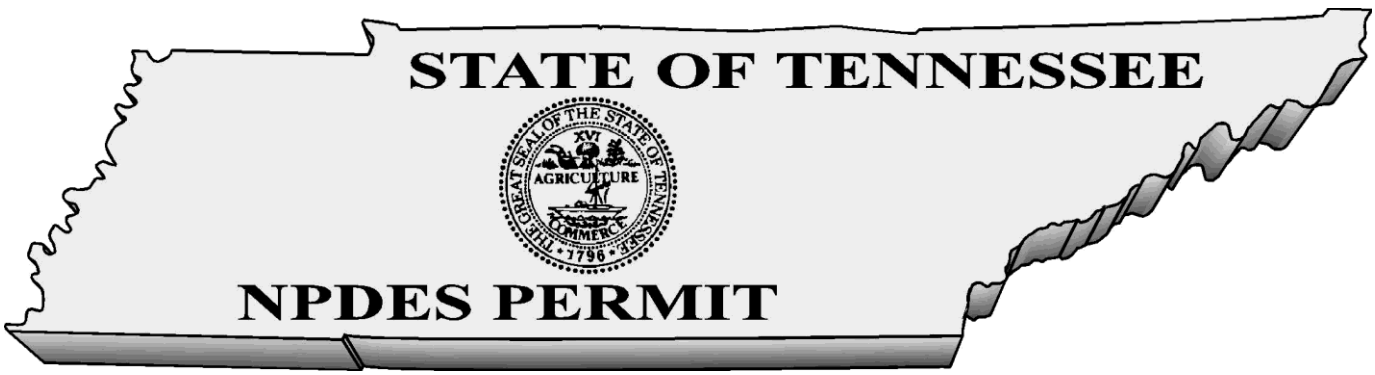


GENERAL NPDES PERMIT FOR
DISCHARGES OF TREATED GROUNDWATER ASSOCIATED WITH

UNDERGROUND STORAGE TANK REMEDIATION

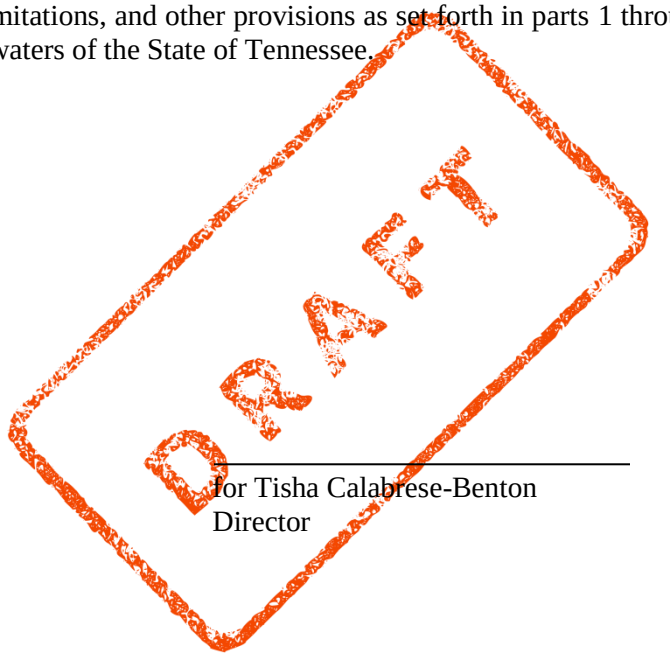
PERMIT NO. TNG830000

Under authority of the Tennessee Water Quality Control Act of 1977 (~~T.C.A. 69-3-101~~T.C.A. 69-3-101 et seq.) and the authorization by the United States Environmental Protection Agency under the Federal Water Resources Act, as amended by the Clean Water Act of 1977 (~~33 U.S.C. 1251~~33 U.S.C. 1251, et seq.) and the ~~Water Quality Act of 1987, P.L. 100-4~~Water Quality Act of 1987, P.L. 100-4, except as provided in part 1.3.3 (~~Discharges into Waters with Unavailable Conditions~~Discharges into Waters with Unavailable) of this general permit, operators of point source discharges of treated groundwater associated with underground storage tank remediation into waters of the State of Tennessee, are authorized to discharge treated groundwater associated with underground storage tank remediation in accordance with the following permit monitoring and reporting requirements, effluent limitations, and other provisions as set forth in parts 1 through 10 herein, from the subject outfalls to waters of the State of Tennessee.

This permit is issued on:

This permit is effective on:

This permit expires on:



for Tisha Calabrese-Benton
Director

Tennessee General Permit No. TNG830000
Discharges of Treated Groundwater Associated with
Underground Storage Tank Remediation

Table of Contents

1. COVERAGE UNDER THIS GENERAL PERMIT 1
1.1. PERMIT AREA 1
1.2. LIST OF THE TDEC ENVIRONMENTAL FIELD OFFICES (EFOS) AND CORRESPONDING COUNTIES 1
1.3. ELIGIBILITY 1
1.3.1. Discharges Covered 1
1.3.2. Limitations on Coverage 1
1.3.3. Discharges into Waters with Unavailable Parameters 2
1.3.4. Threatened and Endangered Species Protection 4

