

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES

MISSOURI CLEAN WATER COMMISSION



MISSOURI STATE OPERATING PERMIT

In compliance with the Missouri Clean Water Law, (Chapter 644 R.S. Mo. as amended, hereinafter, the Law), and the Federal Water Pollution Control Act (Public Law 92-500, 92nd Congress) as amended,

Permit No. MO-0122718

Owner: Domtar Paper Company, LLC
Address: Attn: Wood Proc., P.O. Box 130, Hawesville, KY 42348

Continuing Authority: Same as above
Address: Same as above

Facility Name: Mill Spring Wood Recovery
Facility Address: Hwy 49, Mill Spring, MO 63952

Legal Description: NW ¼, NE ¼, Sec. 35, T28N, R3E, Wayne County
UTM Coordinates: X=704989, Y=4104379

Receiving Stream: Black River (P)
First Classified Stream and ID: Black River (P)(02784)(303 d)
USGS Basin & Sub-watershed No.: (11010007-0605)

is authorized to discharge from the facility described herein, in accordance with the effluent limitations and monitoring requirements as set forth herein:

FACILITY DESCRIPTION

Outfall #001 - SIC #2499 –The use or operation of this facility does not require the supervision of a **Certified Operator**. Stormwater runoff from plant complex. Design flow is greater than 1 MGD. Actual flow based on precipitation and averages .034 MGD when discharge occurs.

This permit authorizes only wastewater discharges under the Missouri Clean Water Law and the National Pollutant Discharge Elimination System; it does not apply to other regulated areas. This permit may be appealed in accordance with Section 644.051.6 of the Law.

March 30, 2012
Effective Date

Sara Parker Pauley, Director, Department of Natural Resources

March 29, 2017
Expiration Date

Jackie W. Baker, Environmental Section Chief, Southeast Regional Office

| A. INTERIM EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS | | | | | PAGE NUMBER 2 of 7 | |
|--|------------|------------------------------|----------------|-----------------|--------------------------|-----------------|
| | | | | | PERMIT NUMBER MO-0122718 | |
| The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The interim effluent limitations shall become effective upon issuance and remain in effect until one year from issuance of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below: | | | | | | |
| OUTFALL NUMBER AND EFFLUENT PARAMETER(S) | UNITS | INTERIM EFFLUENT LIMITATIONS | | | MONITORING REQUIREMENTS | |
| | | DAILY MAXIMUM | WEEKLY AVERAGE | MONTHLY AVERAGE | MEASUREMENT FREQUENCY | SAMPLE TYPE |
| <u>Outfall #001</u> | | | | | | |
| Flow | MGD | * | | * | once/quarter*** | 24 hr. estimate |
| pH – Units | SU | ** | | ** | once/quarter*** | grab |
| Total Suspended Solids | mg/L | 70 | | 70 | once/quarter*** | grab |
| Chemical Oxygen Demand ₅ | mg/L | 120 | | 90 | once/quarter*** | grab |
| Oil and Grease | mg/L | 15 | | 10 | once/quarter*** | grab |
| Phenol | µg/L | 1000 | | 1000 | once/quarter*** | grab |
| Ammonia as N | mg/L | * | | * | once/quarter*** | grab |
| Aluminum, Total Recoverable | µg/L | * | | * | once/quarter*** | grab |
| MONITORING REPORTS SHALL BE SUBMITTED <u>Quarterly</u> ; THE FIRST REPORT IS DUE <u>July 28, 2012</u> . | | | | | | |
| Whole Effluent Toxicity (WET) Test | % Survival | See Special Condition #11 | | Once/permit | grab | |
| MONITORING REPORTS SHALL BE SUBMITTED <u>Once/5 years</u> ; THE FIRST REPORT IS DUE <u>January 28, 2017</u> . | | | | | | |
| B. STANDARD CONDITIONS | | | | | | |
| IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED <u>Part I</u> STANDARD CONDITIONS DATED <u>October 1, 1980</u> , AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN. | | | | | | |

A. INTERIM EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

- * Monitoring requirement only.
- ** pH is measured in pH units and is not to be averaged. The pH is limited to the range of 6.0-9.0 pH units.
- *** See table below for quarterly sampling reporting:

| | |
|---|----------------|
| Sample discharge at least once for the months of: | Report is due: |
| January, February, March (1 st Quarter) | April 28 |
| April, May, June (2 nd Quarter) | July 28 |
| July, August, September (3 rd Quarter) | October 28 |
| October, November, December (4 th Quarter) | January 28 |

| A. FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS | | | | | PAGE NUMBER 3 of 7 | |
|---|------------|----------------------------|----------------|-----------------|--------------------------|-----------------|
| | | | | | PERMIT NUMBER MO-0122718 | |
| The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective one year from issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below: | | | | | | |
| OUTFALL NUMBER AND EFFLUENT PARAMETER(S) | UNITS | FINAL EFFLUENT LIMITATIONS | | | MONITORING REQUIREMENTS | |
| | | DAILY MAXIMUM | WEEKLY AVERAGE | MONTHLY AVERAGE | MEASUREMENT FREQUENCY | SAMPLE TYPE |
| <u>Outfall #001</u> Flow | MGD | * | | * | once/quarter*** | 24 hr. estimate |
| pH – Units | SU | ** | | ** | once/quarter*** | grab |
| Total Suspended Solids | mg/L | 70 | | 70 | once/quarter*** | grab |
| Chemical Oxygen Demand ₅ | mg/L | 120 | | 90 | once/quarter*** | grab |
| Oil and Grease | mg/L | 15 | | 10 | once/quarter*** | grab |
| Phenol | µg/L | 327 | | 177 | once/quarter*** | grab |
| Ammonia as N | mg/L | 39.5 | | 15.1 | once/quarter*** | grab |
| Aluminum, Total Recoverable | µg/L | * | | * | once/quarter*** | grab |
| MONITORING REPORTS SHALL BE SUBMITTED <u>Quarterly</u> ; THE FIRST REPORT IS DUE <u>July 28, 2013</u> . | | | | | | |
| Whole Effluent Toxicity (WET) Test | % Survival | See Special Condition #11 | | | Once/permit | grab |
| MONITORING REPORTS SHALL BE SUBMITTED <u>Once/5 years</u> ; THE FIRST REPORT IS DUE <u>January 28, 2017</u> . | | | | | | |
| B. STANDARD CONDITIONS | | | | | | |
| IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED <u>Part I</u> STANDARD CONDITIONS DATED <u>October 1, 1980</u> , AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN. | | | | | | |

A. FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

- * Monitoring requirement only.
- ** pH is measured in pH units and is not to be averaged. The pH is limited to the range of 6.5-9.0 pH units.
- *** See table below for quarterly sampling reporting:

| Sample discharge at least once for the months of: | Report is due: |
|---|----------------|
| January, February, March (1 st Quarter) | April 28 |
| April, May, June (2 nd Quarter) | July 28 |
| July, August, September (3 rd Quarter) | October 28 |
| October, November, December (4 th Quarter) | January 28 |

C. SPECIAL CONDITIONS

1. Report as no-discharge when a discharge does not occur during the report period.
2. The permittee shall develop and implement a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP must be kept on-site and should not be sent to DNR unless specifically requested. The permittee shall select, install, use, operate, and maintain the Best Management Practices prescribed in the SWPPP in accordance with the concepts and methods described in the following document:

Developing Your Stormwater Pollution Prevention Plan, A Guide for Industrial Operators, (Document number EPA 833-B-09-002) published by the United States Environmental Protection Agency (USEPA) in February 2009.

