

**AUTHORIZATION FOR A NO-DISCHARGE WATER PERMIT UNDER
THE ARKANSAS WATER AND AIR POLLUTION CONTROL ACT**

In accordance with the provisions of the Arkansas Water and Air Pollution Control Act (Ark. Code Ann. §. 8-4-101 *et seq* and Ark. Code. Ann. §. 8-4-201 *et seq*)

Albemarle Corporation
P. O. Box 729
Magnolia, AR 71754-0729

is authorized to operate and maintain the surface facilities associated with the brine pretreatment and management system located as follows: 4.3 miles west of Magnolia in Columbia County, Arkansas. The facility is located at the following coordinates:

Latitude: 33° 15' 47" North Longitude: 93° 18' 56" West

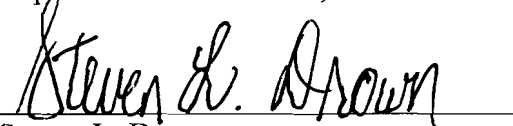
The facility is located 1320 feet from Dismukes Branch in Stream Segment 1A of the Red River basin.

Operation shall be in accordance with all conditions set forth in this permit. In accordance with Part II. 23, the permittee must reapply for permit coverage at least 180 days prior to the expiration date.

Response to comments is attached.

Effective Date: July 1, 2012

Expiration Date: June 30, 2017



Steven L. Drown
Chief, Water Division
Arkansas Department of Environmental Quality



Issue Date

Part I
SPECIFIC CONDITIONS

1. This permit is for the operation of the brine pretreatment and management system consisting of a leachate interception system, connecting underground pipeline, and leachate storage tanks, that ties into the existing Class V injection system (ADEQ permit no. 4007-WR-2) and the Dow Chemical Class I Underground Control Injection well (ADEQ permit no. 0017-UR-1). This permit regulates the brine pretreatment and management in tandem with Industrial Stormwater Permit Tracking No. ARR00A588.
2. Waste shall not be discharged from this operation to the waters of the State or onto the land in any manner that may result in runoff to the waters of the State.
3. The waste disposal system shall be operated and maintained in accordance with the final plans and specifications as approved by the Department of Environmental Quality.
4. No extension or modification of the system facilities may be made without the issuance of a new permit or permit modification. The ADEQ shall be notified upon any modification of the system which may require permit modification.
5. This permit is issued in reliance upon the statements and representations made in the application and associated documents. The Department has no responsibility for the adequacy or proper functioning of the brine management and disposal system.
6. The permittee shall at all times ensure there is no-discharge of fluids to the ground surface or to the waters of the State from flow lines or from any related structures at this facility. The discharge of any fluids transported by this system is strictly prohibited. The permittee shall notify the Department immediately, within 24 hours in the event of the release of any fluids to the ground surface or into the waters of the State. This is a violation of the permit.

Part II
STANDARD CONDITIONS

1. Duty to Comply

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Arkansas Water and Air Pollution Control Act, Ark. Code Ann. §8-4-101 *et seq.* and is grounds for civil and administrative enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

2. Penalties for Violations of Permit Conditions

The Arkansas Water and Air Pollution Control Act, Ark. Code Ann. § 8-4-101 *et seq.* provides that any person who violates any provisions of a permit issued under the Act shall be guilty of a misdemeanor and upon conviction thereof shall be subject to imprisonment for not more than one (1) year, or a fine of not more than twenty-five thousand dollars (\$25,000) or both for each day of such violation. Any person who violates any provision of a permit issued under the Act may also be subject to a civil penalty not to exceed ten thousand dollars (\$10,000) for each day of such violation. The fact that any such violation may constitute a misdemeanor shall not be a bar to the maintenance of such civil action.

3. Permit Actions

- a. This permit may be modified, revoked and reissued, or terminated for cause including, but not limited to the following:
 - i. Violation of any terms or conditions of this permit;
 - ii. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts;
 - iii. A determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination; or
 - iv. Failure of the permittee to comply with the provisions of Arkansas Pollution Control and Ecology Commission (APC&EC) Regulation No. 9 (Permit fees).
- b. The filing of a request by the permittee for a permit modification, revocation and reissuance, termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

4. Civil and Criminal Liability

Nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance. Any false or materially misleading representation or concealment of information required to be reported by the provisions of this permit or applicable state statutes or regulations which defeats the regulatory purposes of the

permit may subject the permittee to criminal enforcement pursuant to the Arkansas Water and Air Pollution Control Act, Ark. Code Ann. §8-4-101 *et seq.*

5. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the Clean Water Act and Section 106 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

6. State Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or regulation.

7. Property Rights

The issuance of this permit does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

8. Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provisions 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.

