

**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.*)

Great Lakes Chemical Corporation

is authorized to operate and maintain the surface facilities associated with the Central Plant Brine Disposal System located as follows: on Highway 15 2.6 miles southwest of El Dorado in Union County, Arkansas. The facility is located at the following coordinates:

Latitude: 33° 11' 9" North Longitude: 92° 42' 20" West


The facility is located 2246 feet from a tributary to Bayou de L'Outre in Stream Segment 2D of the Ouachita 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: March 1, 2013

Expiration Date: February 28, 2018



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



Issue Date

Part I
SPECIFIC CONDITIONS

1. This permit is applicable to the **surface facilities** of the Brine Disposal System, that currently dispose of recovered ground water from ground water recovery wells, recovered brine from spills or pipeline failures, and tail brine from the GLS Central Plant and South Plant and Tetra Technologies, Inc. These surface facilities include any storage tanks, pipelines, and/or other equipment within the secondary containment resulting from the bromine production equipment to the inlet of a Class V UIC nonhazardous waste disposal well. No other materials or solids characterized as hazardous, as defined under Arkansas Pollution Control and Ecology Commission (APCEC) Regulation No. 23, shall be managed in this facility.
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. **This permit does not authorize the operator to inject.** Notification of any discharge shall be reported in accordance with Condition 13, Part II of this permit.
3. Under normal operating conditions the resultant filtered water and brine from the Brine Disposal System shall be injected into Class V UIC injection wells SWD 15, SWD 5, SWD 17, SWD 8, SWD 7, SWD 3A, SWD 13, SWD 4, SWD 6A, and SWD Draper (permitted by AOGC). By-passing of the disposal system is prohibited and will result in revocation of this permit and/or other appropriate enforcement action by the Department.
4. Around the above ground storage tank there shall be an impermeable containment berm (firewall) capable of holding 1.5 times the capacity of the tank. No drains, valves, siphon hoses, or gates should be installed that would allow the uncontrolled discharge of fluids, included collected stormwater, contained within the firewall. Draining of uncontaminated collected stormwater from within the firewall (not mixed with EPA-defined non-exempt RCRA waste) is not allowed unless the contained stormwater has been visually inspected and meets the criteria for stormwater as listed in AOGC Rule B-26, Section e)5)A).
5. After initial notification of any discharge as stated in Part I, Specific Condition No. 4, the permittee shall submit a written description of the violation and its cause, the period of the violation (including times and dates), and if the violation has not been corrected, the anticipated time it is expected to continue, and steps taken to or planned to reduce, eliminate, and prevent the recurrence of the violation.
6. The containment berm (firewall) should be kept free of excess vegetation that might compromise containment capabilities or cause leakage from the containment berm. Stormwater runoff commingling with waste will be collected in a sump that pumps back into the system and by vacuum trucks that collect the runoff and haul it to a permitted non-hazardous UIC well for disposal.
7. All above ground transmission pipelines must be kept free from excessive vegetation along their entire length such that it may be visually inspected by the operator and ADEQ inspectors.
8. The permittee shall submit detailed plans and specifications to the Department sixty (60) days prior to the closure of the Brine Disposal System in order to allow the Department sufficient review time.

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 (including annual permit fees following the initial permit fee that will be invoiced every year the permit is active) 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

14. Penalties for Tampering

The Arkansas Water and Air Pollution Control Act, Ark. Code Ann. § 8-4-101 *et seq.* provides that any person who falsifies, tampers with, or knowingly renders inaccurate, any monitoring device or method required to be maintained 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 ten thousand dollars (\$10,000) or by both such fine and imprisonment.

15. Laboratory Analysis

All laboratory analyses submitted to the Department shall be completed by a laboratory certified by ADEQ under Ark. Code Ann. § 8-2-201 *et seq.* Analyses for the permittee's internal quality control or process control do not need to be performed by an ADEQ certified laboratory.

16. Retention of Records

The permittee shall retain records of all monitoring information, copies of all reports required by this permit, and records of all data used to complete the application for this permit for a period of at least 3 years from the date of the sample, measurement, report, or application. This period may be extended by request of the Director at any time.