The SWPPP must include the following:

- (a) An assessment of all storm water discharges associated with this facility. This must include a list of potential contaminants and an annual estimate of amounts that will be used in the described activities.
- (b) A listing of specific Best Management Practices (BMPs) and a narrative explaining how BMPs will be implemented to control and minimize the amount of potential contaminants that may enter storm water. Minimum BMPs are listed in SPECIAL CONDITIONS #3 below.

C. SPECIAL CONDITIONS (continued)

- (c) The SWPPP must include a schedule for monthly site inspections and a brief written report. The inspections must include observation and evaluation of BMP effectiveness, deficiencies, and corrective measures that will be taken. The Department must be notified within fifteen (15) days by letter of any corrections of deficiencies. Deficiencies that consist of minor repairs or maintenance must be corrected within seven (7) days. Deficiencies that require additional time or installation of a treatment device to correct should be detailed in the written notification. Installation of a treatment device, such as an oil water separator, may require a construction permit. Inspection reports must be kept on site with the SWPPP. These must be made available to DNR personnel upon request.
- (d) A provision for designating an individual to be responsible for environmental matters.
- (e) A provision for providing training to all personnel involved in material handling and storage, and housekeeping of maintenance and cleaning areas. Proof of training shall be submitted on request of DNR.

3. Permittee shall adhere to the following minimum Best Management Practices:

- (a) Prevent the spillage or loss of fluids, oil, grease, fuel, etc. from vehicle maintenance, equipment cleaning, or warehouse activities and thereby prevent the contamination of storm water from these substances.
- (b) Provide collection facilities and arrange for proper disposal of waste products including but not limited to petroleum waste products, and solvents.
- (c) Store all paint, solvents, petroleum products and petroleum waste products (except fuels), and storage containers (such as drums, cans, or cartons) so that these materials are not exposed to storm water or provide other prescribed BMP's such as plastic lids and/or portable spill pans to prevent the commingling of storm water with container contents. Commingled water may not be discharged under this permit. Provide spill prevention control, and/or management sufficient to prevent any spills of these pollutants from entering waters of the state. Any containment system used to implement this requirement shall be constructed of materials compatible with the substances contained and shall also prevent the contamination of groundwater.
- (d) Provide good housekeeping practices on the site to keep solid waste from entry into waters of the state.
- (e) Provide sediment and erosion control sufficient to prevent or control sediment loss off of the property.
- (f) Wood chips, bark, and fines shall be managed to control the amount of precipitation that is allowed to infiltrate and keep it to a minimum.
- (g) There shall be no wood waste, bark scrap, or any other processed wood materials discharged from the plant complex and there shall be no process wastewater discharged from the debarking operation.

4. The purpose of the SWPPP and the BMPs listed therein is to prevent pollutants from entering waters of the state. A deficiency of a BMP means it was not effective in preventing pollution [10 CSR20-2.010(56)] of waters of the state, or failed to achieve compliance with benchmarks. Corrective action means the facility took steps to eliminate the deficiency.

5. All spills must be **cleaned up** within 24 hours or as soon as possible, and a written report of the incident supplied with the facility's Discharge Monitoring Report. The following spills must be **reported** to the department at the earliest practicable moment, but no greater than 24 hours after the spill occurs:

- (a) Any spill, of any material, that leaves the property of the facility;
- (b) Any spill, of any material outside of secondary containment and exposed to precipitation, greater than 25 gallons or equivalent volume of solid material.

The department may require the submittal of a written report detailing measures taken to clean up the spill within 5 days of the spill. Whether the written report is submitted with the Discharge Monitoring Report or required to be submitted within 5 days, it must include the type of material spilled, volume, date of spill, date clean-up completed, clean-up method, and final disposal method. If the spill occurs outside of normal business hours, or if the permit holder cannot reach regional office staff for any reason, the permit holder is instructed to report the spill to the department's 24 hour Environmental Emergency Response hotline at (573) 634-2436. Leaving a message on a department staff member voice-mail does not satisfy this reporting requirement. These reporting requirements apply whether or not the spill results in chemicals or materials leaving the permitted property or reaching waters of the state. This requirement is in addition to the Noncompliance Reporting requirement found in Standard Conditions Part I.

Federal Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities. The toll free number for the US Coast Guard National Response Center is (800) 424-8802.

6. This permit may be reopened and modified, or alternatively revoked and reissued, to:

- (a) Comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a) (2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:
 - (1) contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
 - (2) controls any pollutant not limited in the permit.
- (b) Incorporate new or modified effluent limitations or other conditions, if the result of a waste load allocation study, toxicity test or other information indicates changes are necessary to assure compliance with Missouri's Water Quality Standards.

C. SPECIAL CONDITIONS (continued)

- (c) Incorporate new or modified effluent limitations or other conditions if, as the result of a watershed analysis, a Total Maximum Daily Load (TMDL) limitation is developed for the receiving waters which are currently included in Missouri's list of waters of the state not fully achieving the state's water quality standards, also called the 303(d) list.

The permit as modified or reissued under this paragraph shall also contain any other requirements of the Clean Water Act then applicable.

7. Water Quality Standards

- (a) Discharges to waters of the state shall not cause a violation of water quality standards rule under 10 CSR 20-7.031, including both specific and general criteria.
- (b) General Criteria. The following general water quality criteria shall be applicable to all waters of the state at all times including mixing zones. No water contaminant, by itself or in combination with other substances, shall prevent the waters of the state from meeting the following conditions:
 - (1) Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses;
 - (2) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses;
 - (3) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses;
 - (4) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life;
 - (5) There shall be no significant human health hazard from incidental contact with the water;
 - (6) There shall be no acute toxicity to livestock or wildlife watering;
 - (7) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community;
 - (8) Waters shall be free from used tires, car bodies, appliances, demolition debris, used vehicles or equipment and solid waste as defined in Missouri's Solid Waste Law, section 260.200, RSMo, except as the use of such materials is specifically permitted pursuant to section 260.200-260.247.

8. All outfalls must be clearly marked in the field.

9. Changes in Discharges of Toxic Substances

The permittee shall notify the Director as soon as it knows or has reason to believe:

- (a) That any activity has occurred or will occur which would result in the discharge of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels:"
 - (1) One hundred micrograms per liter (100 µg/L);
 - (2) Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/L) for 2,5 dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
 - (3) Five (5) times the maximum concentration value reported for the pollutant in the permit application;
 - (4) The level established in Part A of the permit by the Director.
- (b) That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant, which was not reported in the permit application.

10. It is a violation of the Missouri Clean Water Law to fail to pay fees associated with this permit (644.055 RSMo).

11. Whole Effluent Toxicity Test (WET Test)

| SUMMARY OF ACUTE WET TESTING FOR THIS PERMIT | | | | |
|--|-----|--------------|-------------|---|
| OUTFALL | AEC | FREQUENCY | SAMPLE TYPE | MONTH |
| 001 | 30% | Once/5 years | Grab* | Any Month in 2016 (Report by January 28, 2017) |

* Storm water samples shall be collected within the first 60 minutes of storm events of 0.1 inches or greater, that result in a discharge. Storm events include rainfall as well as run-off from the melting of frozen precipitation.