9. Permit Fees

The permittee shall comply with all applicable permit fee requirements for no-discharge permits as described in APC&EC Regulation No. 9 (Regulation for the Fee System for Environmental Permits). Failure to promptly remit all required fees shall be grounds for the Director to initiate action to revoke this permit.

10. Proper Operation and Maintenance

a. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

- b. The permittee shall provide an adequate and trained operating staff which is duly qualified to carry out operation, maintenance and testing functions required to insure compliance with the conditions of this permit.

11. Duty to Mitigate

The permittee shall take all reasonable steps to prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health, the environment, or the water receiving the discharge.

12. Removed Substances

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of waste waters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering the waters of the State.

13. Reporting of Violations and Unauthorized Discharges

- a. Any violations to this permit must be reported to the Enforcement Branch of the Department immediately. Any leaks or seeps shall be reported to the Department and appropriately corrected. Any discharge from the fluids storage system such as an overflow, a broken pipe, etc., shall be immediately reported to the Department.
- b. The operator shall visually monitor and report immediately (within 24 hours) to the Enforcement Branch any unauthorized discharge from any facility caused by dike or structural failure, equipment breakdown, human error, etc., and shall follow up with a written report within five (5) days of such occurrence. The written report shall contain the following:
 - i. A description of the permit violation and its cause;
 - ii. The period of the violation, including exact times and dates;
 - iii. If the violation has not been corrected, the anticipated time expected to correct the violation; and
 - iv. Steps taken or planned to reduce, eliminate, and prevent the recurrence of the violation.

- c. Reports shall be submitted to the Enforcement Branch at the following address:

Arkansas Department of Environmental Quality
Water Division, Enforcement Branch
5301 Northshore Dr.
North Little Rock, Arkansas 72118
Fax (501) 682-0910

Or

Water-permit-application@adeq.state.ar.us

- i. A president, secretary, treasurer, or vice-president 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; or
 - ii. The manager of one or more manufacturing, production, or operation facilities, provided the manager is authorized to make management decisions which govern the operation of the regulated facility including: having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.
- ii. For a partnership or sole proprietorship: by a general partner or proprietor, respectively; or
- iii. For a municipality, State, Federal, or other public agency; by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:
 - a. The chief executive officer of the agency, or
 - b. A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.
- b. All reports required by the permit and other information requested by the Director shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - i. The authorization is made in writing by a person described above.
 - ii. The authorization specified either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, or position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and
 - iii. The written authorization is submitted to the Director.
- c. Any person signing a document under this section shall make the following certification: "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

25. **Availability of Reports**

Except for data determined to be confidential under APC&EC Regulation 6, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Department of Environmental Quality. As required by the Regulations, the name and address of any permit applicant or permittee, permit applications, permits, and effluent data shall not be considered confidential.

26. **Penalties for Falsification of Reports**

The Arkansas Air and Water Pollution Control Act provides that any person who knowingly makes any false statement, representation, or certification in any application, record, report, plan, or other document filed or required to be maintained under this permit shall be subject to civil penalties and/or criminal penalties under the authority of the Arkansas Water and Air Pollution Control Act, Ark. Code Ann. § 8-4-101 *et seq.*

27. **Applicable Federal, State, or Local Requirements**

Permittees are responsible for compliance with all applicable terms and conditions of this permit. Receipt of this permit does not relieve any operator of the responsibility to comply with any other applicable Federal, State, or local statute, ordinance policy, or regulation.

Part III
DEFINITIONS

“Act” means the Arkansas Water and Air Pollution Control Act (A.C.A. §. 8-4-101 *et seq.*) as amended.

“APCEC” means the Arkansas Pollution Control and Ecology Commission.

