

# **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**

The Chemours Company FC LLC, DeLisle Plant  
has been granted permission to operate a solid waste management facility  
located at  
Section 32 and Section 33, Township 7 South, Range 13 West  
under the name of  
Chemours DeLisle Plant WDU 21, 22 and 23

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: July 28, 2011**

**Modified (ownership change): February 25, 2015**

**Expires: June 30, 2021**

**Permit No. SW0240040554**

## 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 Permit. 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.
8. Signature Requirements. An application for the re-issuance, modification or transfer of this solid waste management permit and all permits required by this permit or other information requested by the Permit Board shall be signed as follows:
  - a. For a corporation: a president, vice-president, secretary, or treasurer of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation;
  - b. For a partnership or sole proprietorship: a general partner of the proprietor, respectively;
  - c. For a municipality, county, state, federal, or other public agency: either a principal executive officer or ranking elected official:

- d. The signature of a Duly Authorized Representative (DAR) shall be a valid signature under the state regulations, in lieu of the signatures described previously provided the following conditions are met:
  1. The DAR is an employee of the entity holding the solid waste management permit.
  2. The DAR is identified to the Department by the ranking officer of the corporation, partnership, proprietorship, municipality, county, state, federal or other public agency.
  3. The DAR is responsible for the overall management of the solid waste facility.
9. Property Rights. It is the responsibility of the permittee to possess or acquire a sufficient interest in or right to the use of the property including access route. The issuance of this permit does not convey any property rights or interest in either real or personal property; nor does it authorize any injury to private property, invasion of personal rights, or impairment of previous contract rights; nor any infringement of Federal, State or local laws or regulations.

**E. SITE SPECIFIC CONDITIONS**

1. Authorized Waste
  - a. As listed in the approved application or unless otherwise approved by the Department, disposal shall be limited to:
    - 1) coke and ore solids,
    - 2) gangue or sand from the reaction process,
    - 3) titanium dioxide solids,
    - 4) flyash,
    - 5) refractory brick,
    - 6) clay and drilling mud,
    - 7) ore dryer bag filters,
    - 8) coke, ore, and dirt from sodium hydroxide line leaks,
    - 9) coke, ore, and dirt from coke and ore slurry line leaks,
    - 10) aluminum dust,
    - 11) waste sand from the oxidation process, and
    - 12) dirt or debris from iron chloride line leaks.
  - b. No other wastes including construction or demolition debris, other process sludges, or any other plant wastes may be deposited in the

disposal units, unless prior authorization is obtained from the Department. The Department may grant authorization for the disposal of additional nonhazardous solid waste streams generated at the Chemours-DeLisle facility upon the submittal of a written request by the permittee containing an appropriate physical and chemical characterization of the additional waste streams which demonstrates that the waste is nonhazardous and appropriate for placement in the waste disposal units.

2. Operating Conditions

- a. The placement of wastes shall be restricted to the boundaries of the waste disposal units (WDUs) within the approved 40 disposal acres located in Sections 32, and Section 33, Township 7 South, Range 13 West, Harrison County, Mississippi, as indicated in the approved permit application. Property line setback distances as indicated in the permit application shall be maintained.
- b. Modification to this permit shall be required prior to a horizontal or vertical expansion of the waste disposal units or a significant change in the method of waste management.
- c. Construction of landfill components shall be conducted by qualified and experienced personnel. The Department shall be notified of an approximate construction schedule at least one week prior to liner and final cover construction activities.
- d. Construction, operation, closure, and post-closure activities of the facility shall be conducted in accordance with the approved plans, as submitted to the Department.
- e. Construction or reconstruction of any unacceptable sidewall or bottom liner of the landfill shall be conducted in accordance with the following, unless an alternate method is approved by the Department:
  - 1) The insitu subbase shall be inspected for cracks, large stones, other protrusions, and for soil material which would not be suitable buffer material. Unsuitable materials shall be removed and replaced with suitable buffer material having a permeability equal to or less than  $1 \times 10^{-6}$  cm/sec. The surface shall be compact, smooth, uniform and free of desiccation cracks.
  - 2) Prior to placement of the soil liner, 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 shall be in lifts along the slope, not in horizontal lifts. Between lifts, the surface shall be scarified for proper bonding.