C. SPECIAL CONDITIONS (continued)

| Dilution Series | | | | | | | |
|-----------------|------------------|-----------------|-----------------|-------------------|-------------------|--|--|
| AEC 30% | 100% effluent | 50% effluent | 25% effluent | 12.5% effluent | 6.25% effluent | (Control) 100% upstream, if available | (Control) 100% Lab Water, also called synthetic water |

(a) Test Schedule and Follow-Up Requirements

- (1) Perform a MULTIPLE-dilution acute WET test in the months and at the frequency specified above. For tests which are successfully passed, submit test results using the Department's WET test report form #MO-780-1899 along with complete copies of the test reports as received from the laboratory, including copies of chain-of-custody forms within 30 calendar days of availability to the WATER PROTECTION PROGRAM, P.O. Box 176, Jefferson City, MO 65102. If the effluent passes the test, do not repeat the test until the next test period.
 - (a) Chemical and physical analysis of the upstream control and effluent sample shall occur immediately upon being received by the laboratory, prior to any manipulation of the effluent sample beyond preservation methods consistent with federal guidelines for WET testing that are required to stabilize the sample during shipping.
 - (b) Any and all chemical or physical analysis of the effluent sample performed in conjunction with the WET test shall be performed at the 100% Effluent concentration in addition to analysis performed upon any other effluent concentration.
 - (c) All chemical analyses included in the Missouri Department of Natural Resources WET test report form #MO-780-1899 shall be performed and results shall be recorded in the appropriate field of the report form.
- (2) The WET test will be considered a failure if mortality observed in effluent concentrations for either specie, equal to or less than the AEC, is significantly different (at the 95% confidence level; $p = 0.05$) than that observed in the upstream receiving-water control sample. Where upstream receiving water is not available, synthetic laboratory control water may be used.
- (3) All failing test results along with complete copies of the test reports as received from the laboratory, INCLUDING THOSE TESTS CONDUCTED UNDER CONDITION (3) BELOW, shall be reported to the WATER PROTECTION PROGRAM, P.O. Box 176, Jefferson City, MO 65102 within 14 calendar days of the availability of the results.
- (4) If the effluent fails the test for BOTH test species, a multiple dilution test shall be performed for BOTH test species within 30 calendar days and biweekly thereafter (for storm water, tests shall be performed on the next and subsequent storm water discharges as they occur, but not less than 7 days apart) until one of the following conditions are met:
 Note: Written request regarding single species multiple dilution accelerated testing will be address by THE WATER PROTECTION PROGRAM on a case by case basis.
 - (i) THREE CONSECUTIVE MULTIPLE-DILUTION TESTS PASS. No further tests need to be performed until next regularly scheduled test period.
 - (ii) A TOTAL OF THREE MULTIPLE-DILUTION TESTS FAIL.
- (5) Follow-up tests do not negate an initial failed test.
- (6) The permittee shall submit a summary of all test results for the test series along with complete copies of the test reports as received from the laboratory to the WATER PROTECTION PROGRAM, P.O. Box 176, Jefferson City, MO 65102 within 14 calendar days of the third failed test.
- (7) Additionally, the following shall apply upon failure of the third follow up MULTIPLE DILUTION test The permittee should contact THE WATER PROTECTION PROGRAM within 14 calendar days from availability of the test results to ascertain as to whether a TIE or TRE is appropriate. If the permittee does not contact THE WATER PROTECTION PROGRAM upon the third follow up test failure, a toxicity identification evaluation (TIE) or toxicity reduction evaluation (TRE) is automatically triggered. The permittee shall submit a plan for conducting a TIE or TRE to the WATER PROTECTION PROGRAM within 60 calendar days of the date of the automatic trigger or DNR's direction to perform either a TIE or TRE. This plan must be approved by DNR before the TIE or TRE is begun. A schedule for completing the TIE or TRE shall be established in the plan approval.
- (8) Upon DNR's approval, the TIE/TRE schedule may be modified if toxicity is intermittent during the TIE/TRE investigations. A revised WET test schedule may be established by DNR for this period.
- (9) If a previously completed TIE has clearly identified the cause of toxicity, additional TIEs will not be required as long as effluent characteristics remain essentially unchanged and the permittee is proceeding according to a DNR approved schedule to complete a TRE and reduce toxicity. Regularly scheduled WET testing as required in the permit, without the follow-up requirements, will be required during this period.
- (10) When WET test sampling is required to run over one DMR period, each DMR report shall contain a copy of the Department's WET test report form that was generated during the reporting period.
- (11) Submit a concise summary in tabular format of all WET test results with the annual report.

C. SPECIAL CONDITIONS (continued)

(b) Test Conditions

- (1) Test Type: Acute Static non-renewal
- (2) All tests, including repeat tests for previous failures, shall include both test species listed below unless approved by the department on a case by case basis.
- (3) Test species: *Ceriodaphnia dubia* and *Pimephales promelas* (fathead minnow). Organisms used in WET testing shall come from cultures reared for the purpose of conducting toxicity tests and cultured in a manner consistent with the most current USEPA guidelines. All test animals shall be cultured as described in the most current edition of Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms.
- (4) Test period: 48 hours at the "Allowable Effluent Concentration" (AEC) specified above.
- (5) Upstream receiving stream water shall be used as dilution water. If upstream water is unavailable or if mortality in the upstream water exceeds 10%, "reconstituted" water will be used as dilution water. Procedures for generating reconstituted water will be supplied by the MDNR upon request.
- (6) Tests will be run with 100% receiving-stream water (if available), collected upstream of the outfall at a point beyond any influence of the effluent, and reconstituted water.
- (7) If reconstituted-water control mortality for a test species exceeds 10%, the entire test will be rerun.
- (8) If upstream control mortality exceeds 10%, the entire test will be rerun using reconstituted water as the dilutant.
- (9) Whole-effluent-toxicity test shall be consistent with the most current edition of Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms

Missouri Department of Natural Resources
FACT SHEET
FOR THE PURPOSE OF RENEWAL
OF
MO-0122718
MILL SPRING WOOD RECOVERY

The Federal Water Pollution Control Act ("Clean Water Act" Section 402 Public Law 92-500 as amended) established the National Pollution Discharge Elimination System (NPDES) permit program. This program regulates the discharge of pollutants from point sources into the waters of the United States, and the release of storm water from certain point sources. All such discharges are unlawful without a permit (Section 301 of the "Clean Water Act"). After a permit is obtained, a discharge not in compliance with all permit terms and conditions is unlawful. Missouri State Operating Permits (MSOPs) are issued by the Director of the Missouri Department of Natural Resources (Department) under an approved program, operating in accordance with federal and state laws (Federal "Clean Water Act" and "Missouri Clean Water Law" Section 644 as amended). MSOPs are issued for a period of five (5) years unless otherwise specified.

As per [40 CFR Part 124.8(a)] and [10 CSR 20-6.020(1)2.] a Factsheet shall be prepared to give pertinent information regarding the applicable regulations, rationale for the development of effluent limitations and conditions, and the public participation process for the Missouri State Operating Permit (operating permit) listed below.

A Factsheet is not an enforceable part of an operating permit.

This Factsheet is for a Major , Minor , Industrial Facility ; Variance ;
 Master General Permit ; General Permit Covered Facility ; and/or permit with widespread public interest .

Part I – Facility Information

Facility Address: Hwy 49, Mill Spring, MO 63952
 Facility Type: IND
 Facility SIC Code(s): 2499

Facility Description:

Outfall #001 - SIC #2499 –The use or operation of this facility does not require the supervision of a Certified Operator. Stormwater runoff from plant complex. Design flow is greater than 1 MGD. Actual flow based on precipitation and averages .034 MGD when discharge occurs.

