

STATE OF MISSISSIPPI SOLID WASTE MANAGEMENT PERMIT

TO OPERATE A SOLID WASTE MANAGEMENT FACILITY IN
ACCORDANCE WITH THE REGULATIONS GOVERNING
SOLID WASTE MANAGEMENT

THIS CERTIFIES THAT

International Paper

has been granted permission to operate a solid waste management facility

located at

Section 24, Township 18 North, Range 04 East
under the name of

Vicksburg Mill, Ash Management Unit

This permit is issued in accordance with the provisions of the Mississippi
Code Annotated, and the regulations and guidelines adopted and promulgated
thereunder

MISSISSIPPI ENVIRONMENTAL QUALITY PERMIT BOARD



AUTHORIZED SIGNATURE

MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

Issued: APR 24 2012
Expires: MAR 31 2022

Permit No. SW0750040560

CONDITIONS

A. EFFECT OF PERMIT

The permittee shall operate the solid waste management facility in accordance with the Mississippi Nonhazardous Waste Management Regulations (state regulations), applicable federal regulations, and conditions of this permit.

B. PERMIT ACTIONS

This permit may be modified, revoked and reissued, or terminated for noncompliance with the terms and conditions of the permit. The filing of a request for a permit modification, revocation and reissuance, or termination or the notification of planned changes or anticipated noncompliance on the part of the permittee does not stay the applicability or enforceability of any permit condition.

C. SEVERABILITY

The provisions of the permit are severable, and if any provision of this permit or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.

D. DUTIES AND REQUIREMENTS

1. Duty to Comply. The permittee shall comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the solid waste law and regulations promulgated thereunder and is grounds for enforcement action, permit termination, revocation and reissuance, modification, or for denial of a permit renewal application.
2. Duty to Reapply. If the permittee wishes to continue an activity allowed by this permit after the expiration date of this permit, the permittee must submit a complete application for a new permit at least 180 days before this permit expires.
3. Duty to Mitigate. The permittee shall take all reasonable steps to minimize, prevent, or correct any adverse impact on human health or the environment resulting from noncompliance with this permit.
4. Proper Operation and Maintenance. The permittee shall at all times properly operate and maintain all equipment and systems which are installed or used by the permittee to achieve compliance with the conditions of this permit and application as submitted and approved by the Department of Environmental Quality (Department).

5. **Duty to Provide Information.** The permittee shall furnish to the Department, within a reasonable time, any relevant information which the Department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit.
6. **Inspection and Entry.** The permittee shall allow an authorized representative of the Department upon the presentation of credentials and other documents as may be required by law to:
 - a. Enter on the permittee's premises where a regulated activity is located or conducted, or where records must be kept under the conditions of this permit;
 - b. Have access to and copy at reasonable times any records that must be kept under the conditions of this permit;
 - c. Inspect at reasonable times any facilities, equipment, practices, or operations regulated or required under this permit;
 - d. Sample or monitor at reasonable times for the purposes of assuring permit compliance.
7. **Transfer of Permits.** This permit is not transferable to any person except after notice to and approval of the Mississippi Environmental Quality Permit Board. The Permit Board may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary.

E. SITE PREPARATION AND CONSTRUCTION REQUIREMENTS

1. The Permittee shall ensure a minimum thickness of three (3) feet of naturally occurring soils between the uppermost aquifer and the base of the liner. The permeability of this buffer material shall not exceed 3×10^{-5} cm/sec.
2. As detailed in the approved application, a French drain system shall be installed along the southeast perimeter of the landfill for the purposes of lowering the groundwater table to meet required buffer thicknesses. Construction of the system shall be in accordance with the drawings submitted in the application. Before clay liner installation begins, the following requirements must be met:
 - a. The French drain system shall be installed, and the Department shall be notified of installation and initial operation.