2. AUTHORIZATION TO DISCHARGE UNDER THIS PERMIT 5

3. NOTICE OF INTENT (NOI) REQUIREMENTS 5
3.1. DEADLINES 5
3.1.1. Existing Site 5
3.1.2. New Site or a Site with Expanded Discharge 5
3.1.3. New Operator 6
3.2. SIGNATORY REQUIREMENTS FOR THE NOI 6
3.3. CONTENT OF THE NOI 7
3.4. WHERE TO SUBMIT 7
3.5. ELECTRONIC SUBMISSION OF NOIS 8
3.6. ADMINISTRATIVE PROCEDURE FOR OBTAINING NOTICE OF COVERAGE (NOC) 8

4. EFFLUENT LIMITS 9

5. MONITORING 10
5.1. EFFECT OF SAFETY CONSIDERATIONS ON MONITORING REQUIREMENTS 15

6. REPORTING 15
6.1. MONITORING RESULTS 15
6.2. WHERE TO SUBMIT 16
6.3. ADDITIONAL MONITORING BY DISCHARGER 16

7. STANDARD PERMIT CONDITIONS 17
7.1. DUTY TO COMPLY 17
7.1.1. Permittee's Duty to Comply 17
7.1.2. Penalties for Violations of Permit Conditions 17
7.2. DUTY TO REAPPLY 18
7.2.1. Permittee's Duty to Reapply 18
7.2.2. Continuation of the Expired General Permit 18
7.3. DUTY TO PROVIDE INFORMATION 18
7.4. SIGNATORY REQUIREMENTS 18
7.4.1. Signatory Requirements 18
7.4.2. Changes to Authorization 19
7.4.3. Certification 19
7.5. PLANNED CHANGES 20

7.6. Requiring an Individual Permit, an Alternative General Permit, or Other Corrective Action 20
7.6.1. Division of Water Resources Designation 20
7.6.2. Individual Permit Application 21
7.6.3. Individual/Alternative General Permit Issuance 21
7.7. State/Environmental Laws 21
7.7.1. Oil and Hazardous Substance Liability 21
7.7.2. Property Rights 22
7.7.3. Severability 22
7.8. Proper Operation and Maintenance 22
7.9. Monitoring, Records, and Reporting 22
7.9.1. Representative Samples/Measurements 22
7.9.2. Retention of Records 22
7.9.3. Records Contents 22
7.9.4. Approved Monitoring Methods 23
7.9.5. Reporting 23
7.9.6. Penalties for Falsification of Reports 23
7.10. Inspection and Entry 23
7.11. Permit Actions 24
7.12. Bypass of Treatment Facility 24
7.13. Noncompliance 24
7.14. Upset 25
7.15. Need to Halt or Reduce Activity Not a Defense 25
7.16. Placement of signs 25

8. REOPENER CLAUSE 26
8.1. Potential or Realized Impacts on Water Quality 26
8.2. Applicable Regulations 26

9. TERMINATION OF COVERAGE 26
9.1. Notice of Termination 26
9.2. Where to Submit 27
9.3. Electronic Submission of Notice of Termination 27

10. DEFINITIONS 27

11. RATIONALE 31
11.1. Introduction 31
11.2. Background 31
11.3. Description of Discharges 31
11.4. Present Permit Conditions 32
11.5. Proposed Permit Conditions 33
11.5.1. State and EPA requirements 33
11.5.2. Pollutants to be limited and standard technology 33
11.5.3. Proposed narrative water quality based conditions 37
11.5.4. Monitoring and reporting requirements 37
11.6. General Permit Issuance Procedures 38
11.7. Permit Issuance and Public Notice Procedures 38

APPENDIX A – Notice of Intent (NOI) A-1

1. COVERAGE UNDER THIS GENERAL PERMIT

1.1. Permit Area

The permit is being issued for the entire State of Tennessee.

1.2. List of the TDEC Environmental Field Offices (EFOs) and Corresponding Counties

EFO Name	List of Counties
Chattanooga	Bledsoe, Bradley, Grundy, Hamilton, Marion, McMinn, Meigs, Polk, Rhea, Sequatchie
Columbia	Bedford, Coffee, Franklin, Giles, Hickman, Lawrence, Lewis, Lincoln, Marshall, Maury, Moore, Perry, Wayne
Cookeville	Cannon, Clay, Cumberland, De Kalb, Fentress, Jackson, Macon, Overton, Pickett, Putnam, Smith, Van Buren, Warren, White
Jackson	Benton, Carroll, Chester, Crockett, Decatur, Dyer, Gibson, Hardeman, Hardin, Haywood, Henderson, Henry, Lake, Lauderdale, Madison, McNairy, Obion, Weakley
Johnson City	Carter, Greene, Hancock, Hawkins, Johnson, Sullivan, Unicoi, Washington
Knoxville	Anderson, Blount, Campbell, Claiborne, Cocke, Grainger, Hamblen, Jefferson, Knox, Loudon, Monroe, Morgan, Roane, Scott, Sevier, Union
Memphis	Fayette, Shelby, Tipton
Nashville	Cheatham, Davidson, Dickson, Houston, Humphreys, Montgomery, Robertson, Rutherford, Stewart, Sumner, Trousdale, Williamson, Wilson

TDEC may be reached by telephone at the toll-free number 1-888-891-8332 (TDEC). Local EFOs may be reached directly when calling this number from the site, using a land line.

1.3. Eligibility

1.3.1. Discharges Covered

This permit addresses any new or existing discharges of treated groundwater associated with petroleum product underground storage tank (UST) remediation, to surface waters of the State of Tennessee. This permit serves as a National Pollutant Discharge Elimination System (NPDES) general permit and is issued to be effective for a term of five years.