- 3) In construction/preparation of the buffer subbase and the soil liner, 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 recompact to the depth of the cracks before placement of the succeeding layer.
  - 4) Field density, permeability, moisture content, and thickness tests shall be conducted in accordance with the approved plan. Test holes in the soil shall be sealed with bentonite or another method approved by the Department.
  - 5) Prior to placement of the geomembrane, the soil liner shall be smooth, uniform, and free from protrusions or cracks. During and after installation, the geomembrane shall be protected from damage (e.g. heavy equipment, tearing, puncturing, exposure to sun, etc.). Field seams shall be oriented vertically along the side slopes (i.e. top to bottom of side slope). The protective layer shall be promptly placed over the geomembrane, and properly maintained until waste is placed over the area.
- f. Any changes to the approved QA/QC for liner installation (e.g., installation procedures, testing frequencies, testing methods, etc.) shall be submitted to the Department for approval.
- g. At least 90 days prior to the construction of WDU 23, the results of an additional subsurface investigation of WDU 23 shall be submitted to the Department, unless otherwise approved by the Department. Construction of WDU 23 can not proceed without written authorization by the Department, unless otherwise approved.
- h. At least two weeks prior to placement of waste material in any newly constructed waste disposal unit, a quality assurance/quality control report on all construction activities which demonstrates the compliance with the state regulations and the approved design plans shall be submitted to the Department. The report shall contain certification from an independent, registered professional engineer that the area has been constructed according to approved

design plans and all applicable sections of the state regulations. The report shall include, at a minimum, field logs, results of testing, subgrade survey, top of liner survey and construction testing methods.

- i. Construction, operation, closure, and post-closure activities of the waste disposal units shall be conducted in accordance with the Mississippi Nonhazardous Solid Waste Management Regulations and the approved plans as submitted to the Department.
- j. Final height of the waste disposal units shall occur in accordance with the approved plan. Unless further slope stability calculations are provided or unless otherwise approved by the Department, the final height shall not exceed 100 feet mean sea level with a final waste height of 98 feet mean sea level.
- k. Unless otherwise approved by the Department, prior to disposal of dirt or debris from iron chloride line leaks or dirt or debris from sodium hydroxide line leaks, the permittee shall:
  - 1) collect and analyze samples for TCLP to ensure the material is nonhazardous,
  - 2) submit a written request with the analytical results to the Department requesting disposal of the material, and
  - 3) obtain written approval from the Department.
- l. Disposal of ore dryer filter bags shall be limited to the active workface. The ore dryer filter bags shall be covered with six (6) inches of coke or ore cover no later than the end of the day of disposal.
- m. Adequate security must be maintained at the waste disposal units 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.
- n. All transport piping, pumps, vehicles, units and/or other structures utilized to transport slurried wastes from the plant to the waste disposal units and contaminated leachate or wastewaters from the disposal units to the plant 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.
- o. In the event that truck traffic to the landfill exceeds normal operation as specified in the permit application, the permittee shall

implement traffic safety on Kiln-DeLisle Road such as use of special signs, use of a flagman, or equivalent implementation.

