Montana Department of
ENVIRONMENTAL QUALITY
Brian Schweitzer, Governor
P. O. Box 200901 Helena, MT 59620-0901 (406) 444-2544 Website: www.deq.mt.gov

PRELIMINARY DETERMINATION
ON PERMIT APPLICATION

Date of Mailing: December 16, 2008

Name of Applicant: Smurfit-Stone Container Enterprises, Inc.

Source: Missoula Mill

Proposed Action: The Department of Environmental Quality (Department) proposes to issue a permit, with conditions, to the above-named applicant. The application was assigned Permit Application Number 2589-14.

Proposed Conditions: See attached.

Public Comment: Any member of the public desiring to comment must submit such comments in writing to the Air Resources Management Bureau (Bureau) of the Department at the above address. Comments may address the Department's analysis and determination, or the information submitted in the application. In order to be considered, comments on this Preliminary Determination are due by December 31, 2008. Copies of the application and the Department's analysis may be inspected at the Bureau's office in Helena. For more information, you may contact the Department.

Departmental Action: The Department intends to make a decision on the application after expiration of the Public Comment period described above. A copy of the decision may be obtained at the above address. The permit shall become final on the date stated in the Department's Decision on this permit, unless an appeal is filed with the Board of Environmental Review (Board).

Procedures for Appeal: Any person jointly or severally adversely affected by the final action may request a hearing before the Board. Any appeal must be filed by the date stated in the Department's Decision on this permit. The request for a hearing shall contain an affidavit setting forth the grounds for the request. Any hearing will be held under the provisions of the Montana Administrative Procedures Act. Submit requests for a hearing in triplicate to: Chairman, Board of Environmental Review, P.O. Box 200901, Helena, MT 59620.

For the Department,

Vickie Walsh

Vickie Walsh
Air Permitting Program Supervisor
Air Resources Management Bureau
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VW: MAP
Enclosures

AIR QUALITY PERMIT

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| Issued to: | Smurfit-Stone Container Enterprises, Inc.<br>P.O. Box 4707<br>Missoula, MT 59806-4707 | Permit #2589-14<br>Application Complete: 11/14/08<br>Preliminary Determination Issued: 12/16/08<br>Department's Decision Issued:<br>Permit Final:<br>AFS#: 030-063-0006 |

A Montana Air Quality Permit (MAQP), with conditions, is hereby granted to the Smurfit-Stone Container Enterprises, Inc. (Smurfit-Stone) pursuant to Sections 75-2-204 and 211 of the Montana Code Annotated (MCA), as amended, and Administrative Rules of Montana (ARM) 17.8.740, *et seq.*, as amended, for the following:

SECTION I: Permitted Facilities

A. Facility/Location

The Smurfit-Stone kraft pulp and liner mill is located in Frenchtown. A list of permitted equipment can be found below.

1. Two Recovery Boilers

a. #4 Recovery Boiler has a capacity of 825 million British thermal units per hour (MMBtu/hr) input and is controlled with an electrostatic precipitator. The #4 Recovery Boiler has continuous emission monitors (CEMs) for total reduced sulfur (TRS), required by state permit.

b. #5 Recovery Boiler has a capacity of 330 MMBtu/hr input and is controlled with an electrostatic precipitator. This boiler is subject to New Source Performance Standards (NSPS, 40 Code of Federal Regulations (CFR) Part 60) and has CEMs for opacity and TRS. The #5 Recovery Boiler is subject to 40 CFR 60, Subpart BB.

2. Four Lime Kilns

a. #1 Lime Kiln has a capacity of 6.1 tons per hour of lime mud and is controlled with a wet venturi scrubber. The kiln has a CEM for TRS. The #1 Lime Kiln is currently curtailed as it does not meet the Maximum Achievable Control Technology (MACT) II requirements specified in 40 CFR 63, Subpart MM.

b. #2 Lime Kiln has a capacity of 6.1 tons per hour of lime mud and is controlled with a wet venturi scrubber. The kiln has a CEM for TRS. The #2 Lime Kiln is currently curtailed as it does not meet the MACT II requirements specified in 40 CFR 63, Subpart MM.

c. #3 Lime Kiln has a capacity of 15.6 tons per hour of lime mud and is controlled with a wet venturi scrubber. The kiln has a CEM for TRS.

d. #4 Lime Kiln has a capacity of 12.7 tons per hour of lime mud and is controlled with a wet venturi scrubber. The kiln has a CEM for TRS. This lime kiln is subject to 40 CFR 60, Subpart BB.

3. Two Dissolving Tanks

a. #4 Smelt Dissolving Tank has a capacity of 62.5 tons per hour of black liquor solids. This dissolver is controlled with a wet scrubber and a venturi scrubber.

b. #5 Smelt Dissolving Tank has a capacity of 25 tons per hour of black liquor solids. This dissolver is controlled with a wet scrubber and is subject to 40 CFR 60, Subpart BB.

4. Three Lime Slakers

a. The #1 Lime Slaker is designed to accept a maximum green liquor flow of 400 gallons per minute (gpm). This slaker is controlled with a wet scrubber.

b. The #2 Lime Slaker is designed to accept a maximum green liquor flow of 550 gpm. This slaker is controlled with a natural draft wet scrubber.

c. The #3 Lime Slaker is designed to accept a maximum green liquor flow of 500 gpm. This slaker is controlled with a wet scrubber.

5. One Multi-fuel Boiler

This boiler is primarily fueled with wood residuals (other allowable fuels include natural gas, medium density fiberboard (MDF) pellets, old cardboard container (OCC) rejects, sludge, fuel oil and recycled oil). It has an input capacity of 537 MMBtu/hr. The boiler is controlled with two wet venturi scrubbers, operated in parallel. The boiler is subject to 40 CFR 60, Subpart D and has CEMs for both oxides of nitrogen ($NO_x$) and sulfur dioxide ($SO_2$).

6. One Natural Gas-Fired Boiler (Power Boiler)

This boiler is fired only with natural gas and has a capacity of 297 MMBtu/hr. This boiler has no emission control on the stack.

7. Five Pulp Washers

a. The PC Washer has a capacity of 20.2 tons per hour of air-dried pulp (ADP). This washer is controlled by a wet scrubber. The PC Washer is currently curtailed as it does not meet the MACT I, Phase II requirements specified in 40 CFR 63, Subpart S.

b. The M&D Washer has a capacity of 17.2 tons per hour of ADP. This washer is a compaction baffle-type washer with no particulate emissions. The M&D Washer is currently curtailed as it does not meet the MACT I, Phase II requirements specified in 40 CFR 63, Subpart S.

c. The #1 Base Washer has a capacity of 38.6 tons per hour of ADP. Particulate emissions from this washer are controlled by the internal washer hood design.

d. The #2 Base Washer has a capacity of 38.6 tons per hour of ADP. Particulate emissions from this washer are controlled by the internal washer hood design.

e. The Top Washer has a capacity of 25.5 tons per hour of ADP. Particulate emissions from this washer are controlled by the internal washer hood design.

8. Three Paper Machines

a. #1 Paper Machine has a capacity of 29.5 tons per hour of ADP. There is no control on the paper machine ventilation.

b. #2 Paper Machine has a capacity of 29.5 tons per hour of ADP. There is no control on the paper machine ventilation.

c. #3 Paper Machine has a capacity of 59.6 tons per hour of ADP. There is no control on the paper machine ventilation.

9. Three Unloading Stations

a. Salt Cake/Lime Unloading has a capacity of 20.0 tons per hour and is controlled with a baghouse.

b. Starch Unloading has a capacity of 7.5 tons per hour and is controlled with a baghouse.

c. Clay Unloading has a capacity of 13.0 tons per hour and is controlled with a baghouse.

10. Sawdust, Chip, and Hog Fuel Unloading

a. #1 Dump (also called #5 Truck Dump) is used to unload trucks only and uses a belt system to convey chips and sawdust to the stockpiles. The sawdust conveyor shall be controlled by a hood and skirt at the end of the conveyor to limit the free drop height to a maximum of 10 feet.

The length of the skirting will be determined at the time the hood and skirt are installed.

A mechanism to allow for an inspector to measure the drop height must be provided at all times.

b. #2 Dump is used to unload trucks only and uses a conveyor belt to convey chips to the stockpiles.

c. #3 Dump is a combination truck or rail dump that conveys chips and sawdust, using a belt system, to the stockpiles. The sawdust conveyor

shall be controlled by a hood and skirt at the end of the conveyor to limit the free drop height to a maximum of 10 feet.

A mechanism to allow for an inspector to measure the drop height must be provided at all times.

d. Waste Fuel Combination Dumper is a combination truck or rail dump that conveys hog fuel by belt conveyor to the stockpiles or the scalping screen.

11. Sawdust, Chip, and Hog Fuel Handling

a. Sawdust is removed from storage using a screw reclaimer and disc scalping screen and conveyed to the digester with a pneumatic system and no other control.

b. Chips are removed from storage using hoppers and plate feeders or a drag chain and conveyed to the digesters with covered conveyers and no other control.

c. Hog fuel is removed from storage by a screw reclaimer and conveyed to the boilers with covered conveyer belts and no other control.

12. Sawdust and Chip Cyclones

a. M&D Cyclone delivers sawdust to the M&D Digester.

13. Fiber Optimization and Raw Material Management System (FORMM) -- Screen Room

a. Nine gyratory screens and four disk screens will be used to separate sawdust and chips into overs, accept chips, pin chips, accept sawdust, fines, and hog fuel.

b. The FORMM System also contains a storage bin, a storage bin unloading system, and an enclosed belt conveying system.

c. Four air density separator (ADS) slicers will slice useable chips to acceptable thickness with a maximum rated capacity of 68,160 bone-dry lb/hour of chips per slicer. The limitations of the equipment installed with the slicers will limit the production of the slicers to 42,720 bone-dry lb/hour of chips per slicer.

The material to the slicers will have been screened. The transfer of the material to the slicers will be controlled by four ADS cyclones (one for each slicer).

d. A Micro-Pulsaire baghouse will be installed to control nuisance dust in the screen room. The cyclone for the sawdust in-feed will be connected to the baghouse.

14. Out-feed Systems Equipment

a. Kamyr chips shall be conveyed by covered belt conveyor to the Kamyr chip pile and no other controls.

b. Batch chips shall be conveyed by covered belt conveyor to the batch pile and no other controls.

c. The sawdust shall be fed from the surge bin into a new pneumatic conveying system that connects to the existing sawdust blow line and no controls. The sawdust blow line is existing.

e. Fines from the chip screen and the sawdust screen shall be sent by a pneumatic conveying system to the hog fuel pile. These emissions will be controlled by a target plate and bunker at the end of the discharge pipe.

f. ADS rejects shall be conveyed by belt conveyor to a truck or lugger bucket and transferred to the hog fuel pile by truck and no other controls.

g. Sawdust overs to the chip pile shall be conveyed by a belt conveyor that discharges into a pneumatic system, which transfers the material to a cyclone discharging onto the chip pile outstocking belt conveyor. The outstocking belt conveyor transfers the chips to the chip stockpile. Smurfit-Stone shall install and maintain a weightometer on the sawdust overs belt to be used to determine the quantity of sawdust overs handled.

15. Sludge Dewatering Facility

Dewatered sludge from this facility is used as a fuel for the existing multi-fuel boiler. The rated output from the facility is 60 tons per day.

16. Soda Ash Silo

Soda ash is used as a make-up chemical in the pulping process. The soda ash storage silo has a capacity of 300 tons and includes an associated pneumatic truck unloading station and mixing equipment to mix dry soda ash into a solution suitable for addition to the green liquor.

17. Other Equipment

Miscellaneous scales, gates, screens, blower, etc., as described in the drawings and the equipment list submitted with the application.

18. Cluster Rule Maximum Achievable Control Technology (MACT) I Pollution Control Project

The Missoula Mill is classified as an <u>unbleached</u> Kraft pulp and paper mill following the discontinuation of bleaching operations at the mill during February 1999. Due to the fact that the Missoula Mill no longer operates a pulp bleaching system and has taken key bleach plant equipment out of service, the Cluster Rule standards for air emissions and effluent discharges related to the bleaching of pulp are not applicable to the Missoula Mill. The rule currently applicable to the Missoula Mill is 40 CFR 63, Subpart S (commonly referred to as “MACT I”). The

Missoula Mill has installed and is operating the equipment described below to comply with the MACT I requirements, except for high volume, low concentration (HVLC) non-condensible gases (NCG), which have a compliance date of April 16, 2006.

a. Condensate Collection

The mill's condensate segregation system, which was installed and operating prior to the MACT I pollution control project involving digester and evaporator system condensates, has been modified to comply with the MACT I condensate segregation requirements. To comply with MACT I requirements, condensate segregation and collection continues to occur on selected portions of evaporation and concentrator systems, Chip Kamyr digester systems, and NCG system drains. A new condensate collection tank has been installed for storage of the segregated high-hazardous air pollutant (HAP) condensate prior to treatment. The mill has decommissioned the air stripper formerly used to treat collected condensate and replaced it with the steam stripper described below.

Depending on mill operations and equipment curtailments, condensate may be collected from any, or any combination, or the following sources: Nos. 1, 2, 3, 4, 5 Evaporators, Nos. 1 and 2 Concentrators, Turpentine Decanter, Batch Digester Blow Heat Recovery System, and the Low Volume, High Concentration (LVHC)-NCG Line Drains.

b. LVHC NCG Collection

To comply with the MACT I LVHC-NCG requirements, the mill modified its existing LVHC-NCG system, which has been operational since the early 1970's, to collect additional vents from the turpentine system, new foul condensate storage tank, selected portions of evaporator and concentrator systems including hotwells, a digester blow tank, a black liquor spill tank, and secondary and tertiary condensers on the batch blow heat recovery system, when operating.

c. Steam Stripper and Thermal Oxidizer

A new condensate steam stripper system has been installed at the Missoula Mill for treatment of the segregated high-HAP condensate. The condensate steam stripper system has been integrated with the mill's steam systems in order to most effectively use the steam required to operate the steam stripper system. The stripper overhead gas along with the LVHC-NCG is conveyed in a closed system to a new stand-alone thermal oxidizer designed to meet the MACT requirements for destruction of these gases.

Though not required by the MACT I requirements, the following process backup systems are currently being implemented should the new thermal oxidizer be unavailable:

- Modifications have been implemented to use No. 3 kiln for back-up combustion of the collected LVHC-NCG.

- When the steam stripper is down, the collected condensates are routed to the spill tank with the spill tank vent collected as part of the LVHC-NCG system. Condensate collected in the spill tank is processed through the mill's evaporator system.

B. Current Permit Action

On November 14, 2008, the Department of Environmental Quality (Department) received a complete application from Smurfit-Stone to modify MAQP #2589-13. In this application, Smurfit-Stone requested to install a 300 ton capacity soda ash storage silo with an associated pneumatic truck unloading station and mixing equipment to mix dry soda ash into a solution suitable for addition to green liquor.

To replace sodium losses in the pulping process, the mill currently uses caustic in liquid form as a make-up chemical. Caustic is becoming increasingly more expensive and difficult to acquire. In response to the increasing costs and decreasing availability of caustic, the mill intends to install a soda ash system for use as a make-up chemical.