1.3.2. Limitations on Coverage

This general permit does not apply to discharges that the director of Water Resources (director) determines will cause, have the reasonable potential to cause, or contribute to violations of water quality standards or to any person who discharges in violation of the Water Quality Control Act or the regulations promulgated there under. In addition, this permit shall not apply to discharges to a receiving stream that will result in a~~n~~ significant increased loading of a pollutant that is given as a cause of ~~degradation~~ impairment to the receiving stream. The following discharges are not authorized by this permit:

a) Discharges not authorized by the Division of Underground Storage Tanks – The division may deny applicant coverage under this permit if the applicant has not obtained approval for cleanup activities from the Division of Underground Storage Tanks~~, under Underground Storage Tank Program Rule 1200-1-15~~. Any remedial action required to be performed by a permittee at a site by the Division of Underground Storage Tanks will be managed by the Division of Underground Storage Tanks.

b) Discharges into Outstanding National Resource Waters – The director shall not grant coverage under this permit for discharges into waters that are designated by the Water Quality Control Board as Outstanding National Resource Waters (ONRWs) Designation of ONRWs are made according to TDEC Rules, Chapter 0400-4-3-.06.

c) Storm Water Discharges – Storm water discharges associated with construction or industrial activity are not authorized under this permit.

d) Discharges Covered by Another Permit – Discharges associated with underground storage tank remediations that have been issued an individual permit.

e) Discharges Threatening Water Quality – Discharges from underground storage tank remediation sites, that the director determines will cause, have the reasonable potential to cause, or contribute to violations of water quality standards. Where such determination has been made, the discharger will be notified by the director in writing that an individual permit application is necessary per subpart 7.6 below. However, the division may authorize coverage under this permit after appropriate controls and implementation procedures have been designed to bring the discharge into compliance with water quality standards.

f) Discharges into Streams with Unavailable Parameters ~~Conditions~~ (Impaired Waters) – This permit does not authorize discharges that would add loadings of a pollutant that is identified as causing or contributing to the impairment of a water body that is listed as having unavailable ~~conditions~~parameters.

g) Discharges Negatively Affecting a Property on the National Historic Register – Underground storage tank remediation discharges that would negatively affect a property that is listed or is eligible for listing in the National Historic Register maintained by the Secretary of Interior.

General permits may be issued, modified, revoked, reissued or terminated in accordance with the applicable requirements of T.C.A. § 69-3-108.

1.3.3. Discharges into Waters with Unavailable ~~Conditions~~Parameters

a) This part of the permit applies to all existing or proposed discharges into waters with unavailable ~~conditions~~parameters~~, or~~ (previously referred to as impaired waters). Waters with unavailable ~~conditions~~ parameters exist where water quality is at, or fails to meet, the criterion for one or more parameters. In unavailable ~~conditions~~parameters, new or increased discharges of a substance that would cause or contribute to a condition of impairment will not be allowed. Where impairment by habitat alteration exists, additional significant loss of habitat within the same area of influence shall not be authorized unless avoidance, minimization, or in-system mitigation can render the impact de minimis.

Pollutants of concern associated with discharges of treated groundwater associated with petroleum product UST remediation sites are listed in part 4~~4 below: Effluent Limits~~ of

this general permit. To obtain authorization under this permit, discharges into receiving streams with unavailable ~~conditions~~ parameters for pollutants of concern must satisfy special conditions described in this part and must have a de minimis impact. These special conditions also apply to discharges upstream of waters with unavailable conditions, which, because of the proximity to the impaired segment and the nature of the discharge, are likely to contribute pollutants for which the receiving water is impaired in amounts that are measurable in the impaired segment. The owner or operator must satisfy the following conditions to be eligible to obtain and maintain coverage under this permit:

(i) Before a Total Maximum Daily Load (TMDL)

Existing Discharges. These are discharges other than expanded dischargers from facilities that were in existence on the expiration date of the previous UST general permit. It is one of the purposes of this general permit not to authorize the discharge of pollutants in such a manner as to cause or contribute to a violation of any water quality standards. Therefore, if a ~~Total Maximum Daily Load (TMDL)~~Total Maximum Daily Load (TMDL) (TMDL information is available at https://www.tn.gov/environment/program-areas/wr-water-resources/watershed-stewardship/tennessee-s-total-maximum-daily-load--tmdl--program.html) has not been developed at the time of filing of the Notice of Intent (NOI), in order to obtain coverage under this permit the owner or operator must certify that the groundwater treatment methods and control measures selected for the site are the most appropriate for the reduction of pollutants at the site and that these treatment methods and control measures are designed, and will be implemented to effectively minimize contributions of pollutants of concern. A failure to implement treatment methods and control measures so as to minimize contributions of those pollutants is a violation of this permit.

New or Expanded Discharges. New discharges are ones from facilities that were not in existence on the effective date of this permit. Expanded discharges are ones from sites that increased loading of a pollutant of concern from the site after the effective date of this permit. Permit coverage for new or expanded discharges of a pollutant of concern is not available under this permit and the owner or operator must seek coverage under a separate (individual) permit.

