 63 §63.6602 & Table 2c (3) §63.6612 §63.6620 & Table 4 §63.6630 & Table 5 §63.6640(a), (b) & (e) §63.6645 §63.6650 & Table 7 §63.6655 §63.6660	N/A	§63.6620 & Tables 4 & 5; CO emissions test (initial test result due within 180 days after the compliance date per §63.6612)	No periodic emissions testing requirement. No monitoring requirements.	Maintain records pursuant to §63.6655: -malfunctions -maintenance -actions to mitigate malfunctions - notifications -initial performance test and compliance demonstration results Keep records for at least 5-years pursuant to §63.6660	Provide Notifications pursuant to §63.6645. Provide initial performance test and compliance demonstration report pursuant to Table 8. Report deviations pursuant to §63.6640(b) & (e) and §63.6650 Table 7: (1) semiannual compliance report, (2) semi-annual malfunction report if the unit had a malfunction
	Minimize time spent at idle during startup and minimize startup time, not to exceed 30 minutes.	N/A	§63.6625(h) & Table 2c	N/A	N/A	N/A		
	General Duty to operate and maintain in a manner consistent with good air pollution control practices.	N/A	§63.6605	N/A	Comply with rule requirements.	N/A		
	Initial performance test and compliance demonstration (CO)	Average of three RM test runs	63.6612 & Table 4 Table 5	N/A	Table 4 and Table 5	N/A		

Table 13-3a Stationary Engines; Specifically Applicable Requirements
(not applicable until 3 years after the rule effective date (March 3, 2010))

Pollutant or Parameter	Limit	Averaging Period	Regulatory Citation	Current AOP Citation	Compliance Determination Method	Compliance Monitoring Method	Recordkeeping	Reporting
Tissue East, Tissue West, Pulp Mill, & Warehouse Emergency Generator Engines (Existing Emergency CI RICE 100<hp<300) Pulp Mill Emergency Generator Engine, and the TM-5 Emergency Pump Engine (Existing Emergency CI RICE hp<100), WWTP Emergency Generator and Boilerhouse Emergency Generator (SI RICE ,500 hp)								
HAP	a. Change oil and filter every 500 hours of operation or annually, whichever comes first; b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first; c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.	N/A	40 CFR part 63 §63.6602 & Table 2c (1) §63.6640(a) Table 6(9) §63.6640(a), (b), (e) §63.6655 §63.6660	N/A	Same as compliance monitoring method	§63.6640(a) Table 6 (9) i. Operate and maintain the stationary RICE according to the manufacturer's instructions; or ii. Develop site-specific operation and maintenance plan.	Maintain records pursuant to §63.6655: -malfunctions -maintenance -actions to mitigate malfunctions -hours of operation. Keep records for at least 5-years pursuant to §63.6660	Report deviations pursuant to §63.6640(b) & (e) and §63.6650 Table 7: (1) semi-annual malfunction report if the a unit had a malfunction
	(1) Any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations is limited to less than 50 hours per year, (3) Maintenance checks and readiness testing, must be recommended by government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year.	N/A	§63.6640(f)(1)-(4)	N/A	N/A			
	Follow maintenance plan (manufacturer's or custom)	N/A	§63.6625(e)	N/A	N/A			
	Minimize time spent at idle during startup and minimize startup time, not to exceed 30 minutes.	N/A	§63.6625(h) & Table 2c	N/A	N/A			
	General Duty to operate and maintain in a manner consistent with good air pollution control practices.	N/A	§63.6605	N/A	Comply with rule requirements			
	Install non-resettable hour meter	N/A	§63.6625(f)	N/A	N/A	N/A	N/A	

Streamlining: Streamlining is not applicable to the Kimberly-Clark mill because no streamlining has been done or proposed.