In addition, Smurfit-Stone requested several administrative amendment changes to its Title V Operating permit in its renewal application received by the Department on June 12, 2006. The requested changes also necessitated administrative changes to Smurfit-Stone's MAQP. These amendments included the removal of several units that are no longer in service: the No. 3 Recovery Boiler, No. 3 Smelt Dissolving Tank, and the pin chip pile and digester cyclone and other various clarifications. Also, on September 30, 2008, the Department approved Smurfit-Stone's request to discontinue ambient monitoring of $PM_{10}$. The Department has updated the permit to reflect these changes.

SECTION II: Conditions and Limitations

A. The results of any single emission test or daily average from the continuous opacity monitors shall be evaluated against the specified hourly and daily maximum. Emission tests shall be conducted on the Recovery Boilers annually (semiannually if above 80% of the permit limit) and the Multi-fuel Boiler semiannually.

B. The Micro-Pulsaire baghouse, Lime Slakers (No. 1, No. 2, and No. 3), Lime Kilns (No. 1, No. 2, No. 3, and No. 4), and Recovery Boiler Smelt Dissolving Tanks (No. 4, and No. 5) shall be tested annually. Results of such tests shall be evaluated against the specified hourly and daily maximum.

B. All source tests shall be conducted in accordance with the EPA sampling methods specified in 40 CFR 60, General Provisions, Appendix A; 40 CFR 51, Appendix M; and the Montana Source Test Protocol.

C. Smurfit-Stone shall submit to the Department copies of all emission tests performed at Smurfit-Stone within 60 days of completion of each test or according to another reporting schedule as approved by the Department.

E. All source tests to be used to demonstrate compliance with the conditions and limitations of this permit shall be performed at conditions, which are representative of maximum operating capacity or maximum permitted capacity of the affected facility or source, as required in the Montana Source Test Protocol and Procedures Manual, except for the following situations:

1. Smurfit-Stone shall test each recovery boiler annually for total particulate and particulate matter with an aerodynamic diameter or less than or equal to a nominal 10 micrometers ($PM_{10}$) at 90% or greater of maximum-rated capacity. If the results from the annual testing are at 80% of the permit limitation or greater, then testing shall occur on a semiannual basis. If Smurfit-Stone tests' results are below 80% of the permit limitations, then Smurfit-Stone may return to annual testing no later than one year from the last test date. The maximum daily operation rate shall be determined based on daily black liquor firing rate.

2. Smurfit-Stone shall test the Multi-fuel Boiler semiannually for total particulate and $PM_{10}$ at 90% or greater of maximum daily average steam production rate achieved during the last three whole calendar months preceding the test. Daily average steam production shall be the average hourly steam production during a mill day (the 24-hour period from 5:00 am to 5:00 am).

3. Smurfit-Stone shall report monthly the daily black liquor firing rate for each recovery boiler and the daily steam production for the Multi-fuel Boiler. This information shall be included with the monthly report.

F. If a process is not operating, no testing, monitoring, or reporting will be required for that process during that time period.

G. Individual Conditions For Sources:

1. #4 Recovery Boiler

a. Total suspended particulate (TSP) emissions from this boiler shall not exceed 0.044 grains per dry standard cubic foot (gr/dscf )corrected to 8% oxygen ($O_2$) concentration (ARM 17.8.342 and 40 CFR 63, Subpart MM) and, in no case, shall exceed 1253 lb/calendar day and 52.21 lb/hr.

b. $PM_{10}$ emissions from this boiler shall not exceed 1253 lb/calendar day and 52.21 lb/hr.

c. Total sulfate emissions from this boiler shall not exceed 1253 lb/calendar day and 52.21 lb/hr.

d. TRS emissions from this boiler shall not exceed 5 parts per million (ppm), 24-hour average.

e. Compliance with the above Section II.G.2.a-d standards shall be monitored by EPA source sampling methods specified in 40 CFR 60, Appendix A, including back-half particulate, and by monitoring as described in 40 CFR 63.864 or as approved by the Administrator, as applicable. $PM_{10}$ sampling methods are specified by 40 CFR 51, Appendix M. Total particulate results may be used as a surrogate for $PM_{10}$ if the impinger analysis ("back-half") is included. TRS emissions are determined by continuous monitoring with 24-hour averages.

f. A CEM for TRS compounds is required for this source.

g. The monthly average total suspended particulate shall not exceed 928 lb/day. Monthly average emissions shall be monitored by continuous opacity monitoring. The opacity monitors will provide a 24-hour

average opacity that will be converted to gr/dscf and then converted to lb/day and lb/month using the correlation between opacity and particulate emissions. Smurfit-Stone shall maintain a correlation between opacity and particulate emissions (from stack test results) and use this correlation to calculate daily and monthly averages.

h. Smurfit-Stone shall submit for approval, to the Department, any proposed changes to the correlation between opacity and particulate emissions equation.

i. Smurfit-Stone shall not discharge into the outdoor atmosphere emissions that exhibit 20% opacity or greater averaged over 6 consecutive minutes for more than 6% of the 6-minute time periods during which Smurfit-Stone is operating within a calendar quarter (ARM 17.8.321).

j. Compliance with Section II.G.2.i above shall be monitored with Continuous Opacity Monitoring System (COMS) as the primary measure of compliance with the opacity limit, except that 40 CFR 60, Appendix A, Method 9, may be used as a measure of compliance when there is reason to believe that COMS data is not accurate or when COMS data is unavailable (ARM 17.8.321(15)).

2. #5 Recovery Boiler (subject to 40 CFR 60, Subpart BB)

a. Total suspended particulate emissions from this boiler shall not exceed 0.044 gr/dscf corrected to 8% $O_2$ concentration (ARM 17.8.340; 40 CFR 60, Subpart BB; ARM 17.8.342; and 40 CFR 63, Subpart MM) and, in no case, shall exceed 633.6 lb/day and 26.4 lb/hr.

b. $PM_{10}$ emissions from this boiler shall not exceed 633.6 lb/day and 26.4 lb/hr.

c. Total sulfate emissions from this boiler shall not exceed 633.6 lb/day and 26.4 lb/hr.

d. TRS emissions from this boiler shall not exceed 5 ppm, 12-hour average.

e. Compliance with the above Section II.G.3.a-d standards shall be monitored by EPA source sampling methods specified in 40 CFR 60, Appendix A, and by monitoring as described in 40 CFR 63.864, as applicable. $PM_{10}$ sampling methods are specified by 40 CFR 51, Appendix M. Total particulate results may be used as a surrogate for $PM_{10}$ if the impinger analysis ("back-half") is included. TRS emissions are determined by continuous monitoring methods specified in 40 CFR 60, Appendix B, Performance Specifications 1 through 6, as applicable. Back-half is not required since this is an NSPS source.

f. CEMs for opacity and TRS compounds are required for this source.

g. The monthly average total suspended particulate shall not exceed 384 lb/day. Monthly average emissions shall be monitored by continuous opacity monitoring. The opacity monitors will provide a 24-hour average opacity that will be converted to gr/dscf and then converted to

lb/day and lb/month, using the correlation between opacity and particulate emissions. Smurfit-Stone shall maintain a correlation between opacity and particulate emissions (from stack test results) and use this correlation to calculate daily and monthly averages.

h. Smurfit-Stone shall submit for approval, to the Department, any proposed changes to the correlation between opacity and particulate emissions equation.

i. Smurfit-Stone shall not discharge into the outdoor atmosphere emissions that exhibit 20% opacity or greater averaged over 6 consecutive minutes for more than 3% of the 6-minute time periods during which Smurfit-Stone is operating within a calendar quarter (ARM 17.8.321).

j. Compliance with Section II.G.3.i above shall be monitored with COMS as the primary measure of compliance with the opacity limit, except that 40 CFR 60, Appendix A, Method 9, may be used as a measure of compliance when there is reason to believe COMS data is not accurate or when COMS data is unavailable (ARM 17.8.321(15)).

3. #4 Smelt Dissolving Tank

a. Total suspended particulate emissions from this source shall not exceed 0.20 lb/ton of black liquor solids processed (ARM 17.8.342 and 40 CFR 63, Subpart MM) and, in no case, shall exceed 607 lb/day and 25.29 lb/hr.

b. $PM_{10}$ emissions from this source shall not exceed 607 lb/day and 25.29 lb/hr.

c. Compliance with the above standards shall be monitored by EPA source sampling methods specified in 40 CFR 60, Appendix A, and by monitoring as described in 40 CFR 63.864 or as approved by the Administrator, as applicable. $PM_{10}$ sampling methods are specified by 40 CFR 51, Appendix M. Total particulate results may be used as a surrogate for $PM_{10}$ if the impinger analysis ("back-half") is included.

4. #5 Smelt Dissolving Tank (subject to 40 CFR 60, Subpart BB)

a. Total suspended particulate emissions from this source shall be limited to 0.20 lb/ton black liquor solids processed (ARM 17.8.342 and 40 CFR 63, Subpart MM), but in no case shall it exceed 120 lb/day and 5.0 lb/hr (ARM 17.8.340 and 40 CFR Part 60, Subpart BB).

b. $PM_{10}$ emissions from this source shall not exceed 120 lb/day and 5.00 lb/hr.

c. Compliance with the above standards shall be monitored by EPA source sampling methods specified in 40 CFR 60, Appendix A and Subpart BB, and by monitoring as described in 40 CFR 63.864 or as approved by the Administrator, as applicable. $PM_{10}$ sampling methods are specified by 40 CFR 51, Appendix M. Total particulate results may be used as a surrogate for $PM_{10}$ if the impinger analysis ("back-half") is included.

d. Smurfit-Stone shall not discharge into the outdoor atmosphere emissions that exhibit 20% opacity or greater averaged over 6 consecutive minutes (ARM 17.8.304).

5. #1 Lime Kiln

a. Total suspended particulate emissions from this source shall not exceed 0.064 gr/dscf corrected to 10% $O_2$ concentration (ARM 17.8.342 and 40 CFR 63, Subpart MM) and, in no case, shall exceed 288 lb/day and 12.0 lb/hr.

b. $PM_{10}$ emissions from this source shall not exceed 288 lb/day and 12.0 lb/hr.

c. Total sulfate emissions from this source shall not exceed 259 lb/day and 10.79 lb/hr.

d. TRS emissions shall not exceed 20 ppm, 24-hour average.

e. Compliance with the above standards shall be monitored by EPA source sampling methods specified in 40 CFR 60, Appendix A, including back-half particulate, and by monitoring as described in 40 CFR 63.864, as applicable. $PM_{10}$ sampling methods are specified by 40 CFR 51, Appendix M, including back-half particulate. Total particulate results may be used as a surrogate for $PM_{10}$ if the impinger analysis ("back-half") is included. TRS emissions are determined by continuous monitoring with 24-hour averages.

f. A CEM for TRS compounds is required for this source.

6. #2 Lime Kiln

a. Total suspended particulate emissions from this source shall not exceed 0.064 gr/dscf corrected to 10% $O_2$ concentration (ARM 17.8.342 and 40 CFR 63, Subpart MM) and, in no case, shall exceed 266 lb/day and 11.08 lb/hr.

b. $PM_{10}$ emissions from this source shall not exceed 266 lb/day and 11.08 lb/hr.

c. Total sulfate emissions from this source shall not exceed 239 lb/day and 9.96 lb/hr.

d. TRS emissions shall not exceed 20 ppm, 24-hour average.

e. Compliance with the above standards shall be monitored by EPA source sampling methods specified in 40 CFR 60, Appendix A, including back-half particulate, and by monitoring as described in 40 CFR 63.864, as applicable. $PM_{10}$ sampling methods are specified by 40 CFR 51, Appendix M, including back-half particulate. Total particulate results may be used as a surrogate for $PM_{10}$ if the impinger analysis ("back-half") is included. TRS emissions are determined by continuous monitoring, with 24-hour averages.

f. A CEM for TRS compounds is required for this source.

7. #3 Lime Kiln

a. Total suspended particulate emissions from this source shall not exceed 0.064 gr/dscf corrected to 10% $O_2$ concentration (ARM 17.8.342 and 40 CFR 63, Subpart MM) and, in no case, shall exceed 359 lb/day and 14.96 lb/hr.

b. $PM_{10}$ emissions from this source shall not exceed 359 lb/day and 14.96 lb/hr.

c. Total sulfate emissions from this source shall not exceed 323 lb/day and 13.46 lb/hr.

d. TRS emissions shall not exceed 20 ppm, 24-hour average.

e. Compliance with the above standards shall be monitored by EPA source sampling methods specified in 40 CFR 60, Appendix A, including back-half particulate, and by monitoring as described in 40 CFR 63.864, as applicable. $PM_{10}$ sampling methods are specified by 40 CFR 51, Appendix M, including back-half particulate. Total particulate results may be used as a surrogate for $PM_{10}$ if the impinger analysis ("back-half") is included. TRS emissions are determined by continuous monitoring with 24-hour averages.

f. A CEM for TRS compounds is required for this source.

8. #4 Lime Kiln (subject to 40 CFR 60, Subpart BB)

a. Total suspended particulate emissions from this source shall be limited to 0.064 gr/dscf corrected to 10% $O_2$ concentration (ARM 17.8.342 and 40 CFR 63, Subpart MM), and, in no case, shall exceed 204.0 lb/day and 8.50 lb/hr. This limitation is consistent with a maximum flow rate of 14,800 dscfm. (ARM 17.8.340 and 40 CFR Part 60, Subpart BB).

b. $PM_{10}$ emissions from this source shall not exceed 204.0 lb/day and 8.50 lb/hr.

c. Total sulfate emissions from this source shall not exceed 204.0 lb/day and 8.50 lb/hr.

d. TRS emissions shall not exceed 8.0 ppm, 12-hour average.

e. Compliance with the above standards shall be monitored by EPA source sampling methods specified in 40 CFR 60, Appendix A and Subpart BB, and by monitoring as described in 40 CFR 63.864, as applicable. $PM_{10}$ sampling methods are specified by 40 CFR 51, Appendix M. Total particulate results may be used as a surrogate for $PM_{10}$ if the impinger analysis ("back-half") is included. TRS emissions are determined by continuous monitoring, with 12-hour averages.

f. A CEM for TRS compounds is required for this source.

g. Opacity is limited to 20% (ARM 17.8.304).

9. #1 Lime Slaker

a. Total suspended particulate emissions from this source shall not exceed 110 lb/day and 4.58 lb/hr.

b. $PM_{10}$ emissions from this source shall not exceed 110 lb/day and 4.58 lb/hr.

c. Compliance with the above standards shall be monitored by EPA source sampling methods specified in 40 CFR 60, Appendix A, including back-half particulate. $PM_{10}$ sampling methods are specified by 40 CFR 51, Appendix M. Total particulate results may be used as a surrogate for $PM_{10}$ if the impinger analysis ("back-half") is included.