(ii) After a Total Maximum Daily Load (TMDL)

If a Total Maximum Daily Load (TMDL) has been developed and approved for the receiving water body, where the discharge is new, expanded or existing, discharges from the facility must be consistent with the applicable provisions of the TMDL. In the situation where the limitations of this permit allow discharge of pollutants of concern in excess of the wasteload allocation (WLA) specified in the TMDL, then the permittee cannot remain authorized under this general permit.

b) Issuance of a Notice of Coverage (NOC) under this general permit will constitute confirmation of the division's finding that the discharges authorized by this general permit are either:

- not into waters with unavailable conditions, i.e., water quality impaired waters; or
- the nature of the discharge is not likely to contribute pollutants of concern, for which the unavailable conditions exist, in amounts measurable in the segment with unavailable conditions.

c) If the division determines at any time that the discharge is causing or contributing to a violation of water quality standards or if the division has any other grounds for modifying or revoking this permit, the division may require corrective action or require the discharge be permitted differently in accordance with part 7.5 ~~(Planned Changes)~~.

1.3.4. Threatened and Endangered Species Protection

a) Issuance of a Notice of Coverage (NOC) under this permit will constitute confirmation of the division's finding that, with properly developed and implemented groundwater treatment methods and control measures selected for the pollutants of concern, the discharges authorized hereunder are not likely to result in the taking of threatened and endangered species.

b) Should the division later determine that the discharges covered by this permit would result in the taking of threatened or endangered species, or are otherwise not in compliance with the Endangered Species Act, the director, after written notification to the permittee, shall either:

(i) Notify the permittee that it is no longer eligible for coverage under this permit and require coverage under an individual NPDES permit. The permittee will continue to be covered under this permit until the division issues an individual NPDES permit for its treated groundwater discharges, provided a timely application for an individual permit is made. A timely application is defined as submitting to the division a complete permit application, including sampling, within 90 days of the notice from the director requiring the application. A permittee may request a later date for the timely submission of an individual NPDES permit application for just cause; or

(ii) Notify the permittee that it must modify its groundwater treatment methods and control measures selected for the pollutants of concern such that as a consequence, the discharges authorized by this permit will not result in the taking of threatened and endangered species and otherwise be in compliance with the Endangered Species Act. The permittee shall have 60 days after such notice to make such modifications to the groundwater treatment methods and control measures, and then 12 weeks to implement these modifications, unless the permittee justifies to the division that a longer time is necessary for their implementation. Should a longer time be required, the permittee shall submit to the division's local Environmental Field Office (see subpart 1.2) a brief summary of the proposed modifications of groundwater treatment methods and control measures, including a timetable for implementation.

~~1.3.5. Permit Eligibility Regarding Protection of Water Quality Standards and Compliance with State Anti-Degradation Requirements~~

~~Pursuant to the Rules of the Tennessee Department of Environment and Conservation (TDEC), Chapter 0400-4-3-.06, titled "Antidegradation Statement," and in consideration of TDEC's directive in attaining the greatest degree of effluent reduction achievable in municipal, industrial, and other wastes, the permittee shall further be required, pursuant to the terms and conditions of this permit, to comply with any applicable Waste Load Allocations (WLAs), effluent limitations and schedules of compliance, required to implement applicable water quality standards, to comply with a state water quality plan or other state or federal laws or regulations, or where practicable, to comply with a standard permitting no discharge of pollutants.~~

2. AUTHORIZATION TO DISCHARGE UNDER THIS PERMIT

Except as provided in ~~subparagraph~~ section 1.3.2~~1.3.2 above (Limitations on Coverage)~~, if the Notice of Intent (NOI) is submitted as set forth in ~~Paragraph~~ part 3~~3 below (Notice of Intent (NOI) requirements)~~, a person is permitted to discharge treated groundwater associated with underground storage tank remediation to the surface waters of the State of Tennessee in accordance with the terms of this permit and of ~~T.C.A. § 69-3-108(b)~~T.C.A. § 69-3-108(b). Any such discharges not permitted under this permit or by an individual permit are unlawful under ~~T.C.A. § 69-3-108(b)~~T.C.A. § 69-3-108(b). The division may grant or deny coverage under this permit or require an application for an individual permit. Upon notice from the division to the applicant, the applicant is covered under this general permit. General permits may be issued, modified, revoked, reissued or terminated in accordance with the applicable requirements of ~~T.C.A. § 69-3-108~~T.C.A. § 69-3-108.

Requesting coverage under this permit means that an applicant has obtained and examined a copy of this permit, and thereby acknowledges applicant's claim of ability to be in compliance with permit terms and conditions.

3. NOTICE OF INTENT (NOI) REQUIREMENTS

3.1. Deadlines

3.1.1. Existing Site

An operator of an existing site presently permitted under a general permit shall submit an NOI in accordance with the requirements of this part not more than 30 days following the effective date of this permit. ~~For an existing site presently permitted under an individual NPDES permit, an NOI shall be submitted 180 days before the individual permit expires.~~

3.1.2. New Site or a Site with Expanded Discharge

An operator of a new source shall submit an NOI in accordance with the requirements of this part at least 30 days before any discharge of treated groundwater to the waters of the state occurs.

3.1.3. New Operator

Where the operator of a site that is covered by this permit changes, the new operator of the site must submit an NOI in accordance with the requirements of this part at least 5 days prior to the change. If the sale or transfer of ownership does not constitute a change of operator, and the signatory requirements for the NOI are still complied with, a new NOI does not have to be submitted.

3.2. Signatory Requirements for the NOI

The NOI must be signed according to signatory requirements of ~~Paragraph~~ section 7.4~~7.4 below (Signatory Requirements)~~ of this permit. The NOI must bear an original signature.