INSIGNIFICANT EMISSION UNITS

The following insignificant emission units may be found on-site:

WAC 173-401-532(3)	Lubricating oil storage tanks with appropriate lids and covers
WAC 173-401-532(4)	Storage tanks, reservoirs and pumping and handling equipment of any size, limited to soaps, lubricants, hydraulic fluid, vegetable oil, grease, animal fat, aqueous salt solutions or other materials and processes using appropriate lids and covers where there is no generation of objectionable odor or airborne particulate matter
WAC 173-401-532(5)	Pressurized storage of oxygen, nitrogen, carbon dioxide, air or inert gases
WAC 173-401-532(6)	Storage of solid material, dust-free handling
WAC 173-401-532(7)	Vehicle exhaust from auto maintenance and repair shops
WAC 173-401-532(8)	Vents from continuous emission monitors and other analyzers
WAC 173-401-532(10)	Internal combustion engines for propelling or powering a vehicle
WAC 173-401-532(12)	Brazing, soldering and welding equipment and oxygen-hydrogen cutting torches for use in cutting metal where in components of the metal do not generate HAPs or HAPs precursors
WAC 173-401-532(33)	Plant upkeep including routine housekeeping, preparation for and painting of structures or equipment, retarring roofs, applying insulation to buildings in accordance with applicable environmental and health and safety requirements and paving or stripping parking lots
WAC 173-401-532(35)	Cleaning and sweeping of streets and paved surfaces
WAC 173-401-532(42)	Portable drums and totes
WAC 173-401-532(45)	General vehicle maintenance including vehicle exhaust from repair facilities
WAC 173-401-532(46)	Comfort air conditioning or air cooling systems, not used to remove air contaminants form specific equipment

WAC 173-401-532(48)	Natural and forced draft air vents and stacks for bathroom/toilet facilities
WAC 173-401-532(49)	Office activities
WAC 173-401-532(51)	Sampling connections used exclusively to withdraw materials for laboratory analyses and testing
WAC 173-401-532(54)	Fuel and exhaust emissions from vehicles in parking lots
WAC 173-401-532(55)	Carving, cutting, routing, turning, drilling, machining, sawing, surface grinding, sanding, planing, buffing, shot blasting, shot peening, sintering, or polishing: Ceramics, glass, leather, metals, plastics, rubber, concrete, paper stock or wood (provided it meets 4 criteria)
WAC 173-401-532(65)	Gas cabinets using only gases that are not regulated air pollutants
WAC 173-401-532(69)	Mixing, packaging, storage and handling activities of any size, limited to soaps, lubricants, vegetable oil, grease, animal fat, aqueous salt solutions
WAC 173-401-532(67)	Structural changes not having air contaminant emissions
WAC 173-401-532(72)	Paper trimmers/binders
WAC 173-401-532(73)	Sample gathering, preparation and management
WAC 173-401-532(74)	Repair and maintenance activities, not involving installation of an emission unit and not increasing potential emissions of a regulated air pollutant
WAC 173-401-532(77)	Batteries and battery charging
WAC 173-401-532(79)	Solid waste containers
WAC 173-401-532(86)	Totally enclosed conveyors
WAC 173-401-532(87)	Steam vents and safety relief valves
WAC 173-401-532(88)	Air compressors, pneumatically operated equipment, systems and hand tools
WAC 173-401-532(89)	Steam leaks
WAC 173-401-532(90)	Recovery boiler blowdown tank