- b. Following installation of the French drain system, water levels within the landfill footprint shall be monitored through test pits or temporary piezometers to verify that groundwater is below the bottom of the geologic buffer. Water levels shall be measured on a bi-weekly basis subsequent to French drain installation for three (3) weeks, or until water levels have dropped. A minimum of four (4) consecutive sampling dates should demonstrate the proper function of the system to meet the buffer requirements of this permit.
 - c. At the end of the previously designated sampling schedule, a report shall be submitted to the Department with the results of each sampling event and an adequate demonstration of compliance with condition E.2.b. The Department may require further sampling based on the results of the initial sampling events.
- 3. Prior to liner installation, a plan for monitoring French drain performance on a permanent basis shall be submitted to the Department. The plan shall discuss the equipment and methods to evaluate groundwater levels as well as the implementation of maintenance procedures required to comply with Condition F.9 of this permit.
- 4. Construction of the components of the ash management unit shall be conducted by qualified and experienced personnel. At least 14 days prior to initiating construction of the ash management unit or any cell or construction phase therein, the Department shall be provided an approximate site preparation plan, construction schedule and construction grade drawings on the affected area. The Department shall also be notified at least two weeks prior to liner construction activities of the subject cell or planned construction phase of the unit.
- 5. A construction quality assurance plan for the liner and leachate collection system shall be submitted to the Department for approval prior to initiation of site preparation activities. Field density, moisture content, and permeability tests shall be conducted in accordance with the approved plan. Test holes in the soil liner shall be sealed with bentonite, or another method approved by the Department.
- 6. Construction of the ash management unit and any individual cell or construction phase therein shall be conducted in accordance with the following, unless an alternate method is approved by the Department:
 - a. In preparation of the areas for liner construction, the in-situ subbase shall be inspected for cracks, large stones, other protrusions, and for solid material which would not be suitable buffer material. Areas where unsuitable soil materials or groundwater seeps exist shall be excavated and the soils replaced with soil buffer materials having a

permeability equal to or less than 1×10^{-6} cm/sec. Native soils may be used for replacement, but permeability shall be no greater than 3×10^{-5} cm/sec. The surface shall be compact, smooth, uniform, and free of desiccation cracks.

- b. Prior to placement of the recompacted soil liner system, the surface of the prepared subbase shall be scarified for proper bonding with the liner. The liner shall be placed in 6 inch lifts, evenly compacted to the density and moisture content required. Placement of the liner on the side slopes and interior cell slopes shall be in lifts along the slope, not in horizontal lifts. Between lifts, the surface shall be scarified for proper bonding.
 - c. In construction and/or preparation of the buffer subbase and the recompacted soil liner system, the surface shall not be allowed to dry out and crack before placement of the next layer. If desiccation cracks do form, the surface shall be rewetted, rehomogenized, and recompacted to the depth of the cracks before placement of the succeeding layer.
 - d. The perimeter storm water management system and the surficial run-off collection system throughout the facility including the perimeter and interior diversion dikes, access road storm water swales, storm water collection swales, side slope diversion swales, and the sedimentation basin shall be constructed as per approved plans and in such manner so as to inhibit erosion and other damage.
 - e. The ash management unit and each individual cell therein shall be constructed to direct uncontaminated surface water around and away from the active ash management via the dike system directing potential run-on into the drainage channel along the northeast face that leads to the sedimentation pond.
7. The permittee shall construct a groundwater monitoring system that will include an up-gradient well located at the southeastern side of the property and two down-gradient wells at the north and northeastern sides of the property as described in the approved application. This system applies to Phase 1 of the landfill, and subsequent phases will incorporate future down-gradient wells.
8. The groundwater monitoring system shall be implemented and constructed in accordance with the state regulations and approved plans. Prior to site preparation and liner construction activities at the ash management unit, the permittee shall conduct at least one initial groundwater sampling event to establish background groundwater quality data in accordance with state regulations.

9. Prior to the placement of any ash, as waste, in the ash management unit, the following activities shall be conducted:
 - a. All borings drilled on the site in preparation of the permit application, which will not be converted to monitoring or supply wells, shall be properly sealed as per the requirements of the Office of Land and Water Resources. A copy of the decommissioning form(s) shall be submitted to the Department after plugging of the wells.
 - b. Access restrictions and security measures must be installed and implemented.
 - c. An installation report shall be submitted to the Department for the groundwater monitoring system, to include methodology, well specifications, depths, and a surveyed drawing depicting well locations and well identification numbers.
 - d. At least 14 days prior to the placement of ash, as waste, in the ash management unit, a groundwater quality report shall be submitted to the Department including the results of the initial background groundwater monitoring event(s). If for any reason ash is not placed in the ash management unit within one year of the first background sampling event, a second groundwater sampling event shall be conducted in accordance with state regulations and the approved monitoring plans.
 - e. At least 14 days prior to the placement of ash, as waste, in the ash management unit and in a newly constructed cell or phase therein, a construction quality assurance report (CQA) shall be submitted to the Department for approval. The report should contain a certification from an independent registered professional engineer in the state of Mississippi that the area has been constructed according to the approved design plan, and all applicable state regulations. The report shall also include field logs, results of testing, subgrade survey, top of liner survey, and construction testing methods.
10. Should historical or archaeological artifacts be discovered at any time within the ash management unit site, the permittee shall immediately notify the Department and shall contact the Mississippi Department of Archives and History for proper guidance.