10. #2 Lime Slaker

a. Opacity is limited to 20% (ARM 17.8.304).

b. Total suspended particulate emissions from this source shall not exceed 146 lb/day and 6.08 lb/hr (ARM 17.8.752).

c. $PM_{10}$ emissions from this source shall not exceed 146 lb/day and 6.08 lb/hr (ARM 17.8.752).

d. Compliance with the above standards shall be monitored by EPA source sampling methods specified in 40 CFR 60, Appendix A, including back-half particulate. $PM_{10}$ sampling methods are specified by 40 CFR 51, Appendix M. Total particulate results may be used as a surrogate for $PM_{10}$ if the impinger analysis ("back-half") is included.

11. #3 Lime Slaker

a. Total suspended particulate emissions from this source shall not exceed 72 lb/day and 3.00 lb/hr.

b. $PM_{10}$ emissions from this source shall not exceed 72 lb/day and 3.00 lb/hr.

c. Compliance with the above standards shall be monitored by EPA source sampling methods specified in 40 CFR 60, Appendix A, including back-half particulate. $PM_{10}$ sampling methods are specified by 40 CFR 51, Appendix M. Total particulate results may be used as a surrogate for $PM_{10}$ if the impinger analysis ("back-half") is included.

12. Multi-fuel Boiler (subject to 40 CFR 60, Subpart D)

a. Consumption of dewatered sludge from the sludge dewatering plant by the multi-fuel boiler shall not exceed a total of 21,900 tons/year (ARM 17.8.752).

b. Sulfur content of the dewatered sludge used as fuel for the multi-fuel boiler shall not exceed 0.4% (ARM 17.8.752).

c. Any dewatered sludge used as fuel for the multi-fuel boiler shall originate from the primary clarifier (ARM 17.8.749).

d. The dewatered sludge shall be thoroughly blended with the existing hog fuel (ARM 17.8.749).

e. The pH of the scrubber water on the multi-fuel boiler shall be maintained at greater than 7 (ARM 17.8.749).

f. Emissions of $SO_2$ from the combustion of primary clarifier sludge in the multi-fuel boiler shall be limited to 5.70 lb/hr (ARM 17.8.752).

g. Smurfit-Stone shall conduct an analysis of the dewatered sludge to determine compliance with the above sulfur limitation at least quarterly. The results of these analyses shall be retained by Smurfit-Stone for a minimum of 5 years and shall be submitted to the Department upon request.

h. TSP emissions from this boiler shall not exceed 0.10 lb/MMBtu fired and 52.04 lb/hr and 1249 lb/day (ARM 17.8.340 and 40 CFR 60, Subpart D).

i. $PM_{10}$ emissions from this boiler shall not exceed 1249 lb/day and 52.04 lb/hr and 0.1 lb/million Btu fired.

j. $SO_2$ emissions from this source shall not exceed 0.80 lb/million Btu and 429.6 lb/hr when firing liquid fossil fuel or liquid fossil fuel and wood residue (ARM 17.8.340 and 40 CFR 60, Subpart D).

k. Nitrogen dioxide ($NO_2$) emissions from this boiler shall not exceed 0.30 lb/MMBtu and 161.1 lb/hr when firing liquid fossil fuel, liquid fossil fuel and wood residue, or gaseous fossil fuel and wood residue. $NO_2$ emissions from the Multi-fuel Boiler shall not exceed 0.20 lb/MMBtu when firing natural gas for more than 24 consecutive hours (ARM 17.8.340 and 40 CFR 60, Subpart D).

l. Compliance with the above standards shall be monitored by EPA source sampling methods specified in 40 CFR 60, Appendix A and Subpart D. $PM_{10}$ sampling methods are specified by 40 CFR 51, Appendix M. Total particulate results may be used as a surrogate for $PM_{10}$ if the impinger analysis ("back-half") is included.

m. CEMs for $SO_2$, $NO_2$, and either $O_2$ or carbon dioxide ($CO_2$) are required for this source.

n. Opacity is limited to 20% (ARM 17.8.340 and 40 CFR 60, Subpart D).

13. Sawdust, Chips, and Hog Fuel Unloading, Storage, and Handling

a. Sawdust - This activity is limited to 0.75 lb/ton of sawdust handled for total particulate and 0.27 lb/ton of sawdust handled for $PM_{10}$ (SCC #3-07-008-03) with hood and skirt controls at 25%.

i. The total sawdust pile emissions shall be calculated as: TSP = {(Qty Sawdust overs)*(0.18*[1-.25])/2000 + (Qty Sawdust receipts-Qty Sawdust overs)*(1.0*[1-.25])/2000} = Total tons total particulate emissions.

The total sawdust pile emissions shall be calculated as: $PM_{10}$ = {(Qty Sawdust overs)*(0.065*[1-.25])/2000 + (Qty Sawdust receipts-Qty Sawdust overs)*(0.36*[1-.25])/2000} = Total tons $PM_{10}$ emissions.

ii. Smurfit-Stone shall ensure that the 10-ft maximum distance is met at all times. When the material under the belt is reclaimed, Smurfit-Stone shall shut down the conveyor, remove the material, and fill in the void with new material before restarting the conveyor to ensure the 10-ft maximum is met.

b. Chips - This activity is limited to 0.18 lb/ton of chips handled for total particulate and 0.065 lb/ton of chips handled for $PM_{10}$ (State emission estimate).

c. Hog Fuel - This activity is limited to 1.0 lb/ton of hog fuel handled for total particulate and 0.36 lb/ton of hog fuel handled for $PM_{10}$ (SCC #3-07-008-03).

d. Fines sent to hog fuel from chip screen - This activity is limited to 0.27 lb/ton (controlled) of fines handled for total particulate and 0.09 lb/ton (controlled) of fines handled for $PM_{10}$ (Smurfit-Stone emission estimate).

e. Fines sent to hog fuel from sawdust screen - This activity is limited to 0.75 lb/ton (controlled) of fines handled for total particulate and 0.27 lb/ton (controlled) of fines handled for $PM_{10}$ (Smurfit-Stone emission estimate).

f. Screened chips to Kamyr pile - This activity is limited to 0.045 lb/ton of chips handled for total particulate and 0.001 lb/ton of pins handled for $PM_{10}$ (Smurfit-Stone emission estimate).

g. Screened chips to batch pile - This activity is limited to 0.045 lb/ton of chips handled for total particulate and 0.001 lb/ton of chips handled for $PM_{10}$ (Smurfit-Stone emission estimate).

h. Screened sawdust overs to chip pile - This activity is limited to 0.09 lb/ton of screened sawdust overs to chip pile handled for total particulate and 0.005 lb/ton of screened sawdust overs to chip pile handled for $PM_{10}$ (Smurfit-Stone emission estimate).

i. Visible emissions from the proposed storage bin and the proposed storage bin unloading system shall be limited to 20% opacity (ARM 17.8.308 and ARM 17.8.304).

14. Brown Stock Washers

a. Emissions from the Brown Stock Washers shall be collected with a closed vent system and routed to the Direct Fired Thermal Oxidizer.

15. Batch and Continuous Digesters

a. All gaseous emissions from these units shall be ducted to the thermal oxidizer for oxidation of reduced sulfur compounds.

b. All gaseous emissions from the steam stripper shall be ducted to the thermal oxidizer for oxidation of reduced sulfur compounds.

16. M & D Cyclone

a. Total suspended particulate emissions from this cyclone shall be limited to 60 lb/day and 2.5 lb/hr.

b. $PM_{10}$ emissions from this cyclone shall be limited to 24 lb/day and 1.0 lb/hr.

c. If the Department requires testing per ARM 17.8.105, compliance with the above standards shall be monitored by EPA source sampling methods specified in 40 CFR 60, Appendix A. $PM_{10}$ sampling methods are specified by 40 CFR 51, Appendix M. Total particulate results may be used as a surrogate for $PM_{10}$ if the impinger analysis ("back-half") is included.

d. This cyclone shall not be operated more than 8,544 hours during any 12-month rolling period.

17. Micro-Pulsaire Baghouse (controls nuisance dust for the FORMM system)

a. Total suspended particulate emissions from this baghouse shall be limited to 22.8 lb/day and 0.95 lb/hr.

b. $PM_{10}$ emissions from this baghouse shall be limited to 22.8 lb/day and 0.95 lb/hr.

c. This baghouse shall be tested to monitor compliance with the limitations included in items 20.a and 20.b annually.

d. Compliance with the above standards shall be monitored by EPA source sampling methods specified in 40 CFR 60, Appendix A. $PM_{10}$ sampling methods are specified by 40 CFR 51, Appendix M. Total particulate results may be used as a surrogate for $PM_{10}$ if the impinger analysis ("back-half") is included.

18. ADS Slicers and Cyclones

a. Total suspended particulate emissions from these sources shall not exceed 26.4 lb/day and 1.10 lb/hr for each cyclone.

b. $PM_{10}$ emissions from this source shall not exceed 26.4 lb/day and 1.1 lb/hr for each cyclone.

c. If the Department requires testing per ARM 17.8.105, compliance with the above standards shall be monitored by EPA source sampling methods specified in 40 CFR 60, Appendix A. $PM_{10}$ sampling methods are specified by 40 CFR 51, Appendix M. Total particulate results may be used as a surrogate for $PM_{10}$ if the impinger analysis ("back-half") is included.

d. These cyclones shall not be operated more than 8,544 hours during any 12-month rolling period per cyclone.

19. Sawdust Overs Cyclone

a. Total suspended particulate emissions from these sources shall not exceed 26.4 lb/day and 1.1 lb/hr for each cyclone.

b. $PM_{10}$ emissions from this source shall not exceed 26.4 lb/day and 1.1 lb/hr for each cyclone.

c. If the Department requires testing per ARM 17.8.105, compliance with the above standards shall be monitored by EPA source sampling methods specified in 40 CFR 60, Appendix A. $PM_{10}$ sampling methods are specified by 40 CFR 51, Appendix M. Total particulate results may be used as a surrogate for $PM_{10}$ if the impinger analysis ("back-half") is included.

d. This cyclone shall not be operated more than 8,544 hours during any 12-month rolling period.

20. #3 Paper Machine

The yearly production from the #3 Paper Machine shall be limited to 481,000 tons of air dried tons of finished product (ADTFP) during any rolling 12-month period. This limit includes pulp input from the pulp mill, as well as other sources (i.e., the OCC plant) and correlates to a limit of 460,993 machine tons of paper produced during any rolling 12-month period, based on a paper moisture content of 6%.

21. Soda Ash System

$PM/PM_{10}$ emissions from the soda ash storage silo and associated pneumatic truck unloading station shall be controlled with a bin vent dust collector and shall not exceed 0.02 gr/dscf (ARM 17.8.752).

22. Scrubber Operational Checks

The following scrubber operational checks shall be performed on a weekly basis.

a. Multi-fuel Boiler
   i. Scrubber shower water flows
   ii. Scrubber water solids
   iii. Scrubber pressure differential
   iv. Scrubber water pH check

b. Smurfit-Stone shall maintain a record of such checks, which the Department may inspect at any time.

23. Plant-Wide $SO_2$ Limitation

Total $SO_2$ emissions from the mill shall not exceed 5,000 lb/day. In the event of a total natural gas curtailment, Smurfit-Stone shall report, in addition to the normal report, the following:

a. Daily $SO_2$ emissions from recovery boilers and power boilers.

b. Dates and times of curtailment.

c. Quantity and sulfur content of fuel oil burned.

d. All fuel oil burned must comply with ARM 17.8.322 – Sulfur In Fuel Oil rule, unless sulfur dioxide emissions are controlled on an equivalent basis.

24. NSPS Testing Requirements -- Those sources subject to Federal New Source Performance Standards shall comply with the testing, monitoring, and reporting requirements as applicable (ARM 17.8.340 and 40 CFR 60).

25. Smurfit-Stone shall not cause or authorize emissions to be discharged into the atmosphere that exhibit an opacity of 40% or greater, based on a 6-minute average, from any source, stack or fugitive installed on or before November 23, 1968 (ARM 17.8.304 and ARM 17.8.308).

26. Smurfit-Stone shall not cause or authorize to be discharged into the atmosphere visible emissions that exhibit an opacity of 20% or greater, based on a 6-minute average, from any source, stack or fugitive installed or altered after November 23, 1968, unless otherwise specified (ARM 17.8.304 and ARM 17.8.308).

27. Smurfit-Stone shall not cause or authorize to be discharged into the atmosphere from the thermal oxidizer:

a. Any visible emissions that exhibit an opacity of 20% or greater (ARM 17.8.752); and

b. Any particulate matter emissions in excess of 0.10 gr/dscf corrected to 10% $O_2$ (ARM 17.8.752).

28. Smurfit-Stone shall comply with all applicable standards and limitations, and the reporting, recordkeeping, and notification requirements contained in 40 CFR 63, Subpart S (ARM 17.8.342 and 40 CFR 63, Subpart S).

29. Plant-wide Wood Pulp Limitation (ARM 17.8.749)

Total wood pulp production shall not exceed 535,000 oven-dry tons (ODT) per rolling 12-month period. Wood pulp production shall be calculated based on a mill day (24 hour period starting at 5:00 am) using the following methodology (equations a-c):

a. Fiber usage on machines (tons, as produced) = Paper machine production (tons, as produced) +/- change in Cull production inventory (tons, as produced)

b. Fiber usage on machines (oven-dry tons) = Fiber usage on machines (tons, as produced) x (1.0 – moisture content of paper – chemical additive content of the linerboard)

c. Wood pulp production (ODT) = Fiber usage on machines (ODT) – OCC usage on machines (ODT) +/- Wood pulp high density storage change (ODT).

30. Smurfit-Stone shall comply with all applicable standards and limitations, and the reporting, recordkeeping, and notification requirements contained in 40 CFR 63, Subpart MM (ARM 17.8.342 and 40 CFR 63, Subpart MM).

31. The Department may require further testing (ARM 17.8.105).

SECTION III: Continuous Emission Monitoring Systems

A. No. 4 Recovery Boiler

1. An opacity CEM is to be operated and maintained on the No. 4 Recovery Boiler. This CEM is required to conform to federal specifications. The opacity CEM is required to provide a daily (calendar day) average opacity reading.

2. A TRS CEM is required by state permit for the boiler. This CEM is not required to conform to federal specifications. Smurfit-Stone already has Barton titrators in place to fulfill this requirement. These monitors do not meet federal specifications because the response time is too slow.

B. #5 Recovery Boiler (subject to 40 CFR 60, Subpart BB)

1. An opacity CEM is required by state permit and federal regulations. This CEM shall conform to Performance Specification 1 found in 40 CFR 60, Appendix B.

2. This opacity CEM shall have a span set at 70% opacity as required by 40 CFR 60, Appendix B and Subpart BB.

3. A TRS CEM is required by state permit and federal regulation. This CEM shall conform to federal specifications as required by 40 CFR 60, Appendix B, Specification 5.

C. #1, #2, and #3 Lime Kilns

A TRS CEM is required by state permit for each kiln. This CEM is not required to conform to federal specifications. Smurfit-Stone already has Barton titrators in place on the No. 1 and No. 2 Lime Kilns and a modified Astech on the No. 3 Lime Kiln to fulfill this requirement. These monitors do not meet federal specifications because the response time is too slow.