Application Date: September 29, 2011

Expiration Date: March 1, 2012

Last Inspection: November 22, 2011

In Compliance ;

Non-Compliance

OUTFALL(S) TABLE:

| OUTFALL | DESIGN FLOW (CFS) | TREATMENT LEVEL | EFFLUENT TYPE | DISTANCE TO CLASSIFIED SEGMENT (MI) |
|---------|-------------------|-----------------|-------------------|-------------------------------------|
| 001 | 1.5 | Settling/BMP's | Stormwater runoff | 0 |

Outfall #001

Legal Description: NW ¼, NE ¼, Sec. 35, T28N, R3E, Wayne County
 UTM Coordinates: X=704989, Y=4104379

Receiving Stream: Black River (P)
 First Classified Stream and ID: Black River (P)(02784)(303 d)
 USGS Basin & Sub-watershed No.: (11010007-0605)

Comments:

Facility processes round wood into chips for pulping. Facility has not been in production for some time. Substantial quantities of material are currently not stored on site. Some equipment has been dismantled and removed.

Part II – Operator Certification Requirements

As per [10 CSR 20-6.010(8) Terms and Conditions of a Permit], permittees shall operate and maintain facilities to comply with the Missouri Clean Water Law and applicable permit conditions and regulations. Operators or supervisors of operations at regulated wastewater treatment facilities shall be certified in accordance with [10 CSR 20-9.020(2)] and any other applicable state law or regulation. As per [10 CSR 20-9.010(2)(A)], requirements for operation by certified personnel shall apply to all wastewater treatment systems, if applicable, as listed below:

Check boxes below that are applicable to the facility;

- Owned or operated by or for:
 - Municipalities
 - Public Sewer District:
 - County
 - Public Water Supply Districts:
 - Private sewer company regulated by the Public Service Commission:
 - State or Federal agencies:

Each of the above entities are only applicable if they have a Population Equivalent greater than two hundred (200) and/or fifty (50) or more service connections.

Not Applicable ; This facility is not required to have a certified operator.

Part III – Receiving Stream Information

APPLICABLE DESIGNATIONS OF WATERS OF THE STATE:

As per Missouri’s Effluent Regulations [10 CSR 20-7.015], the waters of the state are divided into the below listed seven (7) categories. Each category list effluent limitations for specific parameters, which are presented in each outfall’s Effluent Limitation Table and further discussed in the Derivation & Discussion of Limits section.

- Missouri or Mississippi River [10 CSR 20-7.015(2)]: Yes ; No
- Lake or Reservoir [10 CSR 20-7.015(3)]: Yes ; No
- Losing [10 CSR 20-7.015(4)]: Yes ; No
- Metropolitan No-Discharge [10 CSR 20-7.015(5)]: Yes ; No
- Special Stream [10 CSR 20-7.015(6)]: Yes ; No
- Subsurface Water [10 CSR 20-7.015(7)]: Yes ; No
- All Other Waters [10 CSR 20-7.015(8)]: Yes ; No

10 CSR 20-7.031 Missouri Water Quality Standards, the department defines the Clean Water Commission water quality objectives in terms of "water uses to be maintained and the criteria to protect those uses." The receiving stream and/or 1st classified receiving stream’s beneficial water uses to be maintained are located in the Receiving Stream Table located below in accordance with [10 CSR 20-7.031(3)].

RECEIVING STREAM(S) TABLE:

| WATERBODY NAME | CLASS | WBID | DESIGNATED USES* | 8-DIGIT HUC | EDU** |
|----------------|-------|------|--|-------------|-------------------------|
| Black River | P | 2784 | IRR, LWW, AQL, CLF, SCR, DWS, WBC (A)*** | 11010007 | Upper Black River Basin |

* - Irrigation (IRR), Livestock & Wildlife Watering (LWW), Protection of Warm Water Aquatic Life and Human Health-Fish Consumption (AQL), Cool Water Fishery(CLF), Cold Water Fishery (CDF), Whole Body Contact Recreation (WBC), Secondary Contact Recreation (SCR), Drinking Water Supply (DWS), Industrial (IND).

** - Ecological Drainage Unit

*** - UAA has not been conducted.

RECEIVING STREAM(S) LOW-FLOW VALUES TABLE:

| RECEIVING STREAM (U, C, P) | LOW-FLOW VALUES (CFS) | | |
|---|-----------------------|------|-------|
| | 1Q10 | 7Q10 | 30Q10 |
| USGS Gauge Station (See discussion below) | 135 | 130 | 157 |

Data from USGS Gauge Station 07062500 located on Black River at Leeper, Missouri is approximately 0.5 miles downstream of Mill Spring Wood Recovery’s discharge. The data was used to calculate the 1Q10, 7Q10, and 30Q10 flows for that location utilizing a Log-Person Type III Probability Distribution and are listed above.

MIXING CONSIDERATIONS TABLE

| MIXING ZONE (CFS) [10 CSR 20-7.031(4)(A)4.B.(III)(a)] | | | ZONE OF INITIAL DILUTION (CFS) [10 CSR 20-7.031(4)(A)4.B.(III)(b)] | | |
|--|------|-------|---|------|-------|
| 1Q10 | 7Q10 | 30Q10 | 1Q10 | 7Q10 | 30Q10 |
| 34 | 32 | 39 | 3.4 | 3.3 | 3.9 |

10 CSR 20-7.031(4)(A)4.B.(III)(a) Streams with seven (7)-day Q_{10} low flow of greater than twenty (20) cfs, the allowable mixing zone is (1/4) of the stream width, cross-sectional area or volume of flow; length of one-quarter (1/4) mile; and
10 CSR 20-7.031(4)(A)4.B.(III)(b) Zone of initial dilution is one tenth (0.1) of the mixing zone width, cross-sectional area or volume of flow and no more than ten (10) times the effluent design flow volume unless the use of diffusers or specific mixing zone studies can justify more dilution.

RECEIVING STREAM MONITORING REQUIREMENTS:

No receiving water monitoring requirements recommended at this time.

Part IV – Rationale and Derivation of Effluent Limitations & Permit Conditions

Finding of Affordability

Pursuant to Section 644.145, RSMo., the Department is required to determine whether a permit or decision is affordable and make a finding of affordability for each permit or decision. This requirement applies to discharges from combined or separate sanitary sewer systems or publicly-owned treatment works.

Not Applicable;

The Department is not required to determine findings of affordability because the facility is not a **combined or separate sanitary sewer system or a publicly-owned treatment works**.

ALTERNATIVE EVALUATIONS FOR NEW FACILITIES:

As per [10 CSR 20-7.015(4)(A)], discharges to losing streams shall be permitted only after other alternatives including land application, discharges to a gaining stream and connection to a regional wastewater treatment facility have been evaluated and determined to be unacceptable for environmental and/or economic reasons.

Not Applicable .

The facility does not discharge to a Losing Stream as defined by [10 CSR 20-2.010(36)] & [10 CSR 20-7.031(1)(N)], or is an existing facility.

ANTI-BACKSLIDING:

A provision in the Federal Regulations [CWA §303(d)(4); CWA §402(c); 40 CFR Part 122.44(I)] that requires a reissued permit to be as stringent as the previous permit with some exceptions.

- All limits in this operating permit are at least as protective as those previously established; therefore, backsliding does not apply.

ANTIDEGRADATION:

In accordance with Missouri's Water Quality Standard [10 CSR 20-7.031(2)], the department is to document by means of Antidegradation Review that the use of a water body's available assimilative capacity is justified. Degradation is justified by documenting the socio-economic importance of a discharging activity after determining the necessity of the discharge.