WAC 173-401-532(91)	Salt cake mix tanks
WAC 173-401-532(93)	Weak liquor and filter tanks
WAC 173-401-532(94)	Process water and white water storage tanks
WAC 173-401-532(95)	Demineralizer tanks
WAC 173-401-532(96)	Clean condensate tanks
WAC 173-401-532(97)	Alum tanks
WAC 173-401-532(100)	Hydrogen peroxide tanks
WAC 173-401-532(103)	Liquor clarifiers and storage tanks
WAC 173-401-532(105)	Lime silos and feed bins
WAC 173-401-532(117)	Polymer tanks and storage devices and associated pumping and handling equipment, used for solids dewatering and flocculation
WAC 173-401-532(120)	Sewer manholes, junction boxes, sumps and lift stations associated with wastewater treatment systems
WAC 173-401-533(2)(a)	Operation, loading, and unloading of storage tanks and storage vessels, with lids or other appropriate closure and less than two hundred sixty gallon capacity, heated only to the minimum extent to avoid solidification if necessary
WAC 173-401-533(2)(b)	Operation, loading, and unloading of storage tanks, not greater than 1,100 gallon capacity, with lids or other appropriate closure, not for use with hazardous air pollutants (HAPs), maximum vp 550 mmHg
WAC 173-401-533(2)(c)	Operation, loading, and unloading of VOC storage tanks (including gasoline storage tanks), 10,000 gallons or less, with lids or other appropriate closure, vp not greater than 80 mmHg at 21°C
WAC 173-401-533(2)(d)	Operation, loading, and unloading of butane, propane, or liquified petroleum gas (LPG) storage tanks, vessel capacity under 40,000 gallons

WAC 173-401-533(2)(s)	Tanks, vessels, and pumping equipment, with lids or other appropriate closure for storage or dispensing of aqueous solutions of inorganic salts, bases, or acids excluding: (i) 99% or greater sulfuric or phosphoric acid (ii) 70% or greater nitric acid (iii) 30% or greater hydrochloric acid (iv) More than one liquid phase where the top phase is more than one percent VOCs
WAC 173-401-533(2)(t)	Equipment used exclusively to pump, load, unload or store high boiling point organic material, material with initial boiling point (IBP) not less than 150°C or vapor pressure not more than 5 mmHg at 21°C with lids or other appropriate closure
WAC 173-401-533(2)(aa)	Storage and handling of water based lubricants for metal working where the organic content of the lubricant is less than 10 percent
WAC 173-401-533(2)(e)	Combustion sources less than 5 MMBtu/hr using exclusively natural gas, butane, propane, and/or LPG
WAC 173-401-533(2)(g)	Combustion sources less than 1 MMBtu/hr using kerosene, No. 1 or No. 2 fuel oil
WAC 173-401-533(2)(i)	Welding using not more than 1 ton/day of welding rod [maintenance welding activities]
WAC 173-401-533(2)(m)	Water cooling towers and ponds, not using chromium based corrosion inhibitors, not used with barometric jets or condensers, not greater than 10,000 gpm, not in direct contact with gaseous or liquid process streams containing regulated air pollutants [cooling tower]
WAC 173-401-533(2)(r)	Space heaters and hot water heaters using natural gas, propane, or kerosene and generating less than 5 MMBtu/hr [miscellaneous space heaters]
WAC 173-401-533(3)(c)	Chemical or physical laboratory operations or equipment including fume hoods and vacuum pumps [mill laboratories]

OPERATIONAL FLEXIBILITY

The mill has made no request for maximum operational flexibility from the Department of Ecology. Operational flexibility includes production rate flexibility, fuel and raw materials substitution, and other common process changes. The mill has also made no request that monitoring, record keeping, and reporting costs be kept to a level that is most cost effective, while still meeting all compliance demonstration and regulatory requirements.

PERMIT SHIELD

Kimberly-Clark requested that a permit shield be granted for the renewal permit issued to the mill. The proposed Title V Air Operating Permit (2011 to 2016) contains permit shield language pursuant to WAC 173-401-640(1) and 40 CFR Part 70.6(f).

PERMIT HISTORY AND CURRENT CHANGES

Permit History to Date:

The initial AOP was issued to Kimberly-Clark on June 23, 2000 and expired on July 1, 2005. The second permit renewal was issued on August 31, 2005 and expired on October 1, 2010.