“Applicable water quality standards” means all water quality standards to which a discharge is subject under the federal Clean Water Act and which has been (a) approved or permitted to remain in effect by the Administrator following submission to the Administrator pursuant to Section 303 (a) of the Act, or (b) promulgated by the Director pursuant to Section 303(b) or 303(c) of the Act, and standards promulgated under Regulation No. 2, as amended, (regulation establishing water quality standards for surface waters of the State of Arkansas).

“Brine” means water containing more dissolved inorganic salt than typical seawater and/or water containing salts in solution, such as sodium, calcium or bromides.

“Department” means the Arkansas Department of Environmental Quality (ADEQ).

“Director” means the Director of the Arkansas Department of Environmental Quality.

“Severe property damage” means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in products.

“Tail brine” means the residual brine left after the debromination process.

STATEMENT OF BASIS

This Statement of Basis is for information and justification of the permit limits only and is not enforceable. This permit decision is for renewal of a no-discharge operation under permit number 0690-WR-4 and AFIN (file) number 14-00011.

1. PERMITTING AUTHORITY

Arkansas Department of Environmental Quality
Water Division, Permits Branch
5301 Northshore Drive
North Little Rock, Arkansas 72118-5317

2. APPLICANT

Albemarle Corporation
P. O. Box 729
Magnolia, AR 71754-0729

3. FACILITY LOCATION

The facility is located as follows: 4.3 miles west of Magnolia, near the community of Magnolia in Columbia County, Arkansas. The facility is located at the following coordinates:

Latitude: 33° 15' 47" North Longitude: 93° 18' 56" West

4. RECEIVING STREAM LOCATION

The facility is located 1320 feet from Dismukes Branch in Stream Segment 1A of the Red River basin which is not listed in the latest ADEQ 303(d) list of impaired waters.

5. PREPARED BY

The permit was prepared by:

Linda Hanson, P.G.
Geologist, P. G.
Permits Branch, Water Division
501-682-0646

6. PREVIOUS PERMIT ACTIVITY

Previous Permit No.: 0690-WR-3
Previous AFIN: 14-00011
Effective Date: February 24, 2006
Expiration Date: February 23, 2011

The permittee submitted a permit renewal application on 8/3/2010. It is proposed that the current water no-discharge permit be reissued for a 5-year term. This permit will have modifications consisting of the deletion of the tail brine management sampling as currently listed in Condition 13 of permit no. 0690-WR-3 and the addition of a new condition to the permit to include the Dow UIC disposal well as an effluent disposal option. The tail brine management system is currently covered under permit no. 4007-WR-2. The current leachate 1 (L1) and leachate 5 (L5) sampling requirements should not change as listed in condition 13 of permit no. 0690-WR-3.

Permit 0690-W was originally issued as a no-discharge brine disposal permit when the Albemarle West Plant (at that time the Dow Chemical Company (Dow)) replaced the existing earthen tail brine ponds with tanks. At that time, recovered ground water was discharged into the brine ponds. The tanks were installed to prevent the leakage of brine constituents from the ponds. Shortly after that time period, Dow installed a remediation system, including a leachate interception system and subsequently a leachate treatment system to address the subsurface organics chemicals that had been recently discovered in the ground water. Permit 0690-W was used to track the operation of these systems. Ethyl Corporation acquired the West Plant facility from Dow in 1987. Albemarle spun off from Ethyl in 1995. When Ethyl acquired the facility in 1987, Dow retained a small portion of the property, as well as liability for the clean-up of existing contamination. Dow, Albemarle, and ADEQ entered into a Consent Agreement Order in 2002 for clean-up of the site (CAO LIS 02-061). During the time since the issuance of permit 0690-W, the regulated systems have continued to function. Monitoring has continued basically unchanged since the early 1980's. Dow constructed and operates a Class I hazardous waste Underground Injection Control (UIC) disposal well (permit no. 0017-UR-1) to replace the groundwater stripper used to treat the organic chemicals in the ground water.

7. APPLICANT ACTIVITY

Under the standard industrial classification (SIC) code 1499 or North American Industry Classification System (NAICS) code 212399, the applicant activities are the operation of the surface facilities associated with a brine management and pretreatment system.