3.3. Content of the NOI

a) An NOI form is provided in Appendix A of this permit. ~~The following information must be included in an NOI:~~

~~The legal and official name of the permittee, the address or description of location of the groundwater treatment site, the name of county in which the site is located, site latitude and longitude;~~

~~The UST Site ID Number;~~

~~A copy of the USGS topographical map, a city map, or a county map, identifying the location of the site and the surface waters receiving the discharge; the site map must show boundaries which extend at least a one mile radius beyond the site of the property;~~

~~The name of the person, firm, organization, or other entity which owns and/or operates the subject site.~~

~~The name, title or position, mailing address and E-mail address of an official contact person, as well as the site contact person (i.e. local contact, if applicable) and an indication of the mailing address where correspondence should be sent;~~

~~Number of treated groundwater discharge outfalls at the site; for each outfall, names and stream miles or location(s) of the receiving stream(s) and/or lake(s);~~

~~Type of product(s) currently or previously stored in tanks located at the site;~~

~~A description of the contamination, assessment study, extent of the contamination, etc.;~~

~~A description of the treatment process, e.g., air stripping with activated carbon absorption, etc., the design capacity of the treatment system, type of discharge (continuous or intermittent);~~

~~Expected starting date for groundwater treatment, and estimated life of remediation project; and~~

~~Any additional information the division may require.~~

b) If the NOI is being submitted due to a change of the operator, or to update information for a site which is currently covered under this permit (such as a site name, change of a contact person, new E-mail address, etc.), the former operator's permit tracking number and the UST Site ID number should be provided, and the "Permit Modification" box at the top of the NOI should be checked.

3.4. Where to Submit

NOIs shall be submitted using the form (or a copy ~~thereof~~) provided in Appendix A of this permit. NOIs are to be submitted to the division at the following address:

UST NOI Processing
Tennessee Division of Water Resources
Tennessee Tower, 11th Floor
312 Rosa L. Parks Ave.
Nashville, TN 37243

3.5. Electronic Submission of NOIs

The division accepts and encourages the submission of signed and scanned NOIs and supporting documentation via email (*water.permits@tn.gov*). If the division notifies dischargers (directly by mail or E-mail, by public notice, or by making information available on the Internet) of other NOI form options that become available at a later date (e.g., electronic submission of forms), the operators may take advantage of those options to satisfy the NOI notification requirements.

3.6. Administrative Procedure for Obtaining Notice of Coverage (NOC)

a) The division will review each Notice of Intent (NOI) for completeness and accuracy. Except as provided in ~~subparagraph~~ section 1.3.2~~1.3.2 above (Limitations on Coverage)~~, a complete and accurate NOI shall be processed as described in subparagraph b) below.

b) Within 30 days of receipt of a complete and accurate NOI, the division will make every effort to transmit to the permittee a notice of coverage (NOC) under this permit, which shall specify the effective date of coverage under the permit. The term of coverage shall not end later than the expiration date of this general permit. Discharges of treated groundwater associated with petroleum product underground storage tank remediation to surface waters of the State of Tennessee are not authorized until the division prepares and transmits to the permittee an NOC.

c) If the division determines the submitted NOI incomplete, or denies an applicant coverage under this general permit, the division shall notify the applicant of this determination.

4. EFFLUENT LIMITS

a) Discharges covered by this permit must comply with the following numerical effluent limits:

Parameter	Effluent Limitation
Benzene	0.005 mg/L as a daily maximum concentration
Ethyl benzene	0.010 mg/L as a daily maximum concentration
Toluene	0.010 mg/L as a daily maximum concentration
Xylene	0.010 mg/L as a daily maximum concentration
Lead, total recoverable	0.45 mg/L as a daily maximum concentration
Lead, total recoverable	0.01~~7~~8 mg/L as a monthly average concentration *
Total Suspended Solids (TSS)	40.0 mg/L as a daily maximum concentration
Floating Material, Color, Foam and Oil Sheen	No distinctly visible floating scum, oil or other matter
pH	6.5 - 9.0 (range)
IC25 (see Note)	Survival, Reproduction, & Growth in 100 % effluent
48 Hour LC50 (see Note)	Survival in 100% effluent

* In addition to the daily maximum concentration limitation for total recoverable lead, monthly average limitation will apply to those treatment systems that are discharging continuously for more than 4 days at any period of time into a zero low-flow receiving stream. **The division will notify the applicant of applicability of this test requirement in writing; the notification will be included with the Notice of Coverage (NOC).**

Note: The type of whole effluent toxicity testing applicable to any discharge depends on the receiving stream low flow conditions. ~~The applicable critical low flow values are determined using either USGS data from: "Flow Duration and Low Flows of Tennessee Streams through 1992 by George S. Law and Jess D. Weaver. Water Resources Investigations Report 95-4293 prepared by the U.S. Geological Survey in Cooperation with the Tennessee Department of Environment and Conservation and the Tennessee Valley Authority, Nashville, Tennessee, 1996" (or the most current edition, or other appropriate USGS sources) or the USGS StreamStats Program for Tennessee. The applicable critical low flow values for Fish and Aquatic Life Protection are: 7Q10 for low flow under natural conditions and 1Q10 for regulated low flow conditions.~~ Discharges into zero low flow receiving streams and streams that provide dilution factor up to 100:1 will have to comply with the numerical effluent limitation for IC25. Discharges with dilution factor of receiving stream to effluent between 100:1 and 500:1 will have to comply with the numerical effluent limitation for 48 hour LC50. If the calculated dilution factor is more than 500:1, and assuming immediate and complete mixing, there will be no WET testing required, unless toxicity was shown in the previous WET tests. Toxicity testing information is summarized in the table below~~If the calculated dilution factor is more than 500:1, and assuming immediate and complete mixing, the permittee can request a waiver of the whole effluent toxicity testing requirement. This information is summarized in the table below~~:

Dilution Factor	0-100	100-500	>500
Type of WET testing	IC25	LC50	No Testing Required
Percent Effluent	100%	100%	Not Applicable

Calculation of dilution factor is as follows:

$$Qs + Qw$$

$$DF = \frac{Qs}{Qw} = \text{Dilution Factor}$$

where Qw is a long-term average treated groundwater flow rate and Qs is a receiving stream low flow ~~(7Q10 or 1Q10, see text above). The waiver of the whole effluent toxicity testing shall be made in writing to the division's Environmental Field Office responsible for the county where the discharge is located (at the address shown in subpart 1.2: List of the TDEC Environmental Field Offices (EFOs) and Corresponding Counties~~) **The division will notify the applicant of applicable WET test requirements in writing; the notification will be included with the Notice of Coverage (NOC).**

b) There shall be no distinctly visible floating scum, oil or other matter contained on or in the treated groundwater discharge.

c) The treated groundwater discharge must result in no other materials in concentrations sufficient to be hazardous or otherwise detrimental to humans, livestock, wildlife, plant life, or fish and aquatic life in the receiving stream.

d) Sludge or any other material removed by any treatment works must be disposed of in a manner which prevents its entrance into or pollution of any surface or subsurface waters. Additionally, the disposal of such sludge or other material must be in compliance with the Tennessee Solid Waste Disposal Act, ~~T.C.A. § 68-31-101~~T.C.A. § 68-31-101 et seq. and the Tennessee Hazardous Waste Management Act, ~~T.C.A. § 68-46-101~~T.C.A. § 68-46-101 et seq.

e) The treated groundwater discharge must not cause an objectionable color contrast in the receiving stream.

f) The permittee shall use best management practices (BMPs) and good engineering practices to prevent contamination of the treated groundwater discharge from materials (including but not limited to excavation pumpout, excavated soil, equipment lubricants and products) associated with underground storage tank remediation activities.

5. MONITORING

a) The permittee must monitor the treated groundwater for the parameters set forth in part 4~~4 above (Effluent Limits)~~ of this permit. Monitoring frequency for these parameters shall be once per quarter, except for the toxicity testing as described in subparagraph c) below, and any exceptions and/or additional monitoring as described in subparagraph f) below.

b) Flow shall be reported in million gallons per day (MGD) as a total daily flow.

c) Whole Effluent Toxicity (WET) Testing

Whole Effluent Toxicity ~~-~~(WET) testing, as prescribed in 40 CFR 136.3 - Identifications of test procedures ~~(40 CFR 136.3)~~, shall be completed within the first 180 days from the effective date of coverage. New operations shall perform these tests for three (3)

consecutive months using two appropriate species, while existing operations shall perform these tests once. If toxicity is determined in ~~this~~ any of these tests, annual testing will be required for the duration of the permit. If toxicity is not demonstrated, annual testing will not be required.

At the end of the initial WET testing period it is the responsibility of the permittee to notify the division of their results and to request either removal of the WET testing requirement or an annual testing frequency, based on their results. Requests should include the permit tracking number assigned, as shown on the Notice of Coverage, and should be submitted to the following address:

UST NOI Processing
Tennessee Division of Water Resources
Tennessee Tower, 11th Floor
312 Rosa L. Parks Ave.
Nashville, TN 37243

Chronic testing

The permittee shall conduct a 3-Brood *Ceriodaphnia dubia* Survival and Reproduction Test and a 7-Day Fathead Minnow *(Pimephales promelas)* Larval Survival and Growth Test on the same samples of final effluent. The measured endpoint for toxicity will be the inhibition concentration causing 25% reduction in survival, reproduction, and growth (IC25) of the test organisms. The IC25 shall be determined based on a 25% reduction as compared to the controls using methods in accordance with the EPA guidance document for the specific test. The average reproduction and growth responses will be determined based on the number of *Ceriodaphnia dubia* or *Pimephales promelas* larvae used to initiate the test.

Test shall be conducted and its results reported based on appropriate replicates of a total of five serial dilutions and a control, using the percent effluent dilutions as presented in the following table:

Serial Dilutions for Whole Effluent Toxicity (WET) Testing					
Permit Limit (PL)	**0.50 X PL**	**0.25 X PL**	**0.125 X PL**	**0.0625 X PL**	**Control**
% effluent					
100	**50**	**25**	**12.5**	**6.25**	**0**

The dilution/control water used will be a moderately hard water as described in Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms, EPA-821-R-02-013, or the most current edition. A chronic standard reference toxicant quality assurance test shall be conducted with each species used in the toxicity test and the results submitted with the discharge monitoring report. Additionally, the analysis of this multi-concentration test shall include review of the concentration-response relationship to ensure that calculated test results are interpreted appropriately.

Toxicity will be demonstrated if the IC25 is less than or equal to the permit limit indicated in the above table. Toxicity demonstrated by the tests specified herein constitutes a violation of this permit.