F. OPERATING CONDITIONS

1. The permittee is authorized to landfill wood ash, wood wastes, chemical recovery by-products (lime mud/waste, dregs, grit, etc.), construction and

demolition debris, along with other ancillary operational waste as described in the approved Operations Plan. Any other wastes generated onsite must be approved by the Department prior to their disposal at this facility. No wastes generated offsite shall be disposed of in this landfill, unless approved by the Department prior to deposition.

2. The placement of waste shall be restricted to the approved permitted area consisting of the 5.7 acres designated in the approved application as Phase 1, and the height will not exceed 200 ft (MSL).
3. The permittee shall manage the inspection and acceptance of any waste load as follows:
 - a. Incoming waste loads containing significant amounts of unauthorized wastes shall be refused at the site. Loads with incidental amounts of unauthorized wastes may be allowed to dump only after the unauthorized materials are removed from the load.
 - b. Unauthorized wastes discovered to have been inadvertently or accidentally dumped at the site shall be removed immediately.
 - c. All unauthorized wastes removed from incoming waste loads or the active disposal area shall be transported to an appropriately permitted disposal facility or placed within a waste receptacle for later transfer.
4. The facility shall be operated in accordance with the approved plan of operation, unless an altered or modified plan of operation is approved by the Department.
5. Security must be maintained at the facility site to prohibit unauthorized access and disposal. Access to the site shall be secured or locked when the site is closed and when no attendant is on site.
6. All weather access and transport roads shall be constructed and maintained at the site to maintain operations during inclement weather conditions.
7. Vehicles entering the facility shall be operated and maintained to prevent the loss of liquids or solid waste material.
8. The Permittee shall at all times provide, properly operate and maintain equipment and systems utilized to achieve compliance with the conditions of this permit and all applicable laws, ordinances and regulations. The Permittee shall ensure proper training of all facility employees and ensure the employment of an adequate amount of employees required to properly operate the facility.
9. The French drain system shall be operated to maintain the buffer

requirements of condition E.2. Maintenance and upkeep shall be performed to ensure proper functionality. Upon determination that the French drain system is not operating in compliance, waste deposition shall be halted until the system is fixed and water levels are lowered to acceptable elevations. The Department shall be notified of this noncompliance immediately, and the permittee shall submit a report within 14 days detailing the extent of the problem and the measures taken to correct it.

10. A formal modification of this permit must be approved by the Permit Board or the Board's designee prior to a vertical or horizontal expansion of the facility as well as a significant change in the method of waste management or conditions of this permit.
11. Activities involving the construction, operation, closure, and post-closure of the facility shall be conducted in accordance with the state regulations and approved plans as submitted to the Department.
12. Open burning of land clearing debris generated on site of the facility shall be allowed pending compliance with the following:
 - a. Land clearing debris to be burned shall be staged at least 100 yards from active or filled portions of the disposal area;
 - b. Burning operations shall be conducted in compliance with Section 3.7 of Mississippi Regulation, APC-S-1, Air Emission Regulations For The Prevention, Abatement, and Control of Air Contaminants;
 - c. Burning operations shall be conducted in compliance with all applicable local laws, ordinances, and/or regulations.
13. Open burning of solid waste shall be prohibited. The Permittee shall implement all necessary fire prevention measures as outlined in the approved plan of operation. In the event of an accidental fire, the operator shall implement necessary steps to extinguish the fire and notify the Department within 24 hours.
14. Unloading and disposal of waste shall be controlled by the operator and shall be confined to as small an area as practical.
15. Disposal area boundaries shall be clearly marked and maintained throughout the life of the facility. Placement of the permanent boundary markers shall comply with the following:
 - a. The markers shall be at least three (3) feet in height;
 - b. The markers shall be constructed of concrete posts, metal pipes,