- Renewal no degradation proposed and no further review necessary.

APPLICABLE PERMIT PARAMETERS:

Effluent parameters contained in Factsheets and Missouri State Operating Permits are obtained from Technology Based Effluent Limit (TBEL), Missouri's Effluent Regulations [10 CSR 20-7.015], Missouri's Water Quality Standards [10 CSR 20-7.031], previous Missouri State Operating Permits, and from Operating Permit Applications.

AREA-WIDE WASTE TREATMENT MANAGEMENT & CONTINUING AUTHORITY:

As per [10 CSR 20-6.010(3)(B)], ...An applicant may utilize a lower preference continuing authority by submitting, as part of the application, a statement waiving preferential status from each existing higher preference authority, providing the waiver does not conflict with any area-wide management plan approved under section 208 of the Federal Clean Water Act or any other regional sewage service and treatment plan approved for higher preference authority by the Department.

BIO-SOLIDS, SLUDGE, & SEWAGE SLUDGE:

Biosolids are solid materials resulting from domestic wastewater treatment that meet federal and state criteria for beneficial uses (i.e. fertilizer). Sewage sludge is solids, semi-solids, or liquid residue generated during the treatment of domestic sewage in a treatment works; including but not limited to, domestic septage; scum or solids removed in primary, secondary, or advanced wastewater treatment process; and a material derived from sewage sludge. Sewage sludge does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator or grit and screening generated during preliminary treatment of domestic sewage in a treatment works. Additional information regarding biosolids and sludge is located at the following web address:

<http://dnr.mo.gov/env/wpp/pub/index.html>, items WQ422 through WQ449.

Not Applicable ; This condition is not applicable to the permittee for this specific facility.

COMPLIANCE AND ENFORCEMENT:

Enforcement is the action taken by the Water Protection Program (WPP) to bring an entity into compliance with the Missouri Clean Water Law, its implementing regulations, and/or any terms and conditions of an operating permit. The primary purpose of the enforcement activity in the WPP is to resolve violations and return the entity to compliance.

Not Applicable ;

The permittee/facility is not currently under Water Protection Program enforcement action.

PRETREATMENT PROGRAM:

The reduction of the amount of pollutants, the elimination of pollutants, or the alteration of the nature of pollutant properties in wastewater prior to or in lieu of discharging or otherwise introducing such pollutants into a Publicly Owned Treatment Works [40 CFR Part 403.3(q)].

Pretreatment programs are required at any POTW (or combination of POTW operated by the same authority) and/or municipality with a total design flow greater than 5.0 MGD and receiving industrial wastes that interfere with or pass through the treatment works or are otherwise subject to the pretreatment standards. Pretreatment programs can also be required at POTWs/municipals with a design flow less than 5.0 MGD if needed to prevent interference with operations or pass through.

Several special conditions pertaining to the permittee's pretreatment program may be included in the permit, and are as follows:

- Implementation and enforcement of the program,
- Annual pretreatment report submittal,
- Submittal of list of industrial users,
- Technical evaluation of need to establish local limitations, and
- Submittal of the results of the evaluation

Not Applicable ;

The permittee, at this time, is not required to have a Pretreatment Program or does not have an approved pretreatment program.

REASONABLE POTENTIAL ANALYSIS (RPA):

Federal regulation [40 CFR Part 122.44(d)(1)(i)] requires effluent limitations for all pollutants that are or may be discharged at a level that will cause or have the reasonable potential to cause or contribute to an in-stream excursion above narrative or numeric water quality standard.

In accordance with [40 CFR Part 122.44(d)(iii)] if the permit writer determines that any give pollutant has the reasonable potential to cause, or contribute to an in-stream excursion above the WQS, the permit must contain effluent limits for that pollutant.

Applicable ;

A RPA was conducted on appropriate parameters. Please see **APPENDIX # – RPA RESULTS**.

REMOVAL EFFICIENCY:

Removal efficiency is a method by which the Federal Regulations define Secondary Treatment and Equivalent to Secondary Treatment, which applies to Biochemical Oxygen Demand 5-day (BOD₅) and Total Suspended Solids (TSS) for Publicly Owned Treatment Works (POTWs). Please see the United States Environmental Protection Agency's (EPA) website for interpretation of percent removal requirements for National Pollutant Discharge Elimination System Permit Application Requirements for Publicly Owned Treatment Works and Other Treatment Works Treating Domestic Sewage @ www.epa.gov/fedrgstr/EPA-WATER/1999/August/Day-04/w18866.htm

Not Applicable ;

This wastewater treatment facility is not a POTW. Influent monitoring is not being required to determine percent removal.

SANITARY SEWER OVERFLOWS (SSOs), AND INFLOW & INFILTRATION (I&I):

Sanitary Sewer Overflows (SSOs) are defined as an untreated or partially treated sewage release are considered bypassing under state regulation [10 CSR 20-2.010(11)] and should not be confused with the federal definition of bypass. SSO's have a variety of causes including blockages, line breaks, and sewer defects that allow excess storm water and ground water to (1) enter and overload the collection system, and (2) overload the treatment facility. Additionally, SSO's can be also be caused by lapses in sewer system operation and maintenance, inadequate sewer design and construction, power failures, and vandalism. SSOs also include overflows out of manholes and onto city streets, sidewalks, and other terrestrial locations.

Additionally, Missouri RSMo §644.026.1 mandates that the Department require proper maintenance and operation of treatment facilities and sewer systems and proper disposal of residual waste from all such facilities.

At this time, the Department recommends the US EPA's Guide for Evaluating Capacity, Management, Operation and Maintenance (CMOM) Programs At Sanitary Sewer Collection Systems (Document # EPA 305-B-05-002). The CMOM identifies some of the criteria used by the EPA to evaluate a collection system's management, operation, and maintenance and was intended for use by the EPA, state, regulated community, and/or third party entities. The CMOM is applicable to small, medium, and large systems; both public and privately owned; and both regional and satellite collection systems. The CMOM does not substitute for the Clean Water Act, the Missouri Clean Water Law, and both federal and state regulations, as it is not a regulation.

- Not applicable. This facility is not required to develop or implement a program for maintenance and repair of the collection system; however, it is a violation of Missouri State Environmental Laws and Regulations to allow untreated wastewater to discharge to waters of the state.

SCHEDULE OF COMPLIANCE (SOC):

A schedule of remedial measures included in a permit, including an enforceable sequence of interim requirements (actions, operations, or milestone events) leading to compliance with the Missouri Clean Water Law, its implementing regulations, and/or the terms and conditions of an operating permit.

Applicable ;

The time given for effluent limitations of this permit listed under Interim Effluent Limitation and Final Effluent Limitations were established in accordance with [10 CSR 20-7.031(10)].

STORM WATER POLLUTION PREVENTION PLAN (SWPPP):

In accordance with 40 CFR 122.44(k) *Best Management Practices (BMPs)* to control or abate the discharge of pollutants when: (1) Authorized under section 304(e) of the Clean Water Act (CWA) for the control of toxic pollutants and hazardous substances from ancillary industrial activities; (2) Authorized under section 402(p) of the CWA for the control of storm water discharges; (3) Numeric effluent limitations are infeasible; or (4) the practices are reasonably necessary to achieve effluent limitations and standards or to carry out the purposes and intent of the CWA.