D. #4 Lime Kiln (subject to 40 CFR 60, Subpart BB)

A TRS CEM is required by state permit and federal regulations. This CEM shall conform to federal specifications as required by 40 CFR 60, Appendix B, Specification 5.

E. Multi-fuel Boiler (subject to 40 CFR 60, Subpart D)

1. An $SO_2$ CEM is required by federal regulation and state permit when this boiler is fired on oil. This CEM shall conform to federal specifications as required by Specification 2 of 40 CFR 60, Appendix B.

2. A $NO_x$ CEM is required by federal regulation and state permit. This CEM shall conform to federal specifications as required by Specification 2 of 40 CFR 60, Appendix B.

3. Either an $O_2$ or $CO_2$ CEM is required as provided in 40 CFR 60.45.

SECTION IV: Reporting Requirements

A. Operational and Emission Inventory Reporting Requirements

1. Smurfit-Stone shall supply the Department with annual production information for all emission points, as required by the Department in the annual emission inventory request. The request will include, but is not limited to, all sources of emissions identified in the emission inventory contained in the permit analysis and sources identified in Section I of this permit.

Production information shall be gathered on a calendar-year basis and submitted to the Department by the date required in the emission inventory request. Information shall be in the units required by the Department and shall include, but is not limited to, the following (ARM 17.8.505):

| SOURCE | UNITS OF MATERIAL PROCESSED |
|---|---|
| a. Multi-fuel Boiler | Hog Fuel (including MDF pellets) - ton/yr<br>Nat Gas - million cubic feet (MCF)/yr<br>Fuel Oil (including recycled oil) - Mgal/yr<br>Dewatered Sludge - ton/yr |
| b. Power Boiler | Nat Gas - MCF/yr |
| c. #4 Recovery Boiler | Black Liquor - ton/yr<br>Nat Gas - MCF/yr<br>Fuel Oil (including recycled oil) - Mgal/yr |
| d. #5 Recovery Boiler | Black Liquor - ton/yr<br>Nat Gas - MCF/yr<br>Fuel Oil (including recycled oil) - Mgal/yr |
| e. #1 Lime Kiln | Nat Gas - MCF/yr<br>Fuel Oil (including recycled oil) - Mgal/yr<br>Lime Mud - ton/yr<br>Petrol Coke - ton/yr |
| f. #2 Lime Kiln | Nat Gas - MCF/yr<br>Fuel Oil (including recycled oil) - Mgal/yr |

| | |
|---|---|
| | Lime Mud - ton/yr<br>Petrol Coke - ton/yr |
| g. #3 Lime Kiln | Nat Gas - MCF/yr<br>Fuel Oil (including recycled oil) - Mgal/yr<br>Lime Mud - ton/yr<br>Petrol Coke - ton/yr |
| h. #4 Lime Kiln | Nat Gas - MCF/yr<br>Fuel Oil (including recycled oil) - Mgal/yr<br>Lime Mud - ton/yr<br>Petrol Coke - ton/yr |
| i. #4 Dissolver | Black Liquor - ton/yr |
| j. #5 Dissolver | Black Liquor - ton/yr |
| k. #1 Slaker | Lime - ton/yr |
| l. #2 Slaker | Lime - ton/yr |
| m. #3 Slaker | Lime - ton/yr |
| n. Pulp Produced | Pulp - ADT/yr |
| o. Linerboard Produced | Linerboard - ADT/yr |
| p. OCC Waste Burned | OCC Waste - ton/yr |
| q. #1 Slicer | Chips Sliced - ton/yr |
| r. #2 Slicer | Chips Sliced - ton/yr |
| s. #3 Slicer | Chips Sliced - ton/yr |
| t. #4 Slicer | Chips Sliced - ton/yr |
| u. Sawdust Screen | Sawdust Screened - ton/yr |
| v. #3 Paper Machine | Air-dried paper (including OCC plant input) - ton/yr |

w. Hours of operation for the mill and each source if different from the mill operation time.

x. Fugitive dust information:

i. Tons of chips received for the year

ii. Tons of sawdust received for the year

iii. Tons of hog fuel received for the year

iv. Tons of fines sent to hog fuel from chip screen

v. Tons of fines sent to hog fuel from sawdust screen

vi. Tons of fines sent to storage bin from chip screen

vii. Tons of fines sent to storage bin from sawdust screen

viii. Tons of screened chips to Kamyr pile

ix. Tons of screened chips to batch pile

xi. Tons of ADS rejected to hog fuel pile

xii. Tons of screened sawdust overs to chip pile (as determined by weightometer on the sawdust overs belt).

2. Smurfit-Stone shall notify the Department of any construction or improvement project conducted pursuant to ARM 17.8.745, that would include a change of control equipment, stack height, stack diameter, stack flow, stack gas temperature, source location, or fuel specifications, or would result in an increase in source capacity above its permitted operation or the addition of a new emission unit. The notice must be submitted to the Department, in writing, 10 days prior to start up or use of the proposed de minimis change, or as soon as reasonably practicable in the event of an unanticipated circumstance causing the de minimis change, and must include the information requested in ARM 17.8.745(1)(d) (ARM 17.8.745).

3. All records compiled in accordance with this permit must be maintained by Smurfit-Stone as a permanent business record for at least 5 years following the date of the measurement, must be available at the plant site for inspection by the Department, and must be submitted to the Department upon request (ARM 17.8.749).

B. Monthly Reporting Requirements

1. General Requirements

Stack tests performed by employees of the Missoula Mill shall be submitted with the monthly reports.

2. Lime Kilns

Smurfit-Stone shall report the daily average TRS for the No.1, No.2, and No. 3 Lime Kilns. Smurfit-Stone shall include, for the No. 4 Lime Kiln, a report of 12-hour averages.

3. Recovery Boilers

a. Smurfit-Stone shall report the daily average TRS for all recovery boilers. Smurfit-Stone shall include, for recovery boilers subject to 40 CFR 60, Subpart BB, a report on a 12-hour basis.

b. Smurfit-Stone shall report a monthly average for pounds of sulfur emitted per 1000 pounds of black liquor burned for all recovery boilers.

c. Smurfit-Stone shall, for recovery boilers subject to 40 CFR 60, Subpart BB, report opacity on a 24-hour average basis.

d. Smurfit-Stone shall report for all recovery boilers average daily and average monthly total particulate emissions as determined by the correlation equations used to determine the particulate mass emissions. This report shall include daily calculated grain loading (gr/dscf), air flow (dscfm), total particulate (lb/hour), and the 24-hour average opacity. For the #5 Recovery Boiler, Smurfit-Stone shall report percent $O_2$ and grain loading (gr/dscf) corrected for $O_2$.

e. Smurfit-Stone shall test the recovery boilers for total particulate annually (semiannually if above 80% of the permit limit). These tests shall conform to 40 CFR 60, Appendix A, with back-half included, unless NSPS is applicable.

f. Smurfit-Stone shall report all exceedances of the opacity standard for recovery boilers subject to 40 CFR 60, Subpart BB.

4. Multi-fuel Boiler

Smurfit-Stone shall report, for all boilers subject to 40 CFR 60, Subpart D, the 3-hour averages for $SO_2$ and $NO_x$ as specified by federal regulations.

5. Pulp Mill Production

Average daily pulp production shall be reported in air-dried tons of pulp per day and average daily black liquor burning rates for each recovery boiler in pounds per day.

6. Plant-wide Wood Pulp Production

Smurfit-Stone shall document, by month, plant-wide wood pulp production. By the 25$^{th}$ day of each month, Smurfit-Stone shall calculate the amount of plant-wide wood pulp production for the previous month. The monthly information will be used to verify compliance with the limitation in Section II.G.31. The information for each of the previous months shall be submitted along with the annual emission inventory (ARM 17.8.749).

C. Quarterly Excess Emission Reports

Smurfit-Stone shall submit quarterly excess emission reports for all CEMs required by NSPS as specified in 40 CFR 60.7(c). This report shall include:

1. The magnitude of excess emissions computed in accordance with 60.13(h), any conversion factors used, and the date and time of commencement and completion of each time period of excess emissions.

2. Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the affected facility; the nature and cause of any malfunction (if known); and the corrective action taken or preventative measures adopted.

3. The date and time identifying each period during which the continuous monitoring system was inoperative, except for zero and span checks, and the nature of the system repairs or adjustments.

4. When no excess emissions have occurred, or the continuous monitoring systems have been inoperative, such information shall be stated in the report.

5. The excess emission reports shall be completed in a format supplied or approved by the Department.

D. Failure to report CEM data required by this section, which is not available because of monitor downtime or insufficient quality assurance, shall not be considered a violation of the reporting requirements of this section. However, the unavailability of such data may be a violation of the monitoring requirements of Section III - Continuous Emission Monitoring Systems (ARM 17.8.749).

E. Smurfit-Stone shall comply with the recordkeeping and reporting in accordance with 40 CFR 63, Subpart S and 40 CFR 63.10 (ARM 17.8.342 and 40 CFR 63, Subparts A and S).

F. Smurfit-Stone shall comply with the recordkeeping and reporting in accordance with 40 CFR 63, Subpart MM and 40 CFR 63.10 (ARM 17.8.342 and 40 CFR 63, Subparts A and MM).

SECTION V: Compliance

Smurfit-Stone shall comply with all conditions contained in Attachment C, except for those conditions superseded by more stringent conditions contained in the main section of this permit.

SECTION VI: State-only Provisions (State-only enforceable): Ambient Air Monitoring Program

Smurfit-Stone shall conduct an ambient air monitoring program consisting of the following (see Attachment 1) (ARM 17.8.204):

A. At least two analyzers to measure hydrogen sulfide ($H_2S$).

B. At least one wind system.

C. Sampling sites, data reporting, and parameters to be monitored will be specified by the Department.

SECTION VII: General Conditions

A. Inspection - Smurfit-Stone shall allow the Department's representatives access to the source at all reasonable times for the purpose of making inspections or surveys, collecting samples, obtaining data, auditing any monitoring equipment (CEMS, CERMS) or observing any monitoring or testing, and otherwise conducting all necessary functions related to this permit.

B. Waiver - The permit and all the terms, conditions, and matters stated herein shall be deemed accepted if Smurfit-Stone fails to appeal as indicated below.

C. Compliance with Statutes and Regulations - Nothing in this permit shall be construed as relieving Smurfit-Stone of the responsibility for complying with any applicable federal or Montana statute, rule or standard, except as specifically provided in ARM 17.8.740, *et seq*. (ARM 17.8.756).

D. Enforcement - Violations of limitations, conditions and requirements contained herein may constitute grounds for permit revocation, penalties or other enforcement as specified in Section 75-2-401 *et seq*., MCA.

E. Appeals – Any person or persons jointly or severally adversely affected by the Department's decision may request, within 15 days after the Department renders its decision, upon affidavit setting forth the grounds therefore, a hearing before the Board of Environmental Review (Board). A hearing shall be held under the provisions of the Montana Administrative Procedures Act. The filing of a request for a hearing does not stay the Department's decision, unless the Board issues a stay upon receipt of a petition and a finding that a stay is appropriate under Section 75-2-211(11)(b), MCA. The issuance of a stay on a permit by the Board postpones the effective date of the Department's decision until conclusion of the hearing and issuance of a final decision by the Board. If a stay is not issued by the Board, the Department's decision on the application is final 16 days after the Department's decision is made.

F. Permit Inspection - As required by ARM 17.8.755, Inspection of Permit, a copy of the air quality permit shall be made available for inspection by Department personnel at the location of the permitted source.

G. Permit Fee - Pursuant to Section 75-2-220, MCA, as amended by the 1991 Legislature, failure to pay the annual operation fee by Smurfit-Stone may be grounds for revocation of this permit, as required by that section and rules adopted thereunder by the Board.

H. Construction Commencement – Construction must begin within 3 years of permit issuance and proceed with due diligence until the project is complete or the permit shall be revoked (ARM 17.8.762).

ATTACHMENT C

Modified June 14, 1989
Conditions of Permit #2589

Air Quality Permit #2589 (originally #792-013075) is hereby altered to include the OCC facility to be installed during the summer of 1989. This alteration is conducted in accordance with ARM 17.8.748. Since there is no significant increase in emissions, only ARM 17.8.740, Montana Permit Rule, will apply. This rule requires Best Available Control Technology (BACT) to be applied to the air pollution control equipment.

Section I: Permitted Facilities

A. The general facilities associated with this project are:

1. Unloading docks for 400 tons per day (TPD) of old cardboard
2. Shredder and repulping tank
3. Cleaning facilities to remove burnable and nonburnable waste from the old cardboard
4. Disposal systems for all waste removed from the old cardboard

B. Emission Inventory for the Multi-fuel Boiler

Current average fuel consumption is:

Waste wood - 7955 ton/month x 12 = 95,460 ton/yr
Natural gas - 3648 MCF/month x 12 = 43,776 MCF/yr

1. Current Emissions (from wood combustion):

| | Emissions |
|---|---|
| Particulate from company stack test | 18.0 TPY |
| $SO_2$ - .15 lb/ton x .5 scrub eff x 95460 ton wood/yr x 1/2000 | 3.5 TPY |
| $NO_x$ - 2.8 lb/ton x 1 scrub eff x 95460 ton wood/yr x 1/2000 | 133.6 TPY |
| CO - 4.0 lb/ton x 1 scrub eff x 95460 ton wood/yr x 1/2000 | 190.9 TPY |
| Volatile Organic Compounds –Non-Methane ($VOC_{(NM)}$) - 1.4 lb/ton x 1 scrub eff x 95460 ton wood/yr x 1/2000 (from AP-42 1.6-1) | 66.8 TPY |

Natural gas emissions are negligible. The highest contribution from natural gas would be approximately 1 TPY of $NO_x$; all other pollutants are less than 1 TPY.

2. Emissions from Waste Plastic Combustion:

Waste combustion rate: 15.1 ton/day, 468 ton/month, 5616 TPY
AP-42 2.1-3 Uncont. E.F. for Commercial and Ind. Refuse
Particulate = 7 lb/ton x .04 scrub eff x 5616 x 1/2000 =0.8 TPY
(Multichamber)

| | | | |
|---|---|---|---|
| $SO_2$ | 2.5 | x .5 | x 5616 x 1/2000 = 3.5 TPY |
| $NO_x$ | 3 | x 1 | x 5616 x 1/2000 = 8.4 TPY |
| VOC | 3 | x 1 | x 5616 x 1/2000 = 8.4 TPY |
| CO | 10 | x 1 | x 5616 x 1/2000 = 28.0 TPY |

3. Toxics Review

These emissions are calculated from laboratory results of two samples of plastic waste, which were collected from two paper recycling plants currently in operation. Analysis was done by Badger Laboratories for Smurfit-Stone Container (letter from Ms. Jenny Brown to W. Norton, dated 2-14-89)

Chloride analysis (as total halide)

Max. value - 0.43% x 15.1 ton/day x 365 day/yr x 0.04 scrub eff x 2000 lb/ton = 1896 lb/yr

(This assumes all chloride goes to scrubber; some may remain in bottom ash.)