All tests will be conducted using a minimum of three 24-hour flow-proportionate composite samples of final effluent collected on days 1, 3 and 5. If, in any control, more than 20% of the test organisms die in 7 days, the test (control and effluent) is considered invalid and the test shall be repeated within two weeks. Furthermore, if the results do not meet the acceptability criteria in Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms, EPA-821-R-02-013 (or the most current edition), or if the required concentration-response review fails to yield a valid relationship per guidance contained in Method Guidance and Recommendations for Whole Effluent Toxicity (WET) Testing, EPA-821-B-00-004 (or the most current edition), that test shall be repeated. Any test initiated but terminated before completion must also be reported along with a complete explanation for the termination.

In the event of a test failure, the permittee must ~~start~~ schedule a follow-up test within two weeks and submit results from a follow-up test within 30 days from obtaining initial WET testing results. The follow-up test must be conducted using the same serial dilutions as presented in the corresponding table above. **The follow-up test will not negate an initial failed test. In addition, the failure of a follow-up test will constitute a separate permit violation which must also be reported.**

In the event of two consecutive test failures or three test failures within a 12-month period for the same outfall, the permittee must initiate a Toxicity Identification Evaluation/Toxicity Reduction Evaluation (TIE/TRE) study within 30 days and so notify the division by letter. This notification shall include a schedule of activities for the initial investigation of that outfall. **During the term of the TIE/TRE study, the frequency of biomonitoring shall be once every three months.** Additionally, the permittee shall submit progress reports once every three months throughout the term of the TIE/TRE study. The toxicity must be reduced to allowable limits for that outfall within two years of initiation of the TIE/TRE study. Subsequent to the results obtained from the TIE/TRE studies, the permittee may request an extension of the TIE/TRE study period if necessary to conduct further analyses. The final determination of any extension period will be made at the discretion of the division.

The TIE/TRE study may be terminated at any time upon the completion and submission of two consecutive tests (for the same outfall) demonstrating compliance. Following the completion of TIE/TRE study, the frequency of monitoring will return to a regular schedule, as defined previously in this section. **During the course of the TIE/TRE study, the permittee will continue to conduct toxicity testing of the outfall being investigated at the frequency of once every three months but will not be required to perform follow-up tests for that outfall during the period of TIE/TRE study.**

Test procedures, quality assurance practices, determinations of effluent survival/reproduction and survival/growth values, and report formats will be made in accordance with Short-Term Methods for Estimating the Chronic Toxicity of Effluents

and Receiving Water to Freshwater Organisms, EPA-821-R-02-013, or the most current edition.

Results of all tests, reference toxicant information, copies of raw data sheets, statistical analysis and chemical analyses shall be compiled in a report. The report will be written in accordance with Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms, EPA-821-R-02-013, or the most current edition.

Acute testing

The permittee shall conduct a 48-hour static acute toxicity test on two test species on the same samples of final effluent. The test species to be used are Water Fleas (*Ceriodaphnia dubia)* and Fathead Minnows *(Pimephales promelas*).

The measured endpoint for toxicity will be the concentration causing 50% lethality (LC50) of the test organisms. The LC50 shall be determined based on a 50% lethality as compared to the controls using methods in accordance with the EPA guidance document for the specific test.

Test shall be conducted and its results reported based on appropriate replicates of a total of five serial dilutions and a control, using the percent effluent dilutions as presented in the following table:

Serial Dilutions for Whole Effluent Toxicity (WET) Testing					
Permit Limit (PL)	**0.50 X PL**	**0.25 X PL**	**0.125 X PL**	**0.0625 X PL**	**Control**
% effluent					
100	**50**	**25**	**12.5**	**6.25**	**0**

The dilution/control water used will be moderately hard water as described in Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms, EPA-821-R-02-012 (or the most current edition). An acute standard reference toxicant quality assurance test shall be conducted with each species used in the toxicity tests and the results submitted with the discharge monitoring report. Additionally, the analysis of this multi-concentration test shall include review of the concentration-response relationship to ensure that calculated test results are interpreted appropriately.

Toxicity will be demonstrated if the LC50 is less than or equal to the permit limit indicated in the above table. Toxicity demonstrated by the tests specified herein constitutes a violation of this permit.

All tests will be conducted using four separate grab samples of final effluent, to be used in four separate tests, and shall be collected at evenly spaced (6-hour) intervals over a 24-hour period. If, in any control, more than 10% of the test organisms die in 48 hours, the test (control and effluent) is considered invalid and the test shall be repeated within two weeks. Furthermore, if the results do not meet the acceptability criteria as defined in Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine

Organisms, EPA-821-R-02-012 (or the most current edition), or if the required concentration-response review fails to yield a valid relationship per guidance contained in Method Guidance and Recommendations for Whole Effluent Toxicity (WET) Testing, EPA-821-B-00-004 (or the most current edition), that test shall be repeated. Any test initiated but terminated before completion must also be reported along with a complete explanation for the termination.

In the event of a test failure, the permittee must ~~start~~ schedule a follow-up test within 2 weeks and submit results from a follow-up test within 30 days from obtaining initial WET testing results. The follow-up test must be conducted using the same serial dilutions as presented in the corresponding table above. **The follow-up test will not negate an initial failed test. In addition, the failure of a follow-up test will constitute a separate permit violation which must also be reported.**

In the event of two consecutive test failures or three test failures within a 12 month period for the same outfall, the permittee must initiate a Toxicity Identification Evaluation/Toxicity Reduction Evaluation (TIE/TRE) study within 30 days and so notify the division by letter. This notification shall include a schedule of activities for the initial investigation of that outfall. **During the term of the TIE/TRE study, the frequency of biomonitoring shall be once every three months.** Additionally, the permittee shall submit progress reports once every three months throughout the term of the TIE/TRE study. The toxicity must be reduced to allowable limits for that outfall within two years of initiation of the TIE/TRE study. Subsequent to the results obtained from the TIE/TRE studies, the permittee may request an extension of the TIE/TRE study period if necessary to conduct further analyses. The final determination of any extension period will be made at the discretion of the division.