8. WASTE STORAGE COMPONENT(S)

- a. Leachate interception system
- b. Connecting underground pipeline
- c. Tie in to existing Class V injection well system (permit no. 4007-WR-2)
- d. Dow UIC hazardous waste disposal well (permit no. 0017-UR-1)

9. STORAGE VOLUME REQUIREMENTS

The storage volume of barrels required for the waste generated at the facility is based on the size of the facility and the amount of waste to be stored.

10. SOLIDS REMOVAL

Solid material accumulated in all waste storage basins shall be removed as necessary to maintain the basin's design volume.

11. CHANGES FROM THE PREVIOUSLY ISSUED PERMIT

- a. The deletion of the tail brine management sampling as currently listed in Condition 13 of permit no. 0690-WR-3.
- b. The addition of a new condition to the permit to include the Dow UIC disposal well as an effluent disposal option.

12. BASIS FOR PERMIT CONDITIONS

The Arkansas Department of Environmental Quality has made a tentative determination to issue a permit for the no-discharge facility as described in the application and waste management plan. Permit requirements and conditions are based on regulations pursuant to the Arkansas Water and Air Pollution Control Act (Ark. Code Ann. 8-4-101 *et seq* and A.C.A. Sec. 8-4-201 *et seq.*) Standard Conditions have been included in this permit based on generally accepted scientific knowledge, engineering practices, and the authority of the Arkansas Water and Air Pollution Control Act (Ark. Code Ann. § 8-4-101 *et seq.*).

13. PERMIT COMPLIANCE

Compliance is required on the effective date of the permit.

14. SOURCES

The following Sources were used to draft the permit:

- a. APC&EC Regulation 1, Regulation for the Prevention of Pollution by Salt Water and other Oil Field Wastes Produced by Wells in All Fields or Pools, as amended
- b. APC&EC Regulation No. 2, Water Quality Standards for Surface Waters of the State of Arkansas, as amended.
- c. APC&EC Regulation No. 8, Administrative Procedures, as amended.
- d. APC&EC Regulation No. 9, Fee System for Environmental Permits, as amended.
- e. Arkansas Water and Air Pollution Control Act. (Ark. Code Ann. 8-4-101 *et seq*)
- f. Integrated Water Quality and Assessment Report (305(b) Report)
- g. CAO LIS 02-061
- h. Application for permit no. 0690-WR-4 received 8/3/2010.
- i. Additional maps and diagrams required for the application received 8/16/2010.



ARKANSAS
Department of Environmental Quality

RESPONSE TO COMMENTS

This is the Water Division's response to comments received on the subject draft permit in accordance with Reg. 8.211(A)(2) promulgated by the Arkansas Pollution Control and Ecology Commission (APCEC) pursuant to Arkansas Code Annotated § 8-4-202 *et seq.*

Subject: Permit No. 0690-WR-4
Albemarle Corporation
Magnolia West Plant, Magnolia, Arkansas
Surface Facilities Associated with the Brine Management and Disposal System
Permit Renewal Application

Prepared by: Linda Hanson, Geologist P. G., Permits Branch, Water Division

The following comments were received on the draft permit:

An email from Steve Card, Regulatory Advisor, Albemarle Corporation, received May 14, 2012.

ISSUE #1:

The commenter stated that in the Statement of Basis, Section 8 (c) - the leachate storage tanks on Albemarle property have been removed. All leachate is now pumped via closed underground pipelines from the existing sumps, to the Dow Class I Injection Well (0017-UR-1) storage tanks.

RESPONSE #1:

The Department agreed to modify Section 8. (c). of the Statement of Basis by deleting item (c) to reflect the fact that the leachate storage tanks have been removed.

ISSUE #2:

Regarding Part 1, Specific Conditions 6, 8, and 9, the commenter stated that these conditions appear to be for the Dow Injection Well (0017-UR-1). Dow is currently reporting the volume of brine/leachate treated and disposed in the unit. They also have posted a permanent sign and have lockable gates to the injection well site. Please remove these items from 0690-WR-4.

RESPONSE #2:

The Department acknowledges the request to remove these conditions from the Permit. Since the Dow Chemical Company is reporting the volume of leachate and has a permanent sign and lockable gates to the injection well site, these requirements are already covered by Permit No. 0017-UR-1. The Department agrees to remove these items from 0690-WR-4.