In accordance with the EPA's *Developing Your Stormwater Pollution Prevention Plan, A Guide for Industrial Operators*, (Document number EPA 833-B-09-002) [published by the United States Environmental Protection Agency (USEPA) in February 2009], BMPs are measures or practices used to reduce the amount of pollution entering (regarding this operating permit) waters of the state. BMPs may take the form of a process, activity, or physical structure.

Additionally in accordance with the Storm Water Management, a SWPPP is a series of steps and activities to (1) identify sources of pollution or contamination, and (2) select and carry out actions which prevent or control the pollution of storm water discharges.

Applicable ;

A SWPPP shall be developed and implemented for each site and shall incorporate required practices identified by the Department with jurisdiction, incorporate erosion control practices specific to site conditions, and provide for maintenance and adherence to the plan.

VARIANCE:

As per the Missouri Clean Water Law § 644.061.4, variances shall be granted for such period of time and under such terms and conditions as shall be specified by the commission in its order. The variance may be extended by affirmative action of the commission. In no event shall the variance be granted for a period of time greater than is reasonably necessary for complying with the Missouri Clean Water Law §§644.006 to 644.141 or any standard, rule or regulation promulgated pursuant to Missouri Clean Water Law §§644.006 to 644.141.

Not Applicable ;

This operating permit is not drafted under premises of a petition for variance.

WASTELOAD ALLOCATIONS (WLA) FOR LIMITS:

As per [10 CSR 20-2.010(78)], the amount of pollutant each discharger is allowed by the department to release into a given stream after the department has determined to total amount of pollutant that may be discharged into that stream without endangering its water quality.

Applicable ;

Wasteload allocations were calculated where applicable using water quality criteria or water quality model results and the dilution equation below:

$$C = \frac{(C_s \times Q_s) + (C_e \times Q_e)}{(Q_e + Q_s)} \quad (\text{EPA/505/2-90-001, Section 4.5.5})$$

Where C = downstream concentration
 Cs = upstream concentration
 Qs = upstream flow
 Ce = effluent concentration
 Qe = effluent flow

Chronic wasteload allocations were determined using applicable chronic water quality criteria (CCC: criteria continuous concentration) and stream volume of flow at the edge of the mixing zone (MZ). Acute wasteload allocations were determined using applicable water quality criteria (CMC: criteria maximum concentration) and stream volume of flow at the edge of the zone of initial dilution (ZID).

Water quality based maximum daily and average monthly effluent limitations were calculated using methods and procedures outlined in USEPA's "Technical Support Document For Water Quality-based Toxics Control" (EPA/505/2-90-001).

Number of Samples "n":

Additionally, in accordance with the TSD for water quality-based permitting, effluent quality is determined by the underlying distribution of daily values, which is determined by the Long Term Average (LTA) associated with a particular Wasteload Allocation (WLA) and by the Coefficient of Variation (CV) of the effluent concentrations. Increasing or decreasing the monitoring frequency does not affect this underlying distribution or treatment performance, which should be, at a minimum, be targeted to comply with the values dictated by the WLA. Therefore, it is recommended that the actual planned frequency of monitoring normally be used to determine the value of "n" for calculating the AML. However, in situations where monitoring frequency is once per month or less, a higher value for "n" must be assumed for AML derivation purposes. Thus, the statistical procedure being employed using an assumed number of samples is "n = 4" at a minimum. For Total Ammonia as Nitrogen, "n = 30" is used.

WLA MODELING:

There are two general types of effluent limitations, technology-based effluent limits (TBELs) and water quality based effluent limits (WQBELs). If TBELs do not provide adequate protection for the receiving waters, then WQBEL must be used.

Not Applicable ;

A Waste Load Allocation (WLA) study was either not submitted or determined not applicable by department staff.

WATER QUALITY STANDARDS:

Per [10 CSR 20-7.031(3)], General Criteria shall be applicable to all waters of the state at all times including mixing zones. Additionally, [40 CFR 122.44(d)(1)] directs the Department to establish in each NPDES permit to include conditions to achieve water quality established under Section 303 of the Clean Water Act, including State narrative criteria for water quality.

WHOLE EFFLUENT TOXICITY (WET) TEST:

A WET test is a quantifiable method of determining if a discharge from a facility may be causing toxicity to aquatic life by itself, in combination with or through synergistic responses when mixed with receiving stream water.

Applicable ;

Under the federal Clean Water Act (CWA) §101(a)(3), requiring WET testing is reasonably appropriate for site-specific Missouri State Operating Permits for discharges to waters of the state issued under the National Pollutant Discharge Elimination System (NPDES). WET testing is also required by 40 CFR 122.44(d)(1). WET testing ensures that the provisions in the 10 CSR 20-6.010(8)(A)7. and the Water Quality Standards 10 CSR 20-7.031(3)(D),(F),(G),(I)2.A & B are being met. Under [10 CSR 20-6.010(8)(A)4], the Department may require other terms and conditions that it deems necessary to assure compliance with the Clean Water Act and related regulations of the Missouri Clean Water Commission. In addition the following MCWL apply: §§644.051.3 requires the Department to set permit conditions that comply with the MCWL and CWA; 644.051.4 specifically references toxicity as an item we must consider in writing permits (along with water quality-based effluent limits, pretreatment, etc...); and 644.051.5 is the basic authority to require testing conditions. WET test will be required by all facilities meeting the following criteria:

- Facility is a designated Major.
- Facility continuously or routinely exceeds its design flow.
- Facility (industrial) that alters its production process throughout the year.
- Facility handles large quantities of toxic substances, or substances that are toxic in large amounts.
- Facility has Water Quality-based Effluent Limitations for toxic substances (other than NH₃)
- Facility is a municipality or domestic discharger with a Design Flow ≥ 22,500 gpd.
- Other – please justify.

40 CFR 122.41(M) - BYPASSES:

The federal Clean Water Act (CWA), Section 402 prohibits wastewater dischargers from “bypassing” untreated or partially treated sewage (wastewater) beyond the headworks. A bypass, which includes blending, is defined as an intentional diversion of waste streams from any portion of a treatment facility, [40 CFR 122.41(m)(1)(i)]. Additionally, Missouri regulation 10 CSR 20-2.010(11) defines a bypass as the diversion of wastewater from any portion of wastewater treatment facility or sewer system to waters of the state. Only under exceptional and specified limitations do the federal regulations allow for a facility to bypass some or all of the flow from its treatment process. Bypasses are prohibited by the CWA unless a permittee can meet all of the criteria listed in 40 CFR 122.41(m)(4)(i)(A), (B), & (C). Any bypasses from this facility are subject to the reporting required in 40 CFR 122.41(1)(6) and per Missouri’s Standard Conditions I, Section B, part 2.b. Additionally, Anticipated Bypasses include bypasses from peak flow basins or similar devices designed for peak wet weather flows.

- Not Applicable, this facility does not bypass.

303(d) LIST & TOTAL MAXIMUM DAILY LOAD (TMDL):

Section 303(d) of the federal Clean Water Act requires that each state identify waters that are not meeting water quality standards and for which adequate water pollution controls have not been required. Water quality standards protect such beneficial uses of water as whole body contact (such as swimming), maintaining fish and other aquatic life, and providing drinking water for people, livestock and wildlife. The 303(d) list helps state and federal agencies keep track of waters that are impaired but not addressed by normal water pollution control programs.

A TMDL is a calculation of the maximum amount of a given pollutant that a body of water can absorb before its water quality is affected. If a water body is determined to be impaired as listed on the 303(d) list, then a watershed management plan will be developed that shall include the TMDL calculation.

Applicable ;

The facility’s discharge is to the Black River. Black River (Water Body ID #2784) is listed on the 2008 Missouri 303(d) List for mercury due to atmospheric deposition.