- p. The waste disposal units shall be constructed, operated and maintained with berms, ditches or other such means to direct uncontaminated surface water around and away from the active disposal units.
- q. Surface water contaminated by contact with waste material and leachate from filled areas of the waste disposal units shall be collected and contained. Leachate and contaminated surface and/or ground water shall not be allowed to flow offsite of the waste disposal units. Surface water that comes in contact with the coke and ore and leachate from the coke and ore disposal units shall be collected and stored for deepwell injection. Surface water that comes in contact with the titanium dioxide and leachate from the titanium dioxide disposal units shall be recycled back to the NPDES permitted Hold Pond and ultimately disposed through the NPDES permitted outfall.
- r. The waste disposal units shall be constructed and operated in such a manner so as to ensure that the operations and activity associated with the waste disposal units does not result in groundwater concentrations that exceed the Mississippi Groundwater Quality Standards, the National Primary Drinking Water Standard Maximum Contaminant Levels or the standards found in 40 CFR Part 258 (Subpart D) at the relevant points of compliance as identified in the approved permit application.
- s. Operation of the waste disposal units shall be conducted in accordance with any applicable requirements of the U.S. Army Corps of Engineers, the U.S. Environmental Protection Agency, the U.S. Fish and Wildlife Service and the Division of Radiological Health of the Mississippi Department of Health.
- t. The permittee shall at all times properly operate and maintain all equipment and systems used to achieve compliance with the conditions of this permit. It shall be the owner's responsibility to ensure proper training and ensure employment of an adequate number of employees to properly operate the facility.
- u. The leachate collection system shall be operated as follows:
  - 1) The leachate collection system of pipes, trenches and sumps shall be cleaned, maintained and pumped as needed to ensure proper leachate collection.



- 2) The depth of leachate over the liner, excluding trenches and sumps, shall not exceed 30 cm, unless otherwise approved by the Department during extreme weather events.
  - 3) Leachate head measurements shall be made and/or monitored daily. If the facility utilizes an electronic pumping system, a record of the pumping quantity shall be maintained on a daily basis in lieu of daily individual leachate head measurements.
  - 4) Any measurement that indicates a head of 30 cm or greater on the liner or any electronic pumping equipment failure shall be reported to the Department immediately. Written correspondence shall be submitted within five (5) working days of non-compliance.
  - 5) Records shall be kept of daily measurements, quantities pumped, cleaning, maintenance, analyses and method of disposal.
- v. Groundwater monitoring wells WDU21-01, WDU21-02, WDU21-03, WDU21-04, and WDU21-05 shall be installed prior to waste acceptance in the landfill waste disposal units. The well installation shall be under the supervision of an independent Profession Engineer or a Registered Professional Geologist licensed in the State of Mississippi. The wells shall be installed at appropriate depths to yield groundwater samples from the uppermost aquifer. Upon installation of the groundwater monitoring wells, an installation report shall be submitted to the Department. The report shall be submitted within 60 days of well installation and shall include well construction specifications (screened interval and surface protection details), depth, and surveyed location. The permittee shall install additional groundwater monitoring wells, if deemed necessary by the Department.
- w. At least two weeks prior to the installation of the groundwater monitoring wells, the permittee shall inform the Department of the anticipated dates of well installation so that a representative of the Department may be present during the well installation.
- x. 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 the items listed below:
- 1) Aggregate information on the amount of waste estimated to have been deposited in each disposal unit during the calendar year;

- 2) estimated remaining capacity of the overall disposal units, in terms of volume or tons of waste; and
- 3) the approximate amount of waste material excavated/reclaimed from the waste disposal units during the calendar year.

Should the permittee seek that any of the information described above be held by the Department as confidential information, the permittee must request confidentiality protection each time a report is filed for each confidential disclosure. Each request must contain the information required by State law.