Beryllium

Max. value - .05 ppm x 15.1 ton/day x 2000 lb/ton x 365 day/yr = 0.55 lb/yr

Cadmium

Max. value - <.05 ppm x 15.1 ton/day x 2000 lb/ton x 365 day/yr = <0.5 lb/yr

Lead

Max. value - 12.6 ppm x (11.02) = 138.9 lb/yr

Mercury

Max. value - <0.01 x 11.02 = <0.1 lb/yr

4. Emission Summary

| Parameter | Existing | Plastic Emissions | Total Proposed |
|---|---|---|---|
| Particulate | 18 TPY | 1 TPY | 19 TPY |
| $SO_2$ | 4 | 3 | 7 |
| $NO_x$ | 134 | 8 | 142 |
| CO | 191 | 28 | 219 |
| $VOC_{(NM)}$ | 67 | 8 | 75 |

| Parameter | Existing | Plastic Emissions | Total Proposed |
|---|---|---|---|
| Toxics: | | | |
| Cl | -- | 1896 lb/yr | 1896 lb/yr |
| Be | -- | 0.5 | 0.5 |
| Cd | -- | <0.5 | <0.5 |
| Pb | -- | 138.9 | 138.9 |
| Hg | -- | <0.1 | <0.1 |

C. Applicable Regulations

1. NSPS - Not applicable - OCC plants are not a listed component of Kraft pulp mills (see 40 CFR 60, Subpart BB – specifically 40 CFR 60.280a).

2. Prevention of Significant Deterioration - Not applicable - emissions are not significant (See ARM 17.8.801).

3. State Permit Rule - ARM 17.8.764 is applicable and requires that BACT be applied to the permit alteration.

4. BACT Analysis

The applicant proposed the disposal of 15.1 tons per day of waste plastic in the hog fuel boilers. These boilers are currently controlled with wet scrubbers. The waste fuel boiler is subject to the NSPS limits and the Air Resources Management Bureau has accepted this scrubber as BACT for this case. The scrubber water maintains a pH between 7.0 and 9.0, which should provide good collection efficiencies for chloride gases. Therefore, the Department accepts this control as BACT for this case.

5. Other Toxic Emissions

Lead - Less than 0.6 TPY - exempt from permitting. Company analysis shows 138.9-lb/yr emission or 0.07 TPY. This is less than 12% of the lead emissions that require permitting under ARM 17.8.745.

Beryllium - Less than 0.0004 TPY-is not significant for PSD purposes. Company analysis shows 0.55 lb/yr or 0.0003 TPY.

Mercury - Less than 0.1 TPY-is not significant for PSD purposes. Company analysis shows 0.11 lb/yr or 0.00 TPY.

Therefore, a permit alteration will be required at this time for disposal of this plastic waste in the hog fuel boilers. However, a stack test for chloride emissions will be required after the system is operational to prove that actual emissions do not exceed the worst case analysis referred to above.

Section II: Limitations and Conditions

A. The boiler used for disposal of the burnable waste shall be tested for particulate and for chloride emissions to prove compliance with existing regulations. The chloride emissions shall be compared with the estimated emissions from the permit application. These tests shall conform to EPA stack testing methods 1-5, and the Montana Source Test Protocol and Procedures Manual.

B. A one-time check on the levels of heavy metals emitted from the combustion of waste plastic is required. This shall consist of an analysis of the stack gas for lead, cadmium, beryllium and mercury. These tests shall be done by methods acceptable to EPA and the Department, and be performed at the same time the particulate and chloride tests are done. These tests shall be completed within 1 year of the start-up date for the used fiber recycle plant.

Section III: Ambient Air Monitoring and Reporting Requirements

No additional ambient monitoring requirements apply at this time.

ATTACHMENT 1

State-only Provision (State-only enforceable): AMBIENT AIR MONITORING PLAN
SMURFIT-STONE CONTAINER ENTERPRISES, Inc.
Permit #2589-14

1. This ambient air monitoring plan is required by Montana Air Quality Permit (MAQP) #2589-14, which applies to Smurfit-Stone's Kraft pulp mill operation located approximately 10 miles northwest of Missoula, Montana. The Department may modify the requirements of this monitoring plan. All requirements of this plan are considered state-only enforceable conditions of the permit.

2. The requirements of this attachment shall take effect within 30 days of permit issuance, unless otherwise approved in writing by the Department.

3. Smurfit-Stone shall operate and maintain two air monitoring sites in the vicinity of the mill and facilities. The exact locations of the monitoring sites must be approved by the Department and meet all the siting requirements contained in the Montana Quality Assurance Manual, including revisions; the EPA Quality Assurance Manual, including revisions; and40 Code of Federal Regulations (CFR) Part 58; or any other requirements specified by the Department.

4. Within 30 days after issuance of MAQP #2589-14, Smurfit-Stone shall submit a topographic map to the Department identifying UTM coordinates, air monitoring site locations in relation to the facility, and the general area present.

5. Within 30 days prior to any changes of the location of the ambient monitors, Smurfit-Stone shall submit a topographic map to the Department identifying UTM coordinates, air monitoring site locations in relation to the facility, and the general area present.

6. Smurfit-Stone shall continue air monitoring for at least 2 years after installation of the monitor described in Section 2 above. The Department will review the air monitoring data and the Department will determine if continued monitoring or additional monitoring is warranted. The Department may require continued air monitoring to track long-term impacts of emissions from the facility or require additional ambient air monitoring or analyses if any changes take place in regard to quality and/or quantity of emissions or the area of impact from the emissions.

7. Smurfit-Stone shall monitor the following parameters at the sites and frequencies described below:

| AIRS # and Site Name | UTM Coordinates | Code & Parameter | Frequency |
|---|---|---|---|
| 30-063-0034 | Zone 11 | 42402 $H_2S$[1] | Continuous |
| Moccasin | N 520 3200 | 61101 Wind Speed and Direction | Continuous |
| Lane #1A | E 719 000 | 61106 Standard Deviation of Wind Direction (sigma theta) | Continuous |
| 30-063-0022 | Zone 11 | 42402 $H_2S$ | Continuous |
| Site #2A | N 520 8155 | | |
| | E 712 395 | | |

[1] $H_2S$ = hydrogen sulfide.

8. Data recovery for all parameters shall be at least 80% computed on a quarterly and annual basis. The Department may require continued monitoring if this condition is not met. (Data Recovery = (Number of data points collected in evaluation period)/(number of scheduled data points in evaluation period)*(100%))

9. Any ambient air monitoring changes proposed by Smurfit-Stone must be approved, in writing, by the Department.

10. Smurfit-Stone shall utilize air monitoring and Quality Assurance (QA) procedures that are equal to or exceed the requirements described in the Montana Quality Assurance Manual, including revisions; the EPA Quality Assurance Manual, including revisions; 40 CFR Parts 50 and 58; and any other requirements specified by the Department.

11. Smurfit-Stone shall submit two hard copies of quarterly data reports within 45 days after the end of the calendar quarter and two hard copies of the annual data report within 90 days after the end of the calendar year.

12. The quarterly data submittals shall consist of a hard copy narrative data summary and a digital submittal of all data points in AIRS batch code format. The electronic data must be submitted to the Air Monitoring Section as digital text files readable by an office PC with a Windows operating system.

    The narrative data hard copy summary must be submitted to the Air Compliance Section and shall include:

    a. A hard copy of the individual data points,

    b. The first and second highest hourly concentrations for $H_2S$ at each site,

    c. The quarterly and monthly wind roses,

    d. A summary of the data completeness,

    e. A summary of the reasons for missing data,

    f. A precision data summary,

    g. A summary of any ambient air standard exceedances, and

    h. QA/QC information such as zero/span/precision, calibration, audit forms, and standards certifications.

13. The annual data report shall consist of a narrative data summary. The narrative data hard copy summary must be submitted to the Air Compliance Section and shall include:

    a. A topographic map of appropriate scale with UTM coordinates and a true north arrow showing the air monitoring site locations in relation to the mill and facilities and the general area,

    b. The year's ten highest hourly concentrations for $H_2S$ at each site,

    c. The annual wind rose,

d. A summary of any ambient air standard exceedances, and

e. An annual summary of data completeness.

14. All records compiled in accordance with this Attachment must be maintained by Smurfit-Stone as a permanent business record for at least 5 years following the date of the measurement, must be available at the plant site for inspection by the Department, and must be submitted to the Department upon request (ARM 17.8.749).

15. The Department may audit (or may require Smurfit-Stone to contract with an independent firm to audit) the air monitoring network, the laboratory performing associated analysis, and any data handling procedures at unspecified times.

16. The hard copy reports should be sent to:
    Department of Environmental Quality
    Attention: Air Compliance Section Supervisor

17. The electronic data from the quarterly monitoring shall be sent to:
    Department of Environmental Quality
    Attention: Air Monitoring Section Supervisor

Permit Analysis
Smurfit-Stone Container Enterprises, Inc.
Permit #2589-14

# I. Introduction/Process Description

## A. Process Description

Smurfit-Stone Container Enterprises, Inc. (Smurfit-Stone) operates a kraft pulp and liner mill in Section 24, Township 14 North, Range 21 West in Missoula County. This facility produces linerboard and other paper products by converting wood chips into pulp and then into paper. Smurfit-Stone uses a typical kraft recovery plant in which the cooking salts are recovered from the digestion process and reused. Smurfit-Stone uses several batch digesters and two continuous digesters to separate the wood fiber from the wood matrix. Digestion gases are controlled with a condenser and all noncondensible gases are incinerated in the lime kilns. The black liquor recovered from this process is used as a fuel in the recovery furnaces and the cooking salts are recovered to be used again. The recaust portion of the plant uses several lime kilns to convert calcium carbonate to calcium oxide, which is then used in converting green liquor from the recovery furnaces into the white cooking liquor. This is then reused to start the digestion process over again. The plant has two recovery boilers, four lime kilns, and three paper machines with all of the peripheral equipment required by the kraft process. The Fiber Optimization and Raw Material Management Transfer System (FORMM) at the facility allows Smurfit-Stone to more efficiently use the raw materials available by screening the materials more thoroughly. This system also provides for a more efficient use of chips and sawdust delivered to the plant.

## B. Facility History

Smurfit-Stone is located approximately 10 miles northwest of Missoula. The plant underwent a major expansion during the mid-1970s, which added several New Source Performance Standards (NSPS) units. The basic plant capacity was designed for about 1850 tons per day of air-dried pulp. An air quality permit covered individual units at that time. In 1987, the permit was revised to allow Stone Container Corporation (Stone) to burn petroleum coke in all four lime kilns. In 1989, the permit was revised again to allow Stone to install and operate a recycled cardboard facility at the plant. This revision increased the capacity of the plant by approximately 400 air-dried tons per day.

On July 1, 1987, the Environmental Protection Agency (EPA) promulgated new ambient air quality standards for particulate matter with an aerodynamic diameter of 10 microns or less ($PM_{10}$). The annual standard is 50 micrograms per cubic meter and the 24-hour standard is 150 micrograms per cubic meter. These standards were adopted by the Montana Board of Health and Environmental Sciences on April 15, 1988.

Due to violations of these standards, Missoula was designated as a $PM_{10}$ nonattainment area. As a result of this designation, the Montana Department of Health and Environmental Sciences (Department, now the Department of Environmental Quality) and the Missoula County Air Pollution Control Agency were required to develop a plan to control these emissions and bring the area into compliance with the federal and state ambient air quality standards.

The mill's recovery boilers were identified as significant contributors to this area through the identification of contributing emission sources. Permit #2589-M was a modification to add general fugitive dust control measures to this facility and to correct emission limitations for the #5 Recovery Boiler and the #4 Lime Kiln to agree with NSPS limits.

These corrections decreased the allowable emissions enough to satisfy the State Implementation Plan (SIP) control plan for the area.

Stone requested an alteration to their permit to allow for the installation of a new FORMM System. This permit allowed the construction of the new screening room and the addition of the needed fugitive sources to allow Stone to better use the raw materials available and was given **Permit #2589-02**.

In August of 1992, the EPA submitted comments on the Missoula SIP concerning a completeness determination and requesting additional information. In response to EPA's concern about the correlation between opacity and mass emissions, the Air Quality Division modified Stone's permit to clarify the language in the permit. The Air Quality Division also addressed the opacity requirements for the equipment at the mill and the opacity monitor range for the #5 Recovery Boiler. This permit was given **Permit #2589-03**.

In April 1994, Stone applied for **Permit #2589-04**, which allowed for change to be made in the existing FORMM system. The FORMM transfers the fines from the chip screens and the fines from the sawdust screens to the hog fuel pile. This alteration allowed Stone to transfer material from the FORMM, via an enclosed belt conveyor, to an enclosed storage bin, rather than to the hog fuel pile. This material could then be transferred to trucks for distribution off site. To accomplish this, construction of a storage bin, a storage bin unloading system, and an enclosed belt conveying system was needed. This proposed system and the existing system cannot be physically operated at the same time, but rather can be operated interchangeably. This alteration resulted in a net decrease in total particulate emissions of 44.09 tons per year (tpy) and a net decrease in $PM_{10}$ emissions of 15.89 tpy.

In addition to the change in the FORMM system, the permit also reflected the fact that in June 1992 Stone replaced the existing #2 Lime Slaker with a larger lime slaker. The new #2 Lime Slaker has a maximum capacity of 550 gallons per minute (gpm) of green liquor and is controlled by a natural draft wet scrubber. The new #2 Lime Slaker has the same permit limits as the previous slaker, because the emissions would not increase since the vapor velocity in the new slaker is lower than the vapor velocity of the old slaker.

On March 24, 1995, Stone applied for Permit #2589-05**,** to allow the mill to utilize dewatered sludge from the sludge dewatering facility as fuel for the existing waste fuel and hog fuel boilers at the facility. Both boilers have an alkaline scrubber for control; therefore, this change in fuel would result in a maximum actual emission increase of 17.5 tpy of sulfur dioxide ($SO_2$). Stone still had to comply with the existing facility-wide $SO_2$ limit of 5000 lb/day. There was no increase in emissions of oxides of nitrogen ($NO_x$), total suspended particulate (TSP), $PM_{10}$, carbon monoxide (CO), or volatile organic compounds (VOCs) as a result of this change in fuel. A more detailed description of the change is included in the analysis for Permit #2589-05. **Permit #2589-05** replaced Permit #2589-04.

**Permit Alteration #2589-06** was issued on February 25, 1996, and allowed Stone to replace the existing third press in the #3 Paper Machine with a shoe press. The change increased the quality of the linerboard produced and allowed the machine to be operated at a higher production rate, from the current capacity of 59.6 tons of air-dried pulp per hour to 64.8 tons air-dried pulp per hour. The permit alteration also limited the yearly production of the #3 Paper Machine. Minor wording changes were also made to the

permit at the mill's request. A more detailed description of the change is included in the analysis for Permit #2589-06.

On June 7, 1996, Stone was issued Permit #2589-07 for modifications to the existing scrubbing system on the #4 Smelt Dissolver. A venturi scrubber was added prior to the current scrubber and before the internal design and packing of the current scrubber was modified. The allowable emissions from the dissolver did not change as a result of this action. However, because the new system operates with an increased efficiency, actual particulate emissions from the dissolver were expected to decrease by 9 tpy. **Permit #2589-07** replaced Permit #2589-06.