Major Permit Changes for the 2011 Renewal:

Power Boiler #14 applicable requirements have been modified to remove inclusion of 40 CFR Part 60 subpart D. Previous permit terms included requirements from Subpart D but subpart Db is also applicable and 40 CFR part 60.40b(j) explicitly states, "Any affected facility meeting the applicability requirements under paragraph (a) of this section and commencing construction, modification, or reconstruction after June 19, 1986 is not subject to subpart D (Standards of Performance for Fossil-Fuel-Fired Steam Generators, Sec. 60.40)."

Recovery Boiler #10 Condition B.3 has been modified to reflect changes to the HAPs PM surrogate monitoring parameters. See the expanded explanation provided under the MACT II heading within this support document.

Chlorine Dioxide Generator Condition H1 has been modified to reflect changes to the HAPs surrogate monitoring parameters. See the expanded explanation provided under the MACT I heading within this support document.

Condition 19 in the Facility-Wide General Requirements Section was previously reserved for future use. Condition 19 has now been used to include a credible evidence requirement. This was done to be consistent other Industrial Section Title V permits. The request for inclusion of the credible evidence condition was first made by the local air authority regarding the Port Townsend Paper mill. The local air authority had included a credible evidence rule in their Title V permit issued to Nippon Paper in Port Angeles.

PUBLIC PARTICIPATION AND RESPONSE TO COMMENTS

The 30-day public comment period for the renewal of Title V Permit No. 000369-7 for the Kimberly-Clark facility ended July 29, 2011. Written comments were received on July 22, 2011 from Kimberly-Clark

The 45-day EPA comment period ended November 17, 2011.

Comments: The following comments were received from Kimberly-Clark. The comments are followed by Ecology's response.

Submitted by Kimberly-Clark World Wide Corporation
July 20, 2011 received by Ecology on July 22, 2011.

References are to the page numbers of the pdf file posted on the Ecology web-site

DRAFT AIR OPERATING PERMIT

1. Note that the table of contents numbering re-starts at the Facility-Wide General Requirements item.

   Ecology Response: The page numbering has been adjusted.

2. Emission Unit Specific Requirements, header at Table A (pdf page 4): The citation 40 CFR 60.46 should be 60.46b to reflect applicability of NSPS subpart Db.

   Ecology Response: The requested change has been made.

3. GHG Reporting Permit Term L1 (pdf page 23): This term should be deleted or clearly noted to be for informational purposes only. 40 CFR part 98 is not an applicable requirement as defined by WAC 173-401 (see also, the preamble to the final part 98 rule). If it remains for informational purposes, K-C notes and suggests clarification that the EPA reporting deferral referenced pertains only to certain data elements and that the first emissions reports under 40 CFR part 98 GHG remain due by September 30, 2011.

   Ecology Response: Clarification has been added to the permit in Condition L1.

4. "(WAC 173-441) Emission Calculations" (pdf page 24): "Simpson" should be replaced with "K-C" or "the permittee."

   Ecology Response: The requested change has been made.

5. Permit Shield – 40 CFR Part 61 Subpart E (pdf page 36) – The REASON states "K-C does not operate any applicable equipment. K-C incinerates sludge…" "Incinerates" should be replaced with "combusts" because the sludge is a fuel that meets the legitimacy criteria and is within the control of the generator and is not a waste being burned in a unit subject to the stayed CISWI rule. Further the sentence "However, this boiler is defined statutorily as a woodwaste boiler, not a sludge incinerator." should be deleted.

   Ecology Response: The requested change has been made.

6. Appendix D (pdf page 44) – VOC – "**Air Flow Rate** must be representative of normal operation and is derived from the RM 5 test." should be changed to "**Air Flow Rate** Air flow determined by Method 2 resulting from source testing during normal operation."

   Ecology Response: The requested change has been made.

7. Appendix D (pdf page 44) – PM – "**Air Flow Rate** must be representative of normal operation and is derived from the RM 5 test." should be changed to "**Air Flow Rate** Air flow determined by Method 2 resulting from source testing during normal operation."

   Ecology Response: The requested change has been made.

End of AOP comments

STATEMENT OF BASIS

1. MACT II requirements (pdf page 20): Typographical error, should read "wet" scrubber (not "west").

   Ecology Response: The requested change has been made.