– This facility is not considered to be a source of the above listed pollutant(s) or considered to have contributed to the impairment of Black River.

Part V – Effluent Limits Determination***Outfall #001***

Effluent limitations derived and established in the below Effluent Limitations Table are based on current operations of the facility. Future permit action due to facility modification may contain new operating permit terms and conditions that supersede the terms and conditions, including effluent limitations, of this operating permit.

EFFLUENT LIMITATIONS TABLE:

| PARAMETER | UNIT | BASIS FOR LIMITS | DAILY MAXIMUM | WEEKLY AVERAGE | MONTHLY AVERAGE | MODIFIED | PREVIOUS PERMIT LIMITATIONS |
|------------------------------------|--|------------------|---------------|----------------|-----------------|----------|-----------------------------|
| FLOW | GPD | 1 | * | | * | NO | * |
| CBOD ₅ | MG/L | 1 | 120 | | 90 | NO | S |
| TOTAL SUSPENDED SOLIDS | MG/L | 1/9 | 70 | | 70 | NO | S |
| pH (S.U.) | SU | 1 | 6.5-9 | | 6.5-9 | YES | 6-9 |
| OIL AND GREASE | MG/L | 2/9 | 15 | | 10 | NO | S |
| PHENOL | µG/L | 3 | 327 | | 177 | YES | 1000 |
| AMMONIA AS N | MG/L | 3/5 | 39.5 | | 15.1 | YES | ** |
| ALUMINUM | µG/L | 9 | * | | * | YES | ** |
| WHOLE EFFLUENT TOXICITY (WET) TEST | Please see WET Test in the Derivation and Discussion Section below. | | | | | | S |
| MONITORING FREQUENCY | Please see Minimum Sampling and Reporting Frequency Requirements in the Derivation and Discussion Section below. | | | | | | |

* - Monitoring requirement only

** - Parameter not previously established in previous state operating permit.

N/A – Not applicable

S – Same as previous operating permit

Basis for Limitations Codes:

1. State or Federal Regulation/Law

7. Antidegradation Policy

- | | |
|--|------------------------------------|
| 2. Water Quality Standard (includes RPA) | 8. Water Quality Model |
| 3. Water Quality Based Effluent Limits | 9. Best Professional Judgement |
| 4. Lagoon Policy | 10. TMDL or Permit in lieu of TMDL |
| 5. Ammonia Policy | 11. WET test Policy |
| 6. Dissolved Oxygen Policy | |

OUTFALLS #001– DERIVATION AND DISCUSSION OF LIMITS:

- **Flow.** In accordance with [40 CFR Part 122.44(i)(1)(ii)] the volume of effluent discharged from each outfall is needed to assure compliance with permitted effluent limitations. If the permittee is unable to obtain effluent flow, then it is the responsibility of the permittee to inform the Department, which may require the submittal of an operating permit modification.
- **Chemical Oxygen Demand (CBOD₅).** Effluent limitations have been retained from previous state operating permit and are typical limits given to other industrial stormwater discharges, please see the **APPLICABLE DESIGNATION OF WATERS OF THE STATE** sub-section of the **Receiving Stream Information**. Although the facility would pass a reasonable potential analysis in Appendix A, the discharge is to a classified stream and limits should be retained in the event facility operations resume. The facility has not been in operation for several years.
- **Settleable Solids(TSS).** Effluent limitations are being removed and are considered redundant monitoring since suspended solids limitations will be retained in the permit. See reasonable potential analysis in Appendix A which supports the removal of this parameter and the retention of total suspended solids.
- **Total Suspended Solids (TSS).** Effluent limitations have been retained from previous state operating permit and are given in limits for protection of the general criteria of the water quality standards assigned to typical industrial stormwater discharges. Additional basis for limitations are referenced in 40 CFR 429 Subpart I for the timber products processing point source category that states that there shall be no debris discharged and reasonable potential analysis in Appendix A.
- **pH.** Effluent limitations are based on recent changes to the Water Quality Standards. Previous effluent limitations were based on 40 CFR 429 Subpart I for the timber products processing point source category and previous water quality standards.
- **Color.** Monitoring is being removed since there are no specific numeric color standards. Compliance will be determined through special conditions with the general criteria of the water quality standards 10 CSR 20-7.031.
- **Phenol.** Effluent limitations are being established in accordance with the water quality standards 10 CSR 20-7.031. Wood products that break down are known to contain phenols and limits for phenols are referenced through similar subcategories found in 40 CFR 429 for the timber products processing point source category. Although the facility would pass a reasonable potential analysis in Appendix A, the discharge is to a classified stream and limits should be established in the event facility operations resume. The facility has not been in operation for several years.
Protection of Aquatic Life Acute Criteria = 100 µg/L. Background phenol concentration = 0 µg/L.
Acute

$$C_c = ((1.5 + 3.4)100 - (3.4 * 0))/1.5$$

$$C_c = 327 \text{ µg/L}$$

$$WLA_a = 327 \text{ µg/L}$$

$$LTA_a = 327(0.373) = 122 \text{ µg/L} \quad [CV = 0.5, 99^{\text{th}} \text{ Percentile}]$$

$$MDL = 122(2.68) = 327 \text{ µg/L} \quad [CV = 0.5, 99^{\text{th}} \text{ Percentile}]$$

$$AML = 122(1.45) = 177 \text{ µg/L} \quad [CV = 0.5, 95^{\text{th}} \text{ Percentile, } n = 4]$$
- **Oil & Grease.** Effluent limitations have been retained from previous state operating permit, please see the applicable designation of waters of the state sub-section of the Receiving Stream Information. Effluent limitations are based on water quality standards. Although the facility would pass a reasonable potential analysis in Appendix A, the discharge is to a classified stream and limits should be retained in the event facility operations resume. The facility has not been in operation for several years.
- **Phosphorus.** Parameter has been removed from previous state operating permit. Currently, phosphorus standards have not been developed for Black River.
- **Nitrate + Nitrite.** Parameter is being removed from previous state operating permit since there is not a water quality standard for nitrate + nitrite.
- **Total Kjeldahl Nitrogen.** Total Kjeldahl Nitrogen is another measurement of the ammonia form. Parameter is being removed from previous state operating permit since there is not a water quality standard for total kjeldahl nitrogen.

- **Total Ammonia Nitrogen.** The Department of Natural Resources implemented policy to address existing water quality standards concerning the discharge of Ammonia, which is a toxic substance. Ammonia will be used as the nitrogen indicator. Early Life Stages Present Total Ammonia Nitrogen criteria apply [10 CSR 20-7.031(4)(B)7.C. & Table B3] Background total ammonia nitrogen = 0.01 mg/L (Default).

| Season | Temp (°C) | pH (SU) | Total Ammonia Nitrogen CCC (mg/L) | Total Ammonia Nitrogen CMC (mg/L) |
|--------|-----------|---------|-----------------------------------|-----------------------------------|
| Summer | 26 | 7.8 | 1.5 | 12.1 |
| Winter | 6 | 7.8 | 3.1 | 12.1 |

Summer: April 1 – September 30

Chronic

WLA: $C_e = ((1.5 + 39)1.5 - (39 * 0.01))/1.5$
 $C_e = 40.2 \text{ mg/L}$

Acute

WLA: $C_e = ((1.5 + 3.4)12.1 - (3.4 * 0.01))/1.5$
 $C_e = 39.5 \text{ mg/L}$

$LTA_c = 40.2 \text{ mg/L (0.78)} = 31.4 \text{ mg/L}$ [CV = 0.6, 99th Percentile, 30 day avg.]
 $LTA_a = 39.5 \text{ mg/L (0.321)} = 12.7 \text{ mg/L}$ [CV = 0.6, 99th Percentile]

Use most protective number of LTA_c or LTA_a .