17. Record Contents

Records and monitoring information shall include:

- A. The date, exact place, time, and methods of sampling or measurements, and preservatives used, if any;
- B. The individual(s) who performed the sampling or measurements;
- C. The date(s) the analyses were performed;
- D. The individual(s) who performed the analyses;
- E. The analytical techniques or methods used; and
- F. The measurements and results of such analyses.

18. Inspection and Entry

The permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

- A. Enter upon the permittee's premises where a regulated facility or 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 (including monitoring and control equipment), practices, or operations regulated or required under this permit,
- D. Sample, inspect, or monitor at reasonable times, for the purposes of assuring permit compliance any substances or parameters at any location.

19. Planned Changes

The permittee shall give notice and provide the necessary information to the Director for review and approval prior to any planned physical alterations or additions to the permitted facility.

20. Anticipated Noncompliance

The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

21. Transfers

The permit is nontransferable to any person except after notice to the Director. The Director 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 under the Act.

22. Duty to Provide Information

The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying; revoking and reissuing or terminating this permit; or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit. Information shall be submitted in the form, manner and time frame requested by the Director.

23. Duty to reapply

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit. The complete application shall be submitted at least 180 days before the expiration date of this permit. The Director may grant permission to submit an application less than 180 days in advance but no later than the permit expiration date. Conditions of this permit will continue in effect past the expiration date pending issuance of a new permit, if:

- A. The permittee has submitted a timely and complete application; and
- B. The Director, through no fault of the permittee, does not issue a new permit prior to the expiration date of the previous permit.

24. Signatory Requirements

- a. All applications, reports or information submitted to the Director shall be signed and certified. All permit applications shall be signed as follows:
 - i. For a corporation: by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:

- 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.

“**AOGC**” means the Arkansas Oil and Gas Commission.

“**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.

“**Pumper**” means the individual whose responsibilities include checking tank levels, making sure the chemical injection pumps and other pumps are operating properly, verifying annulus pressure, injection pressure, and flow volume throughout the system and to the injection wells on a daily basis.

“**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.

“**UIC**” means Underground Injection Control.

Permit 3883-WR-1 was issued 3/8/1994, effective 4/7/1994, with no expiration date. It was a modification reflecting changes in the system consisting of the consolidation of permits 0620-WR-3 and permit 0863-WR-2 into permit 3883-W to reflect the consolidation of the Central Plant and South Plant brine disposal systems.

Permit 3883-W was issued 10/10/1989, effective 11/11/1989, with no expiration date, for the El Dorado Plant (now Central Plant) Brine Disposal System.

6. Permit Activity

Previous Permit No.: 3383-WR-3

Issue Date: 10/31/2007

Effective Date: 11/1/2007

Expiration Date: 10/31/2012

The permittee submitted a permit renewal application on 11/7/2011. It is proposed that the current water no-discharge permit be issued for a 5-year term.

Legal Order Review:

There are currently no active Consent Administrative Orders (CAOs) or Notice of Violations (NOVs) for this facility.

Site Visit/Inspection:

The most recent inspection was performed on 1/11/2012. The facility was found to be in compliance other than a 525 barrel brine spill which was reported and therefore required no response. A site visit was conducted on 8/8/2012 to verify secondary containment parameters.

7. Applicant Activity

Under the standard industrial classification (SIC) code 4619 or North American Industry Classification System (NAICS) code 486990, the applicant activities are the operation of the surface facilities associated with a brine disposal system.

8. Waste Storage Component(s)

Tail brine is collected in an open top fiberglass tank 95' in diameter and 16' high with a capacity of 850,000 gallons. Tail brine disposal is approximately 99,315 barrels daily (109,184 maximum). Secondary containment is composed of compacted earth and clay and has a capacity of approximately 1,500,000 gallons. The system is monitored daily by the pumpers and by airplane as well as daily visual inspection of pressure charts at the injection wells and at the tail brine tank. In addition, the system is equipped with a radio monitoring system that sends an alarm to the plant control room in the event of any interruption of the operation of the system, thus ensuring that the system is shut-off to prevent any spills or releases from the system. Stormwater/rainwater collected in the secondary containment is either collected by a sump and pumped back into the system or collected by a vacuum truck and hauled to the Newell Plant UIC well WDW 7N for disposal.

9. Storage Volume Requirements

The storage volume required for the waste generated at the facility, based on the size of the facility and the amount of waste to be stored, is at least 1.5 times the size of the largest tank (850,000 gallons).