2. Greenhouse Gases (pdf page 22): Replace "Simpson" with "K-C" or "the permittee." Also, note the later reference to Kraft mill operations should be addressed given the K-C mill is a sulfite mill.

   Ecology Response: The requested change has been made.

3. Greenhouse Gases (pdf page 23): K-C notes and suggests clarification that the PSD/Title V deferral for GHG sources is relevant, but that GHG emissions reporting under 40 CFR part 98 GHG remain due by September 30, 2011.

   Ecology Response: The requested change has been made.

4. Emission Unit Description (pdf page 24): For point number 22 (Boilers 7, 8, 9), delete "last" in the history column so that it is clear that the boilers were constructed in 1955, but are operated as needed.

   Ecology Response: The requested change has been made.

5. Monitoring and Gap Filling (pdf page 25): replace "Appendix F" with "Appendix B." Also, the later reference to lime kilns and smelt tanks may be confusing, as the K-C facility does not have this equipment.

   Ecology Response: The requested change to appendix identification has been made. Additional wording has not been added to the generic discussion on monitoring.

6. No. 10 Boiler Process Description (pdf page 28): Delete reference to Figure 3-1 or include the graphic.

   Ecology Response: The requested change has been made.

7. No. 10 Boiler Emissions Estimates (pdf page 29): Delete the hydrochloric acid line item in the inventory data, as these data pertain to the No. 14 Boiler.

   Ecology Response: The requested change has been made.

8. No. 10 Boiler Monitoring, Recordkeeping, and Reporting (pdf page 29): Delete reference to the opacity CMS, as it was supplanted by the recently approved parameter monitoring plan.

   Ecology Response: The requested change has been made.

9. No. 5 Paper Machine Monitoring, Recordkeeping, and Reporting (pdf page 44): At the source test history, alter the 1/2008 datum to 9.96 lbs/day (NMOC). The 95.5 datum reflects total hydrocarbon, whereas the other data are in the NMOC category. Also, for the sake of additional explanation, we note that the high emissions recorded on 1/26/09 reflect "worst case" latex formulation and addition rates selected in the context of a review of operation without catalytic emissions control; they do not reflect typical operation.

   Ecology Response: The requested change has been made.

10. Stationary Engines (pdf page 47, et seq.): EPA finalized the part 63 subpart ZZZZ treatment of spark ignition engines on August 20, 2010. Various parts of this section should be accordingly updated to reflect issuance of this final rule amendment. Note these updates/corrections to information provided in the renewal application, as follows.

    a. First sentence, note there are seven existing emergency generators (not six).
    b. At "Applicable Regulatory Requirements" second paragraph: there are actually two spark engines on-site: 1. WWTP Emergency Generator, and 2. Boilerhouse Emergency Generator.
    c. At Table 13-3a, <u>second</u> set of emission units (pdf page 52):
        i. Add "WWTP Emergency Generator, and Boilerhouse Emergency Generator (SI RICE <500 hp)" to the emissions units listed.
        ii. Remove the citation §63.6650 and Table 7 for these engines, as further review indicates that these regulatory sections do not apply to said units.

End of SOB comments

APPENDIX A: EXISTING ORDERS AND PERMITS

All of the following past permits and regulatory orders are applicable (included).

Order 1908.	**Administrative Order issued to amend previous orders and facilitate Title V permitting.**
Order DE 98-AQI028.	**NOC approval for #14 Boiler.**
Order DE 04AQIS-5956.	**NOC approval for creosote wood utilization in #14 Boiler.**
Order DE 99AQIS-2.	**NOC approval for chlorine dioxide scrubber and bleach plant modification.**
Order DE 1522 AQ04.	**NOC approval for #3 Paper Machine.**
Order DE 02AQIS-3575.	**NOC approval for #4 Paper Machine.**
Oder DE 79-335.	**NOC approval for #5 Paper Machine.**