MDL = 12.7 mg/L (3.11) = 39.5 mg/L [CV = 0.6, 99th Percentile]
 AML = 12.7 mg/L (1.19) = 15.1 mg/L [CV = 0.6, 95th Percentile, n=30]

Winter: October 1 – March 31

Chronic

WLA: $C_e = ((1.5 + 39)3.1 - (39 * 0.01))/1.5$
 $C_e = 83.4 \text{ mg/L}$

Acute

WLA: $C_e = ((1.5 + 3.4)12.1 - (3.4 * 0.01))/1.5$
 $C_e = 39.5 \text{ mg/L}$

$LTA_c = 83.4 \text{ mg/L (0.78)} = 65.1 \text{ mg/L}$ [CV = 0.6, 99th Percentile, 30 day avg.]
 $LTA_a = 39.5 \text{ mg/L (0.321)} = 12.7 \text{ mg/L}$ [CV = 0.6, 99th Percentile]

Use most protective number of LTA_c or LTA_a .

MDL = 12.7 mg/L (3.11) = 39.5 mg/L [CV = 0.6, 99th Percentile]
 AML = 12.7 mg/L (1.19) = 15.1 mg/L [CV = 0.6, 95th Percentile, n=30]

- **Aluminum, Total Recoverable.** Monitoring is being included to determine if aluminum has reasonable potential to cause or contribute to exceedances of the receiving stream's water quality. Monitoring frequency will be set similar to the other parameters in the permit. Quarterly sampling is the minimum frequency to yield sufficient data points to perform a reasonable potential analysis at the end of the permit cycle. The submitted application from this facility indicates elevated Aluminum results that may be attributed to a former leased business operation that no longer operates on site.

- **WET Test.** Whole Effluent Toxicity test shall be conducted as follows:

| Summary of Wet Testing for This Permit | | | | |
|--|----------|--------------|-------------|---|
| Outfall | A.E.C. % | Frequency | Sample Type | Month |
| 001 | 30 | Once/5 years | grab | Any Month in 2016 (Report by January 28, 2017) |

10 CSR 20-7.031(4)(A)4.B.(III)(b) Zone of initial dilution is one tenth (0.1) of the mixing zone width, cross-sectional area or volume of flow and no more than ten (10) times the effluent design flow volume unless the use of diffusers or specific mixing zone studies can justify more dilution.

Acute and/or Chronic Allowable Effluent Concentrations (AECs) for facilities that discharge to unclassified, Class C, Class P (with default Mixing Considerations), or Lakes [10 CSR 20-7.031(4)(A)4.B.(IV)(b)] are 100%, 50%, 25%, 12.5%, & 6.25%.

$$AEC\% = ((\text{design flow}_{\text{cfs}} + ZID_{7Q10}) / \text{design flow}_{\text{cfs}})^{-1} \times 100 = \#\%$$

$$AEC\% = \{((1.5 + 3.3)/1.5)^{-1}\} \times 100 = 31.2\% \text{ Use } 30\%$$

WET test is being required to determine if additional toxic parameters exist that may need to be monitored.

• **Minimum Sampling and Reporting Frequency Requirements** Outfall #001

| PARAMETER | SAMPLING FREQUENCY | REPORTING FREQUENCY |
|------------------------------|--------------------|---------------------|
| FLOW | ONCE/QUARTER | ONCE/QUARTER |
| CBOD ₅ | ONCE/QUARTER | ONCE/QUARTER |
| TOTAL SUSPENDED SOLIDS | ONCE/QUARTER | ONCE/QUARTER |
| PH (S.U.) | ONCE/QUARTER | ONCE/QUARTER |
| PHENOL | ONCE/QUARTER | ONCE/QUARTER |
| AMMONIA AS N | ONCE/QUARTER | ONCE/QUARTER |
| ALUMINUM | ONCE/QUARTER | ONCE/QUARTER |
| WHOLE EFFLUENT TOXICITY TEST | ONCE/5 YEARS | ONCE/5 YEARS |

Once per quarter is the sampling frequency requirement being placed in the permit per 10 CSR 20-7.015 (8) (C). Quarterly sampling is the minimum frequency to yield sufficient data points to perform a reasonable potential analysis at the end of the permit cycle. All sampling data taken must be submitted even if sampling occurs more frequently than quarterly. Samples may be collected on a more frequent basis and averaged to show compliance with the monthly averages listed in the permit. See table below for quarterly sampling collection and reporting.

| Sample discharge at least once for the months of: | Report is due: |
|---|----------------|
| January, February, March (1 st Quarter) | April 28 |
| April, May, June (2 nd Quarter) | July 28 |
| July, August, September (3 rd Quarter) | October 28 |
| October, November, December (4 th Quarter) | January 28 |

Report as no-discharge when a discharge does not occur during the report period.

Whole Effluent Toxicity Test is being required as a scanning mechanism to determine if additional toxic parameters exist that not currently in the permit. Testing frequency is proposed at once per 5 years since the facility will not routinely discharge.

Part VI – Administrative Requirements

On the basis of preliminary staff review and the application of applicable standards and regulations, the Department, as administrative agent for the Missouri Clean Water Commission, proposes to issue a permit(s) subject to certain effluent limitations, schedules, and special conditions contained herein and within the operating permit. The proposed determinations are tentative pending public comment.

PUBLIC NOTICE:

As per the Missouri Clean Water Law, the Missouri Clean Water Commission, and the federal Clean Water Act, persons wishing to comment on Missouri State Operating Permits are directed to do so by a department approved Public Notice coversheet. This Public Notice coversheet is attached to a Missouri State Operating Permit during the Public Notice period.

DATE OF FACT SHEET: FEBRUARY 16, 2012

COMPLETED BY:

Michael Hefner, EE-II
 Southeast Regional Office
 (573) 840-9750

Part VII – Appendices

APPENDIX #A – RPA RESULTS FOR OUTFALL #001:

| CONSTITUENT | CMC* | RWC ACUTE* | CCC* | RWC CHRONIC* | REASONABLE POTENTIAL | # OF SAMPLES** | CV*** |
|----------------------------|------|---------------|------|-----------------|-------------------------|-------------------|-------|
| OIL AND GREASE | 15 | .88 | 10 | .38 | NO | 16 | .31 |
| SETTLABLE SOLIDS (ML/L/HR) | 1.5 | .091 | 1.5 | .039 | NO | 16 | .33 |
| TOTAL SUSPENDED SOLIDS | 70 | 80.1 | 70 | 34.2 | YES | 16 | 1.31 |
| CHEMICAL OXYGEN DEMAND | 120 | 14.7 | 90 | 6.3 | NO | 16 | .51 |
| PHENOL | .1 | .012 | .1 | .005 | NO | 16 | .47 |

N/A – Not Applicable

* - Units are (mg/L) unless otherwise noted.

** - If the number of samples is greater than 10, then the CV value must be used in the WQBEL for the applicable constituent.

*** - Coefficient of Variation (CV) is calculated by dividing the Mean of the sample by the Standard Deviation of the sample. Reasonable Potential Analysis is conducted as per (TSD, EPA/505/2-90-001, Section 3.3.2).

A more detailed version including calculations of this RPA is available upon request.