10. Solids Removal

Solid material accumulated in all waste storage basins shall be removed as necessary to maintain the basin's design volume. The solids will be tested, and if found to be non-hazardous, will be sent to a permitted landfill for disposal.

11. Changes from the Previously Issued Permit

Changes from the previous permit consist of adding recovered ground water to the disposal stream and describing the connection of the GLS Central Plant's disposal system to the GLS West Plant, Tetra Technologies, Inc., and the GLS South Plant. Also, tail brine from the Albemarle East Plant is no longer included in the system.

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.*).

Secondary Containment Volume Requirement:

The requirement for secondary containment of 1.5 times the largest tank volume is derived from Arkansas Oil and Gas Commission Rule B-26: General Lease Operating Requirements, e) Containment Dikes or Other Containment Structures, 2) which states that "Required containment dikes or other approved structures shall be designed to have a capacity of at least 1.5 times the largest tank the containment dike or approved structure surrounds."

13. 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.
- b. APC&EC Regulation No. 2, Regulation Establishing Water Quality Standards for Surface Waters of the State of Arkansas.
- c. APC&EC Regulation No. 8, Administrative Procedures.
- d. APC&EC Regulation No. 9, Fee Regulation.
- 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. ADEQ Permit 0000-WG-SW, Authorization To Construct And Operate The Surface Facilities Associated With A Disposal System For Injection Of Salt Water And Other Oil Field Wastes Under The Provisions Of The Arkansas Water And Air Pollution Control Act.
- h. AOGC Rule B-26, General Lease Operating Requirements.
- i. Application for permit no. 3883-WR-4 received 11/7/2011.
- j. The most recent inspection was performed on 1/11/2012.
- k. Site visit conducted 8/8/2012.
- l. Site plan received 10/17/2012.
- m. Site plan received 10/24/2012.
- n. Additional information received 11/6/2012.

**RESPONSE TO COMMENTS
FINAL PERMITTING DECISION**

Permit No.: 3883-WR-4

Applicant: Great Lakes Chemical Corporation
Central Plant Tail Brine Disposal System

Prepared by: Linda Hanson, P. G.

The following are responses to the comment received regarding the draft permit number above and are developed in accordance with regulations promulgated in APCE&C Regulation No. 8, Administrative Procedures.

Introduction

The above permit was submitted for public comment on November 21, 2012. The public comment period ended on December 21, 2012.

This document contains a summary of the comment that the Arkansas Department of Environmental Quality (hereinafter ADEQ) received during public comment period. A summary of the changes can be found on the last page of this document.

The following people or organizations sent comments to the ADEQ during the public notice and public hearing. A total of one (1) comment was raised by one (1) commenter.

	<u>Commenter</u>	<u># of comments raised</u>
1.	Randall Whitmore Environmental Manager Great Lakes Chemical Corporation	1

Comment 1 Part 1, Specific Condition #4: The commenter states that the section of the permit containing the following condition: “Draining of uncontaminated collected stormwater from within the firewall (not mixed with EPA-defined non-exempt RCRA waste) is not allowed.” prohibits any stormwater from ever being discharged from a tank containment area, even if it is clean. He stated that he felt the permittee should be allowed to discharge uncontaminated stormwater after visually inspecting the contained stormwater (look for oily sheen, etc.), also sampling and analyzing this water for the appropriate contaminants (in this case, Chlorides, or TDS, or Specific Conductivity). He also stated that documentation of the inspection, sampling, and testing would have to be maintained by the permittee and that he would appreciate the ADEQ reviewing this Specific Condition and making changes to allow for the discharge of uncontaminated stormwater.

Response: The Department acknowledges this comment and has changed Part 1 Specific Condition #4 to read as follows:

Around the above ground storage tank there shall be an impermeable containment berm (firewall) capable of holding 1.5 times the capacity of the tank. No drains, valves, siphon hoses, or gates should be installed that would allow the uncontrolled discharge of fluids, included collected stormwater, contained within the firewall. Draining of uncontaminated collected stormwater from within the firewall (not mixed with EPA-defined non-exempt RCRA waste) is not allowed unless the contained stormwater has been visually inspected and meets the criteria for stormwater as listed in AOGC Rule B-26, Section e)5)A).