- weather treated wood posts, metal fence posts or other marker materials as approved by the Department;
- c. The markers shall be at least two (2) inches in diameter, with the exception of the metal fence posts and shall be placed in the ground at sufficient depth to facilitate permanence.
 - d. Marker locations shall be located by a Professional Surveyor, registered with the State of Mississippi, and the certified survey indicating the locations and GPS coordinates of the permanent markers with a cover letter shall be submitted to the Department as part of the CQA Report to be submitted as part of Condition E.8.e of this permit.
 - e. The Permittee shall inspect the boundary markers monthly and repair or replace markers that have been damaged or inadvertently removed from the disposal boundary. Boundary marker replacement shall comply with Condition F.15.d of this permit.
- 16. Appropriate actions shall be taken to inhibit ash particles from becoming windblown off the site. In addition, appropriate dust control measures shall be conducted as necessary to contain and/or suppress fugitive dust emissions from the unit, from the access and transport roads, and from other facility components.
 - 17. Operations shall be carried out to prevent the scattering of other windblown litter as well as minimize vector attraction at the landfill. Windblown and scattered litter and/or debris within the buffer zones, facility operations areas, and access roads shall be collected at the end of every operating day for proper disposal.
 - 18. No removal of solid waste from the ash management unit shall be conducted without the approval of the Department.
 - 19. The Department may require changes in the operating conditions of the ash management unit, including requiring an intermediate cover, modifying leachate management conditions and implementing other control measures as necessary to prevent or correct conditions at the landfill which cause, contribute to, or allow environmental, public health, or public nuisance problems.
 - 20. Solid wastes shall not be disposed in standing water, in any waters of the state, nor in any manner that may result in the wash-out of wastes.
 - 21. Surface water which has contacted the ash, surface leachate flowing from filled areas of the ash management unit, and sub-surface leachate shall be collected and managed as leachate. Surface leachate and contaminated surface and/or groundwater shall not be allowed to flow offsite of the ash

management unit, but shall be routed back to the main facility's wastewater treatment facility via force main as described in the approved application.

22. All transport piping, pumps, and other structures utilized to transport leachate from the ash management unit to the wastewater treatment facility or within the ash management unit shall be properly maintained to ensure compliance with applicable permit conditions and in such a manner so as to prevent leakage or spills. Any such leakage shall be repaired immediately.
23. The storm water management system and the surficial run-off collection system throughout the facility including the perimeter and interior diversion dikes, access road storm water swales, storm water collection swales, and the sedimentation basin shall be properly maintained. Erosion, sloughing, or other damage which may affect the integrity of the dike system shall be promptly repaired.
24. The perimeter and interior diversion dikes and the sedimentation basin shall be constructed and maintained to control, at a minimum, the uncontaminated water volume from the facility resulting from a 24-hour, 25-year event storm. Periodic cleaning and/ or dredging shall be conducted as necessary to maintain capacity.
25. The leachate collection systems shall be cleaned, maintained and pumped as necessary to properly manage leachate collection. The depth of leachate over the liner, excluding the trenches and sumps, shall not exceed 30 cm. Measurements of leachate head shall be made at least weekly or more often as necessary to maintain compliance. Should any measurement indicate a head of 30 cm or greater on the liner, the permittee shall take immediate action to correct such conditions. Records shall be kept of routine measurements, quantities pumped, cleaning, maintenance, any analysis and method of disposal or reuse.
26. The facility shall be constructed, operated and monitored in such a manner so as to ensure that the Mississippi Groundwater Quality Standards are not exceeded by any activity of this facility.
27. The ash management unit shall be constructed, operated and monitored in such a manner so as to prevent a discharge of pollutants into waters of the state, including wetlands, that violates any requirements of the Clean Water Act or the Mississippi Air and Water Pollution Control Act, including, but not limited to, the NPDES requirements.
28. Operation of the ash management unit shall be conducted in accordance with all applicable laws, regulations and permit conditions of the U.S.

Army Corps of Engineers and the U.S. Fish and Wildlife Service.

G. MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS

1. An annual report shall be submitted to the Department each year no later than February 28 to include data regarding the preceding calendar year. The report shall include items listed below:
 - a. The amount of waste deposited in the ash management unit during the calendar year;
 - b. A drawing depicting the top elevation of the ash management unit at the end of the report year;
 - c. An estimated remaining capacity, in terms of both volume and tons of waste;
 - d. Records on the quantity of leachate pumped and the method of disposal and reuse; and
2. In accordance with the submitted plan required by Condition E.3 of this permit, verification of operation of the French drain shall be performed once every two (2) months to show compliance with Condition F.9. Results of this monitoring shall be submitted to the Department by the 15th of the following month.
3. Groundwater monitoring shall be conducted at the ash management unit in accordance with the approved groundwater monitoring plan for the following parameters:

Total Arsenic	Total Lead
Total Barium	Total Nickel
Total Chromium	Total Zinc
Total Copper	

4. Groundwater monitoring shall be conducted semi-annually, unless otherwise directed by the Department, according to the following schedule:

<u>Monitoring Period</u>	<u>Report Due</u>
January – June	August 31
July – December	March 1 (of the following year)

Samples may be taken at any time during the monitoring period; however,

all sampling events shall be at least four months apart. The following records shall be retained in the operating record, and a copy of this report shall be submitted to the Department according to the schedule above:

- a. The dates, exact location, and time of sampling
 - b. The individual who performed the sampling;
 - c. Results of groundwater level measurements and a map indicating direction of flow;
 - d. The date(s) laboratory analyses were performed;
 - e. The individual(s) who performed the analyses;
 - f. The analytical techniques or methods used;
 - g. The results of such analyses, provided by the laboratory;
 - h. A graphic representation of groundwater monitoring data for analyzing trends in water quality for pH, chloride, sulfate, barium, and chromium;
 - i. A statistical comparison of analyses;
 - j. A determination of statistically significant increase; and
 - k. Chain of custody forms.
5. All groundwater samples shall be taken by qualified personnel as per EPA approved sampling procedures and chain of custody requirements.
 6. The permittee shall not remove, abandon, or relocate any monitoring well prior to obtaining approval from the Department. If any monitoring well becomes damaged and/or inoperable, the permittee shall notify the Department as soon as feasible upon becoming aware of such conditions and shall provide a written report within seven (7) days. The written report shall detail what problem has occurred and corrective measures taken to prevent the recurrence. The location and design of any replacement or corrective monitoring well shall be approved by the Department prior to installation.
 7. Groundwater assessment monitoring and corrective action, if necessary, shall be conducted at the facility in accordance with the state regulations and the plans approved by the Department.
 8. When requested by the Department, the permittee shall inform the Department of the next groundwater sampling schedule so that a representative of the Department may be present to collect a split or duplicate sample.
 9. Upon the establishment of sufficient historical data or other suitable demonstration, the Department may consider a request for a variance or may require a variance to the monitoring points, monitoring occurrences, or monitoring parameters.

H. CLOSURE/POST-CLOSURE REQUIREMENTS

1. An updated closure/ post closure plan for the ash management unit shall be submitted to the Department for approval at least 120 days prior to initiation of final closure of the ash management unit. This plan shall include, at a minimum:
 - a. a description of and the construction details of the final cover system and the surface water control structures;
 - b. a construction quality assurance (CQA) plan for the final cover system components, drainage system features and any other appropriate closure components;
 - c. a plan for interior, exterior and subsurface drainage and dewatering of the unit as appropriate;
 - d. a proposed schedule of closure activities; and
 - e. a description of the post-closure monitoring plans and a proposed schedule of monitoring for the approved post-closure monitoring period having a minimum duration of 5 years. The Department will determine and specify the total post-closure duration.
2. An approved final cover system shall be placed on the completed areas of the ash management unit in accordance with the state regulations and the approved plans.
3. Within 90 days of closure of the landfill, a Quality Assurance/Quality Control construction assurance report shall be submitted to the Environmental Compliance and Enforcement Branch for construction of the landfill cap. Include with this document a certified survey of the entire landfill with contours. The report shall also include field logs, results of testing and construction testing methods. Lastly, the report shall contain a certification from an independent professional engineer registered in Mississippi that verifies that the cap is constructed in accordance with the approved Plan of Operation.
4. The condition of the final cover system shall be inspected at least monthly by company personnel during the post-closure monitoring period of the facility. Erosion, cracks, ponding, leachate, outbreaks, and similar problems shall be promptly repaired.
5. Any reduction in frequency or number of monitoring events, monitoring parameters, site inspections, or other components of the approved closure or post-closure plan must be submitted to the Department for approval

before being implemented.

6. The Department may require the permittee to implement a financial assurance mechanism for closure/post-closure activities at the landfill should the Permit Board determine it necessary. Should the Department determine the operation conditions at the site warrant the establishment of financial responsibility, the permittee would be required to estimate the costs of disposal of the maximum amount of wastes expected on-site before closure of the facility. At that time, the permittee shall be required to provide the Department with proof of financial responsibility issued in the amount of the closure cost estimate each year on a schedule approved by the Department.