On December 14, 1999, Stone applied for Permit #2589-08, an alteration to Permit #2589-07. Stone requested the alteration to include conditions for a thermal oxidizer to be installed as part of the Maximum Achievable Control Technology (MACT) I Cluster Rule requirements. Stone is subject to 40 Code of Federal Regulations (CFR) 63, Subpart S (MACT I), for the pulp and paper industry. In order to comply with the regulations, Stone proposed to install and operate a steam stripper and a thermal oxidizer. The Department approved the project as a pollution control project (PCP) under the Prevention of Significant Deterioration (PSD) regulations. The Department reviewed the project and the 1994 EPA memo entitled *Pollution Control Projects and New Source Review (NSR) Applicability*, and determined that the project will be environmentally beneficial.

However, the potential emissions for $NO_x$ were determined to exceed the significance levels under the PSD regulations. Stone conducted modeling to determine the impacts of the $NO_x$ emissions. The Department reviewed the modeling results, along with previous modeling completed by Stone, and determined that the thermal oxidizer would not cause or contribute to a violation of the national ambient air quality standards, PSD increment, or adversely affect visibility or other air quality related values.

The project also included other activities such as construction of the LVHC-non-condensible gas (NCG) system and re-configuration of the batch digestor vent. The permit format and the rule references were updated, as well as updates to conditions in which the Administrative Rule of Montana (ARM) 17.8.321 (Kraft Pulp Mills) applies. **Permit #2589-08** replaced Permit #2589-07.

Stone submitted a complete permit application on December 27, 2000, for the installation and operation of seven temporary, diesel-fired generators at their facility. This application was assigned Permit #2589-09. Stone asserted that the generators were necessary because the high cost of electricity had significantly impacted operations at Stone, forcing a reduction in manufacturing at the Frenchtown facility. The operation of the generators would not occur beyond 2 years and was not expected to last for an extended period of time, but rather only for the length of time necessary for Stone to acquire a permanent, more economical supply of power. Integral to the diesel generators are the electronic engine controls (EEC) and intake air cooling (IAC) for $NO_x$ emission control.

The temporary generators would only be used when commercial power is too expensive and is impacting mill operations; therefore, the amount of emissions expected during the actual operation of these generators was not anticipated to be major. In addition, the installation of these generators qualifies as a "temporary source" under the PSD permitting program because the permit would limit the operation of these generators to a time period of less than 2 years. As a result, Stone would not need to comply with ARM 17.8.804, 17.8.820, 17.8.822, and 17.8.824. Even though the portable generators were

considered temporary, the Department required compliance with Best Available Control Technology (BACT) and public notice requirements; therefore, compliance with ARM 17.8.819 and 17.8.826 would be ensured. **Permit #2589-09** replaced Permit #2589-08.

Permit #2589-10 was issued on September 9, 2003, for the proposed installation of a replacement chip-meter and low-pressure feeder for Stone's existing Chip Kamyr digester (Kamyr). Stone proposed changes to the chip bin to allow installation of the replacement chip-meter. The replacement of the Kamyr's chip-meter would allow that digester to increase its production. Stone intended to increase production of the Kamyr, while curtailing the other digesters. If such an increase in production were to be evaluated with respect to the full potential utilization of the other digesters with the Kamyr, a PSD review may be required. To ensure that the Kamyr project would not increase Stone's potential emissions above the PSD significance level, Stone proposed a mill-wide limitation of 535,000 oven dry tons (ODT) of wood pulp production per year. The Kamyr, when compared with the combined production of the digester systems, produces the highest pulp quality at the highest pulp yield and uses the least steam per ton of pulp, resulting in less black liquor solids generation per ton of pulp. Therefore, actual emissions resulting from the implementation of this project were expected to decrease.

Potential emissions for the 535,000 ODT of wood pulp production per year were calculated using emission factors for the Kamyr digester alone, as this represents the most likely scenario. However, Stone retains the ability to operate the other digesters as they are currently permitted, either alone, or in combination with the Kamyr. **Permit #2589-10** replaced Permit #2589-09.

Stone submitted a request for permit amendment on December 12, 2002, to make the Montana Air Quality Permit (MAQP) #2589-10 consistent with the Title V Operating Permit (OP2589-01). In addition, Stone submitted de minimis requests on April 21, 2003; August 8, 2003; and September 10, 2003, which will be incorporated into the MAQP. A more detailed description of the change is included in the analysis for MAQP #2589-10. **MAQP #2589-11** replaced MAQP #2589-10.

Smurfit-Stone submitted a request for a permit amendment on October 1, 2004, of MAQP #2589-11. Smurfit-Stone requested a name change from Stone to Smurfit-Stone. **MAQP #2589-12** replaced MAQP #2589-11.

On October 3, 2005, the Department received an application from Smurfit-Stone for a significant modification to OP2589-03 as well as a de minimis notification. Smurfit-Stone must comply with the high volume, low concentration (HVLC) non-condensable gas (NCG) requirements in 40 CFR 63, Subpart S, National Emissions Standards for Hazardous Air Pollutants for the Pulp and Paper Industry (commonly referred to as MACT I, Phase II). MACT I Phase II requires collection and treatment of emissions from specified HVLC-NCG sources. The compliance date for the HVLC-NCG (MACT I, Phase II) requirements was April 17, 2006. The significant modification to OP#2589 is to remove the requirement to vent the brown stock washer emissions through wet scrubbers as well as to include the HVLC-NCG collection and treatment requirements.

Smurfit-Stone notified the Department to remove the requirement to operate the brown stock washer scrubbers from MAQP #2589-12. The purpose of Smurfit-Stone's requirement to operate wet scrubbers on the washer exhausts is the control of particulate emissions. For the following reasons, Smurfit-Stone believes this requirement to be unnecessary after installation, as part of the HVLC-NCG collection system, of the new low-infiltration washer hoods, whether the HVLC-NCG collection system is operating or

not. The HVLC-NCG system is specifically designed for the collection and treatment of gaseous Hazardous Air Pollutants (HAPs). The introduction of significant amounts of particulate (fiber) into the system would result in plugging and failure of the HVLC cooler and entrainment separators, as well as fiber buildup on the HVLC Booster Fan, HVLC DFO fan and doctor blade fans resulting in fan imbalance and potential failure.

A significant portion of the MACT I, Phase II project is the installation of new low-infiltration washer hoods on the top and base stock washers. The purpose of the new hoods is to reduce air infiltration into the hoods to minimize the volume of the HVLC-NCGs that needs to be transported and treated. Because particulate present in the HVLC system would result in severe operational problems, significant design features have been incorporated into the new hoods to prevent the introduction of particulate into the HVLC-NCG collection system. These design features include:

- Minimized air leakage into the hoods. Because the hoods are designed to minimize air leakage into the hood, the volume of air that must be evacuated from the hood is much less than in the current design. This lower airflow into, and subsequently out of, the hood reduces turbulence within the hood and minimized the entrainment of fiber that may have become airborne as a result of the operation of the air doctors, which pneumatically remove the fiber sheet from the drum.
- Locating the air outlet at the top of the washer hood, approximately 6 feet above the washer drum. This allows any large wet fibers that may have become airborne as a result of the operation of the air doctors time to drop out prior to entering the outlet. In the current hoods, the air outlet from the hood is located very near the drum and air doctors resulting in the potential for fiber entrainment.
- In the new hood design the air outlet intake is through a perforated plenum that runs the entire length of the top of washer hood. This perforated plenum design – consisting of 4-inch holes spaced every foot - results in very low capture velocities to prevent entrainment of the fiber particles. The current hood design does not have a plenum, but a single round suction inlet resulting in significantly higher capture velocities.
- The outlet of the hood exhaust plenum incorporates a vertical “dam” consisting of about a 2-inch lip, which should remove any entrained moisture and fiber that may enter the plenum.
- Though Smurfit-Stone does not anticipate any fiber leaving the washer hood, the outlet of the hood exhaust plenum raises about 10 feet in elevation to the HVLC header exiting the Brown Stock Washer building. This elevation increase will further remove any entrained moisture and fiber (by gravity) that may enter the HVLC piping.

As discussed above, it is critical to the operation and maintenance of the HVLC system that fiber not enter the HVLC piping due to resulting fouling of the air doctor fan system, gas cooler, entrainment separators, and HVLC fans.

Because of the above mentioned design features of the new low-infiltration hoods, and the large, wet particle configuration of any airborne fiber that would be generated by the operation of the air doctors, the particulate emissions from the washer hoods entering the HVLC system, although not quantified, is expected to be insignificant. This would be the case both during operation of the HVLC-NCG collection system and during malfunctions of the HVLC-NCG collections system when the emissions from the washers are being vented to atmosphere. Therefore, Smurfit-Stone believes, once the new hoods are installed, the requirement to operate wet scrubbers to control particulate emissions from the washers should be removed.

This permit action incorporates Smurfit-Stone's request to remove the requirement to operate wet scrubbers to control particulate emissions from the washers in the MAQP according to the provisions of ARM 17.8.745. **MAQP #2589-13** replaced MAQP #2589-12.

C. Current Permit Action

On November 14, 2008, the Department received a complete application from Smurfit-Stone to modify MAQP #2589-13. In this application, Smurfit-Stone requested to install a 300 ton capacity soda ash storage silo with an associated pneumatic truck unloading station and mixing equipment to mix dry soda ash into a solution suitable for addition to green liquor.

To replace sodium losses in the pulping process, the mill currently uses caustic in liquid form as a make-up chemical. Caustic is becoming increasingly more expensive and difficult to acquire. In response to the increasing costs and decreasing availability of caustic, the mill intends to install a soda ash system for use as a make-up chemical.

In addition, Smurfit-Stone requested several administrative amendment changes to its Title V Operating permit in its renewal application received by the Department on June 12, 2006. The requested changes also necessitated administrative changes to Smurfit-Stone's MAQP. These amendments included the removal of several units that are no longer in service: the No. 3 Recovery Boiler, No. 3 Smelt Dissolving Tank, and the pin chip pile and digester cyclone and other various clarifications. Also, on September 30, 2008, the Department approved Smurfit-Stone's request to discontinue ambient monitoring of $PM_{10}$. The Department has updated the permit to reflect these changes. **MAQP #2589-14** replaces MAQP #2589-13.

D. Additional Information

Additional information, such as applicable rules and regulations, BACT/Reasonably Available Control Technology (RACT) determinations, air quality impacts, and environmental assessments, is included in the analysis associated with each change to the permit.

II. Applicable Rules and Regulations

The following are partial explanations of some applicable rules and regulations that apply to the facility. The complete rules are stated in the ARM and are available, upon request, from the Department. Upon request, the Department will provide references for locations of complete copies of all applicable rules and regulations or copies where appropriate.

A. ARM 17.8, Subchapter 1 – General Provisions, including, but not limited to:

1. <u>ARM 17.8.101 Definitions</u>. This rule includes a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.

2. <u>ARM 17.8.105 Testing Requirements</u>. Any person or persons responsible for the emission of any air contaminant into the outdoor atmosphere shall, upon written request of the Department, provide the facilities and necessary equipment, including instruments and sensing devices, and shall conduct tests, emission or ambient, for such periods of time as may be necessary using methods approved by the Department.

3. ARM 17.8.106 Source Testing Protocol. The requirements of this rule apply to any emission source testing conducted by the Department, any source, or other entity as required by any rule in this chapter, or any permit or order issued pursuant to this chapter, or the provisions of the Clean Air Act of Montana, 75-2-101, *et seq*., Montana Code Annotated (MCA).

   Smurfit-Stone shall comply with the requirements contained in the Montana Source Test Protocol and Procedures Manual, including, but not limited to, using the proper test methods and supplying the required reports. A copy of the Montana Source Test Protocol and Procedures Manual is available from the Department upon request.

4. ARM 17.8.110 Malfunctions. (2) The Department must be notified promptly by telephone whenever a malfunction occurs that can be expected to create emissions in excess of any applicable emission limitation, or to continue for a period greater than 4 hours.

5. ARM 17.8.111 Circumvention. (1) No person shall cause or permit the installation or use of any device or any means that, without resulting in reduction in the total amount of air contaminant emitted, conceals or dilutes an emission of air contaminant that would otherwise violate an air pollution control regulation. (2) No equipment that may produce emissions shall be operated or maintained in such a manner that a public nuisance is created.

B. ARM 17.8, Subchapter 2 – Ambient Air Quality, including, but not limited to:

1. ARM 17.8.204 Ambient Air Monitoring
2. ARM 17.8.210 Ambient Air Quality Standards for Sulfur Dioxide
3. ARM 17.8.211 Ambient Air Quality Standards for Nitrogen Dioxide
4. ARM 17.8.212 Ambient Air Quality Standards for Carbon Monoxide
5. ARM 17.8.213 Ambient Air Quality Standard for Ozone
6. ARM 17.8.214 Ambient Air Quality Standard for Hydrogen Sulfide
7. ARM 17.8.220 Ambient Air Quality Standard for Settled Particulate Matter
8. ARM 17.8.221 Ambient Air Quality Standard for Visibility
9. ARM 17.8.222 Ambient Air Quality Standard for Lead
10. ARM 17.8.223 Ambient Air Quality Standard for $PM_{10}$

Smurfit-Stone must comply with all applicable ambient air quality standards.

C. ARM 17.8, Subchapter 3 – Emission Standards, including, but not limited to:

1. ARM 17.8.304 Visible Air Contaminants. This rule requires that no person may cause or authorize emissions to be discharged to an outdoor atmosphere from any source installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes.

2. ARM 17.8.308 Particulate Matter, Airborne. (1) This rules requires an opacity limitation of less than 20% for all fugitive emission sources and that reasonable precautions be taken to control emissions of airborne particulate matter. (2) Under this rule, Smurfit-Stone shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter.

3. ARM 17.8.309 Particulate Matter, Fuel Burning Equipment. This rule requires that no person shall cause, allow, or permit to be discharged into the atmosphere particulate matter caused by the combustion of fuel in excess of the amount determined by this rule.

4. ARM 17.8.310 Particulate Matter, Industrial Process. This rule requires that no person shall cause, allow, or permit to be discharged into the atmosphere particulate matter in excess of amount set forth in this rule.

5. ARM 17.8.316 Incinerators. This rule requires that no person may cause of authorize emissions to be discharged into the outdoor atmosphere from any incinerator, particulate matter in excess of 0.10 grains per standard cubic foot of dry flue gas, adjusted to 12% carbon dioxide and calculated as if no auxiliary fuel had been used. Further, no person shall cause or authorize to be discharged into the outdoor atmosphere from any incinerator emissions that exhibit an opacity of 10% or greater averaged over 6 consecutive minutes.

6. ARM 17.8.321 Kraft Pulp Mill. This rule applies to Kraft Pulp Mills operated in Montana. The rule contains exceptions to the opacity standards contained in this chapter, as well as additional requirement for Kraft Pulp Mills. Smurfit-Stone is required to comply with the requirements of the Kraft Pulp Mill rule.