3. Monitoring Requirements

- a. Groundwater monitoring shall be conducted at the facility in accordance with state and federal regulations and the approved permit application. Monitoring shall be conducted semiannually, 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	February 28 (of the following year)

Samples may be taken at any time during the monitoring period; however, all required sampling events (except background) shall be at least four months apart. The following reports and records shall be retained in the operating record, and a copy shall be submitted to the Department according to the schedule above:

- 1) The dates, exact location, and time of sampling;
- 2) The individual who performed the sampling;
- 3) Results of groundwater level measurements and a potentiometric map indicating direction of groundwater flow;
- 4) The date(s) laboratory analyses were performed;
- 5) The individual(s) who performed the analyses;
- 6) The analytical techniques or methods used;
- 7) The results of such analyses, provided by the laboratory;
- 8) The statistical comparison of analyses;

- 9) A determination of statistically significant increase;
  - 10) A graphic representation of groundwater monitoring data for analyzing trends in water quality for pH, arsenic, beryllium, lead, manganese, gross alpha, radium 226, radium 228, vanadium, total chromium, and titanium;
  - 11) A table for comparison of the groundwater monitoring data to the Mississippi Groundwater Quality Standards, the National Primary Drinking Water Standard Maximum Contaminant Levels and the standards found in 40 CFR Part 258 (Subpart D); and
  - 12) Chain of custody forms.
- b. Groundwater monitoring wells WDU21-01, WDU21-02, WDU21-03, WDU21-04, and WDU21-05 shall be sampled in accordance with the approved groundwater sampling plans. Unless otherwise approved by the Department, the samples collected from these wells shall be analyzed for pH, arsenic, beryllium, total chromium, lead, manganese, titanium, vanadium, gross alpha, radium-226, and radium-228.
  - c. Groundwater monitoring wells shall be properly maintained and secured. The permittee shall not remove, abandon or relocate any monitor 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 the corrective measures taken to prevent the recurrence. The location and design of all replacement or corrective action monitoring wells shall be approved by the Department prior to installation.
  - d. All groundwater samples shall be taken by qualified personnel and in accordance with EPA approved sampling procedures and chain of custody requirements.
  - e. Upon the request of the Department, the permittee shall inform the Department of the subsequent groundwater sampling schedule so that a representative of the Department may be present to collect a split or duplicate sample.
  - f. Upon the establishment of sufficient historical groundwater data or other suitable demonstration, the Department may consider a request for modification to the quantity of monitoring points, monitoring occurrences, or monitoring parameters.

- g. At any time a statistically significant increase is identified for any parameter listed in Appendix I of 40 CFR Part 258, the required report outlined in Condition E.3.a of this permit shall be submitted to the Department within 14 days, unless otherwise directed by the Department.
- h. Groundwater assessment monitoring and corrective action, if necessary, shall be conducted at the waste disposal units in accordance with state and federal regulations and plans approved by the Department.

4. Closure/Post Closure Requirements

- a. Any significant changes to the approved closure or post-closure plan must be submitted to the Department for approval prior to implementation.
- b. At least 120 days prior to permanent cessation of operations of any disposal unit, the permittee shall submit a revised closure/post closure plan for that unit to the Department for approval, demonstrating compliance with the applicable portions of Section IV.E of the Mississippi Nonhazardous Waste Management Regulations.
- c. For the purposes of this permit, permanent cessation of operations means that the remaining material in the unit will not be recovered for use in the permittee's process within 5 years of placement, and is not destined for off-site disposal.
- d. An approved final cover system shall be placed on each filled disposal unit in accordance with state regulations and the approved plan. The infiltration layer shall be comprised of a minimum of 18 inches of earthen material that has a permeability less than or equal to the permeability of  $1 \times 10^{-5}$  cm/sec to be followed by a minimum of 6 inches of earthen material for the establishment of vegetation, unless an alternate final cover is approved by the Department.
- e. The final cover gradient at this facility shall be a minimum of four percent (4%) and a maximum of twenty-five percent (25%), unless otherwise approved by the Department.
- f. Upon completion of final closure of each disposal unit, an updated surveyed drawing of the entire disposal facility shall be submitted to the Department depicting final contours and the boundaries of the disposal facility.
- g. The permittee shall notify the Department in writing within 14 days of final closure of each waste disposal unit.
- h. Compliance with the final closure requirements for the facility shall be certified by an independent Professional Engineer registered in the State of Mississippi.

- i. 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.
- j. 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.