7. ARM 17.8.322 Sulfur Oxide Emissions – Sulfur in Fuel. (4) Commencing July 1, 1972, no person shall burn liquid or solid fuels containing sulfur in excess of 1 pound of sulfur per million Btu fired. (5) Commencing July 1, 1971, no person shall burn any gaseous fuel containing sulfur compounds in excess of 50 grains per 100 cubic feet of gaseous fuel, calculated as hydrogen sulfide at standard conditions.

8. ARM 17.8.324 Hydrocarbon Emissions—Petroleum Products. (3) No person shall load or permit the loading of gasoline into any stationary tank with a capacity of 250 gallons or more from any tank truck or trailer, except through a permanent submerged fill pipe, unless the tank is equipped with a vapor loss control device as described in (1) of this rule.

9. ARM 17.8.340 Standard of Performance for New Stationary Sources and Emission Guidelines for Existing Sources. This rule incorporates, by reference, 40 CFR Part 60, NSPS. Smurfit-Stone is considered an NSPS affected facility under 40 CFR Part 60 and is subject to the requirements of the following subparts:

   a. 40 CFR 60, Subpart A – General Provisions. This subpart applies to all affected equipment or facilities subject to an NSPS subpart listed below.

   b. 40 CFR 60, Subpart D – Standards of Performance Fossil Fuel Fired Steam Generators. This subpart applies to the Multi-fuel Boiler because it is a fossil-fuel-fired steam generator with a heat input capacity greater than 250 MMBtu/hr that commenced construction after August 17, 1971.

   c. 40 CFR 60, Subpart BB – Standards of Performance for Kraft Pulp Mills. This subpart would apply to the #5 Recovery Boiler, #4 Lime Kiln, and #5 Smelt Dissolving Tank because Smurfit-Stone is an kraft pulp mill and these units are listed as affected facilities that commenced construction or modification after September 24, 1976.

10. ARM 17.8.342 Emission Standards for Hazardous Air Pollutants for Source Categories. The source, as defined and applied in 40 CFR Part 63, shall comply with the requirements of 40 CFR Part 63, as listed below:

a. 40 CFR 63, Subpart A – General Provisions. This subpart applies to all equipment or facilities subject to an MACT Subpart as listed below.

b. 40 CFR 63, Subpart S – Cluster Rule for the Pulp and Paper Industry

c. 40 CFR 63, Subpart MM – National Emission Standards for Hazardous Air Pollutants for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-Alone Semichemical Pulp Mills

D. ARM 17.8, Subchapter 4 – Stack Height and Dispersion Techniques, including, but not limited to:

1. ARM 17.8.401 Definitions. This rule includes a list of definitions used in this chapter, unless indicated otherwise in a specific subchapter.

2. ARM 17.8.402 Requirements. Smurfit-Stone must demonstrate compliance with the ambient air quality standards with a stack height that does not exceed Good Engineering Practices (GEP). The proposed height of the new or altered stack for Smurfit-Stone is below the allowable 65-meter GEP stack height.

E. ARM 17.8, Subchapter 5 – Air Quality Permit Application, Operation, and Open Burning Fees, including, but not limited to:

1. ARM 17.8.504 Air Quality Permit Application Fees. This rule requires that an applicant submit an air quality permit application fee concurrent with the submittal of an air quality permit application. A permit application is incomplete until the proper application fee is paid to the Department. Smurfit-Stone submitted the appropriate permit application fee for the current permit action.

2. ARM 17.8.505 Air Quality Operation Fees. An annual air quality operation fee must, as a condition of continued operation, be submitted to the Department by each source of air contaminants holding an air quality permit, excluding an open burning permit, issued by the Department. The air quality operation fee is based on the actual or estimated actual amount of air pollutants emitted during the previous calendar year.

An air quality operation fee is separate and distinct from an air quality permit application fee. The annual assessment and collection of the air quality operation fee, described above, shall take place on a calendar-year basis. The Department may insert into any final permit issued after the effective date of these rules, such conditions as may be necessary to require the payment of an air quality operation fee on a calendar-year basis, including provisions that pro-rate the required fee amount.

F. ARM 17.8, Subchapter 7 – Permit, Construction, and Operation of Air Contaminant Sources, including, but not limited to:

1. ARM 17.8.740 Definitions. This rule is a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.

2. ARM 17.8.743 Montana Air Quality Permits – When Required. This rule requires a person to obtain an air quality permit or permit modification to construct, install, modify, or operate any air contaminant sources that have the Potential to Emit (PTE) more than 25 tons per year of any pollutant. Smurfit-Stone has s PTE greater than 25 tons per year of $PM_{10}$, $NO_x$, $SO_2$, CO and VOCs; therefore an air quality permit is required.

3. ARM 17.7.744 Montana Air Quality Permits – General Exclusions. This rule identifies the activities that are not subject to the Montana Air Quality Permit program.

4. ARM 17.8.745 Montana Air Quality Permits – Exclusion for De Minimis Changes. This rule identifies the de minimis changes at permitted facilities that do not require a permit under the Montana Air Quality Permit Program.

5. ARM 17.8.748 New or Modified Emitting Units – Permit Application Requirements. (1) This rule requires that a permit application be submitted prior to installation, alteration, or use of a source. Smurfit-Stone submitted the required permit application for the current permit action. (7) This rule requires that the applicant notify the public by means of legal publication in a newspaper of general circulation in the area affected by the application for a permit. Smurfit-Stone submitted an affidavit of publication of public notice for the October 30, 2008, issue of *The Missoulian*, a newspaper of general circulation in the City of Missoula, in Missoula County, as proof of compliance with the public notice requirements.

6. ARM 17.8.749 Conditions for Issuance or Denial of Permit. This rule requires that the permits issued by the Department must authorize the construction and operation of the facility or emitting unit subject to the conditions in the permit and the requirements of this subchapter. This rule also requires that the permit must contain any conditions necessary to assure compliance with the Federal Clean Air Act (FCAA), the Clean Air Act of Montana, and rules adopted under those acts.

7. ARM 17.8.752 Emission Control Requirements. This rule requires a source to install the maximum air pollution control capability that is technically practicable and economically feasible, except that BACT shall be utilized. The required BACT analysis is included in Section III of this permit analysis.

8. ARM 17.8.755 Inspection of Permit. This rule requires that air quality permits shall be made available for inspection by the Department at the location of the source.

9. ARM 17.8.756 Compliance with Other Requirements. This rule states that nothing in the permit shall be construed as relieving Smurfit-Stone of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq*.

10. ARM 17.8.759 Review of Permit Applications. This rule describes the Department's responsibilities for processing permit applications and making decisions on those permit applications that do not require the preparation of an environmental impact statement.

11. ARM 17.8.762 Duration of Permit. An air quality permit shall be valid until revoked or modified, as provided in this subchapter, except that a permit issued prior to construction of a new or altered source may contain a condition providing that the permit will expire unless construction is commenced within the time specified in the permit, which in no event may be less than 1 year after the permit is issued.

12. ARM 17.8.763 Revocation of Permit. An air quality permit may be revoked upon written request of the permittee, or for violations of any requirement of the Clean Air Act of Montana, rules adopted under the Clean Air Act of Montana, the FCAA, rules adopted under the FCAA, or any applicable requirement contained in the Montana SIP.

13. ARM 17.8.764 Administrative Amendment to Permit. An air quality permit may be amended for changes in any applicable rules and standards adopted by the Board of Environmental Review (Board) or changed conditions of operation at a source or stack that do not result in an increase of emissions as a result of those changed conditions. The owner or operator of a facility may not increase the facility's emissions beyond permit limits unless the increase meets the criteria in ARM 17.8.745 for a de minimis change not requiring a permit, or unless the owner or operator applies for and receives another permit in accordance with ARM 17.8.748, ARM 17.8.749, ARM 17.8.752, ARM 17.8.755, and ARM 17.8.756, and with all applicable requirements in ARM Title 17, Chapter 8, Subchapters 8, 9, and 10.

14. ARM 17.8.765 Transfer of Permit. This rule states that an air quality permit may be transferred from one person to another if written notice of Intent to Transfer, including the names of the transferor and the transferee, is sent to the Department.

15. ARM 17.8.770 Additional Requirements for Incinerators. This rule specifies the additional information that must be submitted to the Department for incineration facilities subject to 75-2-215, MCA.

G. ARM 17.8, Subchapter 8 – Prevention of Significant Deterioration of Air Quality, including, but not limited to:

1. ARM 17.8.801 Definitions. This rule is a list of applicable definitions used in this subchapter.

2. ARM 17.8.818 Review of Major Stationary Sources and Major Modifications--Source Applicability and Exemptions. The requirements contained in ARM 17.8.819 through ARM 17.8.827 shall apply to any major stationary source and any major modification with respect to each pollutant subject to regulation under the FCAA that it would emit, except as this subchapter would otherwise allow.

   Smurfit-Stone is a "major stationary source" because it is a listed source and has a PTE greater than 100 tons per year of any pollutant. This modification will not cause a net emissions increase greater than significant levels and, therefore, does not require a New Source Review (NSR) analysis. The emissions changes are as follows:

| Pollutant | Total Project Emissions Increase (TPY) | PSD Significance Level (TPY) | Significant? |
|---|---|---|---|
| PM | 13.3 | 25 | No |
| $PM_{10}$ | 13.3 | 15 | No |
| $SO_2$ | 3.9 | 40 | No |
| $NO_x$ | 36.9 | 40 | No |
| CO | 3.8 | 100 | No |
| VOC | 1.0 | 40 (for ozone) | No |

H. ARM 17.8, Subchapter 12 – Operating Permit Program Applicability, including, but not limited to:

1. ARM 17.8.1201 Definitions. (23) Major Source under Section 7412 of the FCAA is defined as any stationary source having:

   a. PTE > 100 tons/year of any pollutant;

   b. PTE > 10 tons/year of any one Hazardous Air Pollutant (HAP), PTE > 25 tons/year of a combination of all HAPs, or lesser quantity as the Department may establish by rule; or

   c. PTE > 70 tons/year of $PM_{10}$ in a serious $PM_{10}$ nonattainment area.

2. ARM 17.8.1204 Air Quality Operating Permit Program Applicability. (1) Title V of the FCAA Amendments of 1990 requires that all sources, as defined in ARM 17.8.1204 (1), obtain a Title V Operating Permit. In reviewing and issuing MAQP #2589-14 for Smurfit-Stone, the following conclusions were made:

   a. The facility's PTE is greater than 100 tons/year for $PM_{10}$, $SO_2$, $NO_x$, CO, and VOCs.

   b. The facility's PTE is greater than 10 tons/year of any one HAP and greater than 25 tons/year of all HAPs.

   c. This source is not located in a serious $PM_{10}$ nonattainment area.

   d. This facility is subject to current NSPS standards (40 CFR 60, Subparts D and BB).

   e. This facility is subject to current NESHAP standards (40 CFR 63, Subparts S and MM).

   f. This source is not a Title IV affected source.

   g. This source is not an EPA designated Title V source.

   Based on these facts, the Department has determined that Smurfit-Stone is a major source of emissions as defined under Title V. Smurfit-Stone's Title V Operating Permit #OP2589-03 was issued final and effective on November 9, 2004. Smurfit-Stone submitted an application for a significant modification to this permit on September 30, 2005 (permit application #OP2589-04) and an application for a renewal on June 9, 2006 (permit application #OP2589-05).

Operating Permit #OP2589-05, incorporating both applications, was issued as draft on November 19, 2008. Once Operating Permit #OP2589-05 is issued final and effective, the Department intends to modify Smurfit-Stone's Title V Operating permit as requested in the significant modification permit application #OP2589-06 submitted to the Department on October 30, 2008.

I. MCA 75-2-103, Definitions provides in part as follows:

1. An incinerator means any single or multiple-chambered combustion device that burns combustible material, alone or with a supplemental fuel or catalytic combustion assistance, primarily for the purpose of removal, destruction, disposal, or volume reduction of all or any portion of the input material.

2. Solid waste means all putrescible and nonputrescible solid, semisolid, liquid, or gaseous wastes including, but not limited to,... air pollution control facilities...

J. MCA 75-2-215, Solid or hazardous waste incineration -- additional permit requirements including, but not limited to, the following requirements: The Department may not issue a permit to a facility until: (d) the Department has reached a determination that the projected emissions and ambient concentrations will constitute a negligible risk to the public health, safety, and welfare and to the environment.

III. BACT Determination

A BACT determination is required for each new or altered source. Smurfit-Stone shall install on the new or altered source the maximum air pollution control capability, which is technically practicable and economically feasible, except that BACT shall be utilized.

A BACT analysis was submitted by Smurfit-Stone in permit application #2589-14, addressing some available methods of controlling particulate matter emissions from the proposed soda ash storage silo and associated pneumatic truck unloading station. The Department reviewed these methods, as well as previous BACT determinations. The following control options have been reviewed by the Department in order to make the following BACT determination.

A search of the RACT/BACT/Lowest Achievable Emission Rate (LAER) Clearinghouse was performed for bin vents. No data was found for uncontrolled bin vent sources or filters with designs that are less efficient than a baghouse. Similar processes that utilize fabric filter baghouse controlled bin vents for similar materials were found to have permit limits for $PM_{10}$ of 0.02 gr/dscf. Therefore, a fabric filter baghouse with a $PM/PM_{10}$ limit of 0.02 gr/dscf was selected as BACT for the soda ash storage silo and associated pneumatic truck unloading station.

The control options selected have controls and control costs comparable to other recently permitted similar sources and are capable of achieving the appropriate emission standards.

IV. Emission Inventory

The table below summarizes the emission increases that are associated with MAQP #2589-14. Because the soda ash will be added as a makeup chemical to the green liquor, it will be necessary to causticize the soda ash solution to convert it to white liquor. Causticizing the additional green liquor will require an increase in lime production from the kilns. Since the liquor cycle chemical makeup rate is 5 to 15%, the additional emissions from the recaustizing process (lime kilns and slakers) can reasonably be expected to increase at the same rate.

| Units[1] | Change in Emissions, TPY | | | | |
|---|---|---|---|---|---|
| | $PM/PM_{10}$ | $NO_x$ | $SO_2$ | CO | VOC |
| Soda Ash System | 1.1 | -- | -- | -- | -- |
| #3 Lime Kiln | 2.9 | -0.2 | 2.5 | -0.1 | 0.0 |
| #4 Lime Kiln | 7.6 | 37.1 | 1.4 | 3.9 | 1.0 |
| #2 Slaker | -1.1 | -- | -- | -- | -- |
| #3 Slaker | 2.8 | -- | -- | -- | -- |
| **Total:** | **13.3** | **36.9** | **3.9** | **3.8** | **1.0** |

[1] The change in emissions for existing units was determined by subtracting 2006/2007 actual emissions from the potential to emit for each unit after the installation of the soda ash system.

Previous emission inventories completed are on file with the Department.

V. Existing Air Quality

The Missoula area is currently a nonattainment area for $PM_{10}$ standards. Smurfit-Stone is a source outside the nonattainment area that has been shown to impact the area. There will be a small increase in allowable $PM_{10}$ levels under the current permit action. However, due to the relatively small change in allowable levels, the Department does not believe the current permit action will impact the designated nonattainment area. The Missoula CO nonattainment area was reclassified to attainment in August 2007.

VI. Ambient Air Monitoring Plan

Smurfit-Stone shall conduct ambient monitoring as described in Attachment 1. On July 15, 2008, the Department received a request from Smurfit-Stone to discontinue ambient monitoring of $PM_{10}$ based on past monitoring results. The Department reviewed this request and on September 30, 2008 issued a decision to discontinue $PM_{10}$ ambient monitoring at Sites #1A and #2A effective immediately. As stated in the decision, the Department retains the right to require ambient monitoring of $PM_{10}$ in the future if the Department believes there may be a violation of the standard attributed to Smurfit-Stone's Missoula Mill.

VII. Ambient Air Impact Analysis

The Department determined, due to the relatively small increase in pollutant levels, that the impacts from this permitting action will be minor. The Department believes it will not cause of contribute to a violation of any ambient air quality standard.

VIII. Takings or Damaging Implication Analysis

As required by 2-10-105, MCA, the Department conducted the following private property taking and damaging assessment.

| YES | NO | |
|---|---|---|
| X | | 1. Does the action pertain to land or water management or environmental regulation affecting private real property or water rights? |
| | X | 2. Does the action result in either a permanent or indefinite physical occupation of private property? |
| | X | 3. Does the action deny a fundamental attribute of ownership? (ex.: right to exclude others, disposal of property) |
| | X | 4. Does the action deprive the owner of all economically viable uses of the property? |
| | X | 5. Does the action require a property owner to dedicate a portion of property or to grant an easement? [If no, go to (6)]. |
| | | 5a. Is there a reasonable, specific connection between the government requirement and legitimate state interests? |
| | | 5b. Is the government requirement roughly proportional to the impact of the proposed use of the property? |
| | X | 6. Does the action have a severe impact on the value of the property? (consider economic impact, investment-backed expectations, character of government action) |
| | X | 7. Does the action damage the property by causing some physical disturbance with respect to the property in excess of that sustained by the public generally? |
| | X | 7a. Is the impact of government action direct, peculiar, and significant? |
| | X | 7b. Has government action resulted in the property becoming practically inaccessible, waterlogged or flooded? |
| | X | 7c. Has government action lowered property values by more than 30% and necessitated the physical taking of adjacent property or property across a public way from the property in question? |
| | X | Takings or damaging implications? (Taking or damaging implications exist if YES is checked in response to question 1 and also to any one or more of the following questions: 2, 3, 4, 6, 7a, 7b, 7c; or if NO is checked in response to questions 5a or 5b; the shaded areas) |

Based on this analysis, the Department determined there are no taking or damaging implications associated with this permit action.

## IX. Environmental Assessment

An environmental assessment, required by the Montana Environmental Policy Act, was completed for this project. A copy is attached.

**DEPARTMENT OF ENVIRONMENTAL QUALITY**
**Permitting and Compliance Division**
**Air Resources Management Bureau**
**P.O. Box 200901, Helena, Montana 59620**
**(406) 444-3490**

## DRAFT ENVIRONMENTAL ASSESSMENT (EA)

*Issued To*: Stone-Stone Container Enterprises, Inc.
14377 Pulp Mill Road
P.O. Box 4707
Missoula, MT 59806-4707

*Air Quality Permit Number*: 2589-14

*Preliminary Determination Issued*: 12/16/08
*Department Decision Issued*:
*Permit Final*:

1. *Legal Description of Site*: NW¼, Section 24, Township 14 North, Range 21 West, Missoula County, Montana.

2. *Description of Project*: On November 14, 2008, the Department received a complete application from Smurfit-Stone to modify MAQP #2589-13. In this application, Smurfit-Stone requested to install a 300 ton capacity soda ash storage silo with an associated pneumatic truck unloading station and mixing equipment to mix dry soda ash into a solution suitable for addition to green liquor.

3. *Objectives of Project*: To replace sodium losses in the pulping process, the mill currently uses caustic in liquid form as a make-up chemical. Caustic is becoming increasingly more expensive and difficult to acquire. In response to the increasing costs and decreasing availability of caustic, the mill intends to install a soda ash system for use as a make-up chemical.

4. *Alternatives Considered*: In addition to the proposed action, the Department also considered the "no-action" alternative. The "no-action" alternative would deny issuance of the air quality preconstruction permit to the proposed facility. However, the Department does not consider the "no-action" alternative to be appropriate because Smurfit-Stone demonstrated compliance with all applicable rules and regulations as required for permit issuance. Therefore, the "no-action" alternative was eliminated from further consideration.

5. *A Listing of Mitigation, Stipulations, and Other Controls*: A list of enforceable conditions, including a BACT analysis, would be included in MAQP #2589-14.

6. *Regulatory Effects on Private Property*: The Department considered alternatives to the conditions imposed in this permit as part of the permit development. The Department determined that the permit conditions are reasonably necessary to ensure compliance with applicable requirements and demonstrate compliance with those requirements and do not unduly restrict private property rights.

7. *The following table summarizes the potential physical and biological effects of the proposed project on the human environment. The "no-action" alternative was discussed previously.*

| | | Major | Moderate | Minor | None | Unknown | Comments Included |
|---|---|---|---|---|---|---|---|
| A | Terrestrial and Aquatic Life and Habitats | | | | X | | Yes |
| B | Water Quality, Quantity, and Distribution | | | X | | | Yes |
| C | Geology and Soil Quality, Stability and Moisture | | | X | | | Yes |
| D | Vegetation Cover, Quantity, and Quality | | | X | | | Yes |
| E | Aesthetics | | | X | | | Yes |
| F | Air Quality | | | X | | | Yes |
| G | Unique Endangered, Fragile, or Limited Environmental Resources | | | X | | | Yes |
| H | Demands on Environmental Resource of Water, Air and Energy | | | X | | | Yes |
| I | Historical and Archaeological Sites | | | | X | | Yes |
| J | Cumulative and Secondary Impacts | | | X | | | Yes |

SUMMARY OF COMMENTS ON POTENTIAL PHYSICAL AND BIOLOGICAL EFFECTS: The following comments have been prepared by the Department.

A. Terrestrial and Aquatic Life and Habitats

The area surrounding Smurfit-Stone's Missoula Mill is abundant in both wildlife and bird species. Common wildlife species that have been observed around the 2,900 acres of the mill include whitetail and mule deer, moose, fox, coyotes, raccoons, skunks, ducks, Canadian geese, osprey, pheasants, doves, nighthawks, turkey vultures, and shorebirds. No additional impact on terrestrial or aquatic habitat would be expected from the proposed project. The project would occur in an already disturbed (industrial) area.

B. Water Quality, Quantity and Distribution

Water or weak wash would be used to hydrate the soda ash for addition to the process. All water used in the process would be treated in the Mill's wastewater treatment plant before being discharged to state waters. No additional impacts to the Mill's discharge permit would be expected from this source. Therefore, the project would have only minor impacts on water quality, water quantity, and distribution.

C. Geology and Soil Quality, Stability and Moisture

Minor impacts would occur on the geology and soil quality, stability, and moisture from the proposed project because construction would be required to complete the project. However, because the project would occur at an existing industrial site in a previously disturbed area, any

impacts to the geology and soil quality, stability, and moisture from facility construction would be minor.

D. Vegetation Cover, Quantity, and Quality

This permitting action would have a minor effect on vegetation cover, quantity, and quality. The proposed project would affect an existing, industrial property that has already been disturbed. No additional vegetation on the site would be disturbed for the project. The increase in potential levels of $PM/PM_{10}$, $NO_x$, $SO_2$, CO, and VOC from historical emission levels might have a minor effect on the surrounding vegetation; however, the air quality permit associated with this project contains limitations to minimize the effect of the emissions on the surrounding environment. Overall, any impacts to vegetation cover, quantity, and quality would be minor.

E. Aesthetics

The proposed project would be constructed in an area that has previously been disturbed and already has noise associated with its operation. The construction involved in the project would be limited to the construction of the soda ash storage silo, associated pneumatic truck unloading station, and mixing equipment. Therefore, only minor impacts to aesthetics would be anticipated.

F. Air Quality

There would be air quality impacts resulting from the proposed project. The installation of the soda ash storage silo, associated pneumatic truck unloading station, and mixing equipment would result in increased $PM/PM_{10}$ emissions. In addition, there would be an increase in lime production from the kilns, resulting in additional emissions from the recaustizing process (lime kilns and slakers). The net emissions increases associated with the project would be as shown in the table below.

| | **$PM/PM_{10}$** | **$NO_x$** | **$SO_2$** | **CO** | **VOC** |
|---|---|---|---|---|---|
| **Potential Emissions Increases (TPY)** | 13.3 | 36.9 | 3.9 | 3.8 | 1.0 |

Deposition of pollutants would occur as a result of the project. However, the Department determined that any air quality impacts from deposition would be minor due relatively small amount of pollutants emitted and to the conditions that would be placed in MAQP #2589-14.

G. Unique Endangered, Fragile, or Limited Environmental Resources

In an effort to identify any unique endangered, fragile, or limited environmental resources in the area, the Department contacted the Montana Natural Heritage Program, Natural Resource Information System (NRIS). The NRIS search identified the following species of special concern located near the project area: Bald Eagle, Peregrine Falcon, Grasshopper Sparrow, Westslope Cutthroat Trout, Bull Trout, Gray Wolf, Fisher, Wolverine, Canada Lynx, and Western Skink. In this case, the project area was defined by the section, township, and range of the location with an additional 1-mile buffer zone. Because this project would occur at an existing industrial site, the Department determined that it would be unlikely that the proposed project would impact any species of special concern and that any potential impacts would be minor.

H. Demands on Environmental Resource of Water, Air and Energy

This project would not consume any significant additional energy or water resources. Further, as described in Section 7.F. of this EA, pollutant emissions generated would have minimal impacts on air quality in the immediate and surrounding area. This project would result in a

minor effect on the air resource, but resulting emissions would still be expected to comply with ambient air quality standards.

I. Historical and Archaeological Sites

This project would not disturb a greater land surface than is already occupied by the Mill and would occur within the boundaries of the Mill. The Department contacted the Montana Historical Society - State Historical Preservation Office (SHPO) in an effort to identify any historical and/or archaeological sites that may be present in the proposed area of construction and operation. SHPO conducted a cultural resource file search of the proposed area, and found no previously recorded sites within the designated search locales. It is SHPO's position that there is a low likelihood cultural properties would be impacted by this project and that a cultural resource inventory is unwarranted at this time. Therefore, no impacts to any historical and archaeological sites would be anticipated.

J. Cumulative and Secondary Impacts

Overall, the cumulative and secondary impacts from the proposed project would be minor. No additional facilities would be expected to locate in the area due to the proposed project. Impacts to air, soil, and water quality would be minimized by conditions that would be placed in MAQP #2589-14.

8. *The following table summarizes the potential economic and social effects of the proposed project on the human environment. The "no-action" alternative was discussed previously.*

| | | Major | Moderate | Minor | None | Unknown | Comments Included |
|---|---|---|---|---|---|---|---|
| A | Social Structures and Mores | | | | X | | Yes |
| B | Cultural Uniqueness and Diversity | | | | X | | Yes |
| C | Local and State Tax Base and Tax Revenue | | | | X | | Yes |
| D | Agricultural or Industrial Production | | | | X | | Yes |
| E | Human Health | | | X | | | Yes |
| F | Access to and Quality of Recreational and Wilderness Activities | | | | X | | Yes |
| G | Quantity and Distribution of Employment | | | | X | | Yes |
| H | Distribution of Population | | | | X | | Yes |
| I | Demands for Government Services | | | X | | | Yes |
| J | Industrial and Commercial Activity | | | | X | | Yes |
| K | Locally Adopted Environmental Plans and Goals | | | | X | | Yes |
| L | Cumulative and Secondary Impacts | | | X | | | Yes |

SUMMARY OF COMMENTS ON POTENTIAL ECONOMIC AND SOCIAL EFFECTS: The following comments have been prepared by the Department.

A. Social Structures and Mores

The proposed facility would not cause a disruption to any native or traditional lifestyles or communities (social structures or mores) in the area because the project would be constructed at a previously disturbed, industrial site. The proposed project would not change the nature of the site.

B. Cultural Uniqueness and Diversity

The proposed project would not cause a change in the cultural uniqueness and diversity of the area because the land is currently an industrial site (specifically, a pulp and paper mill); therefore, the land use would not be changing.

C. Local and State Tax Base and Tax Revenue

This project would have no effect on the local or state tax base or tax revenue because this project would not increase overall capacity at the Smurfit-Stone facility.

D. Agricultural or Industrial Production

The proposed project would not result in a reduction of available acreage or productivity of any agricultural land; therefore, agricultural production would not be affected. Industrial production would also not change, because overall capacity of the Smurfit-Stone facility would not be changing.

E. Human Health

As described in Section 7.F of the EA, the impacts from this facility on human health would be minor. The air quality permit for this facility incorporates conditions to ensure that the facility would be operated in compliance with all applicable rules and standards. These rules and standards are designed to be protective of human health.

F. Access to and Quality of Recreational and Wilderness Activities

This project would not result in any changes in access to and quality of recreational and wilderness activities.

G. Quantity and Distribution of Employment

The proposed project would not result in any impacts to the quantity or distribution of employment at the facility or surrounding community. No employees would be hired at the facility as a result of the project.

H. Distribution of Population

The proposed project does not involve any significant physical or operational change that would affect the location, distribution, density, or growth rate of the human population.

I. Demands for Government Services

The demands on government services would experience a minor impact. The primary demand on government services would be the acquisition of the appropriate permits by the facility (including local building permits, as necessary, and a state air quality permit) and compliance verification with those permits by government personnel.

J. Industrial and Commercial Activity

The level of industrial and commercial activity would not change because the facility would remain within historical levels of production.

K. Locally Adopted Environmental Plans and Goals

The Missoula City-County Air Pollution Control Program is an active Air Pollution Control Program that will be provided a copy of the Department's preliminary determination and associated environmental assessment. The proposed permit would not affect the locally adopted environmental plans and goals.

L. Cumulative and Secondary Impacts

Overall, the cumulative and secondary impacts from this project on the social and economic aspects of the human environment would be minor. Health impacts of the facility might see a minor impact due to the small increase in actual emissions. The project is associated with an existing facility and would not change the culture or character of the area.

Recommendation: No Environmental Impact Statement (EIS) is required.

If an EIS is not required, explain why the EA is an appropriate level of analysis: The current permitting action is for the construction and operation of a soda ash storage silo, associated pneumatic truck unloading station, and mixing equipment. MAQP #2589-14 includes conditions and limitations to ensure the facility will operate in compliance with all applicable rules and regulations. In addition, there are no significant impacts associated with this proposal.

Other groups or agencies contacted or which may have overlapping jurisdiction: Montana Historical Society – State Historic Preservation Office, Natural Resource Information System – Montana Natural Heritage Program

Individuals or groups contributing to this EA: Department of Environmental Quality – Air Resources Management Bureau, Montana Historical Society – State Historic Preservation Office, Natural Resource Information System – Montana Natural Heritage Program

EA prepared by: Moriah Peck, P.E.
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