The TIE/TRE study may be terminated at any time upon the completion and submission of 2 consecutive tests (for the same outfall) demonstrating compliance. Following the completion of TIE/TRE study, the frequency of monitoring will return to a regular schedule, as defined previously in this section. **During the course of the TIE/TRE study, the permittee will continue to conduct toxicity testing of the outfall being investigated at the frequency of once every three months but will not be required to perform follow-up tests for that outfall during the period of TIE/TRE study.**

Test procedures, quality assurance practices and determination of effluent lethality values will be made in accordance with Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms, EPA-821-R-02-012, or the most current edition.

Results of all tests, reference toxicant information, copies of raw data sheets, statistical analysis and chemical analysis shall be compiled in a report. The report shall be written in accordance with Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms, EPA-821-R-02-012, or the most current edition.

d) Sample types shall be as follows, with the exception of ~~sub~~paragraph e) below:

Parameter	Sample Type
Flow	Instantaneous
Benzene	Grab
Ethyl benzene	Grab
Toluene	Grab
Xylene	Grab
Lead, total recoverable	Grab
Total Suspended Solids (TSS)	Grab
Floating Material, Color, Foam and Oil Sheen	Visual
pH	Grab
48 Hour LC50	Grab
IC25	Composite

e) If the division determines that a discharge will not accurately be characterized by grab samples, the division may require the permittee to sample by composite sample. This requirement shall be given by written notice to the permittee.

f) The division may require the permittee to sample for additional parameters, or sample at an increased monitoring frequency, by either grab or composite sample. Replacing or changing the groundwater treatment system at a site may be a cause for the division to require sampling for additional parameters, or sample at an increased monitoring frequency. Any additional requirements shall be given by written notice to the permittee.

5.1. Effect of Safety Considerations on Monitoring Requirements

The division does not require the permittee to jeopardize the safety or health of an individual in order to carry out any monitoring or surveillance requirement of this permit. If the permittee cannot complete any requirement of the permit during the required monitoring period due to severe weather concerns or other precarious site conditions, the permittee must submit the appropriate monitoring form or report along with a detailed explanation of the situation that prevented the permittee from completing the requirement.

6. REPORTING

6.1. Monitoring Results

Monitoring results shall be recorded quarterly and submitted quarterly using ~~Discharge Monitoring Report (DMR)~~Discharge Monitoring Report (DMR) forms~~ supplied by the Division of Water Resources~~. DMRs and DMR attachments, including any supporting laboratory data, shall be submitted electronically in NetDMR no later than the 15th of the month following the end of the monitoring period. A quarter is defined as any one of the following three-month periods: January 1 through March 31, April 1 through June 30, July 1 through September 30, and/or October 1 through December 31. ~~The first DMR is due 15 days after the first complete monitoring period in the effective term of coverage under this permit. Remaining DMRs shall be postmarked no later than 15 days after the completion of the reporting period.~~ DMRs must be signed and certified pursuant to the signatory requirements described in ~~part~~ section 7.4.1~~ (Signatory Requirements)~~. ~~The top two copies of each report~~

~~must be submitted to the division. A copy of the DMR form should be retained for the permittee's files.~~

The NPDES Electronic Reporting Rule, which became effective on December 21, 2016, replaces most paper-based reporting requirements with electronic reporting requirements. NetDMR allows NPDES permittees to submit DMRs electronically to EPA through a secure internet application and has been approved by Tennessee as the official electronic reporting tool for DMRs.

According to 40 CFR 127.15, states have the flexibility to grant temporary or episodic waivers from electronic reporting to NPDES permittees who are unable to meet the electronic reporting requirements. To obtain an electronic reporting waiver, an electronic reporting waiver request must be submitted by email to DWRwater.compliance@tn.gov or by mail to the following address:

Division of Water Resources
Compliance and Enforcement Unit
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 11th Floor
Nashville, TN 37243

For contact and training information about NetDMR electronic reporting, visit TDEC's website at http://tn.gov/environment/topic/wr-netdmr-and-electronic-reporting.

~~Two copies of WET testing reports (including follow-up reports) shall be submitted to the division. One copy of the WET testing report shall be submitted along with the discharge monitoring report (DMR). The second copy of the WET testing report shall be submitted to the local Environmental Field Office (see subpart 1.2 above: List of the TDEC Environmental Field Offices (EFOs) and Corresponding Counties), to the attention of the Division of Underground Storage Tanks.~~

6.2. Where to Submit

Completed Discharge Monitoring Report (DMR) forms, WET testing reports and any communication regarding compliance with the conditions of this permit must be sent to:

Tennessee Division of Water Resources
Compliance and Enforcement Unit
Attention: UST Compliance Review
William R. Snodgrass Tennessee Tower~~Tennessee Tower, 11th Floor~~
312 Rosa L. Parks Ave. , 11th Floor
Nashville, TN 37243

6.3. Additional Monitoring by Discharger

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of such monitoring shall be included in the calculations and reporting of the values

required in the Discharge Monitoring Report (DMR) form. Such increased frequency shall also be indicated in the "Frequency" column of the DMR.

7. STANDARD PERMIT CONDITIONS

7.1. Duty to Comply

7.1.1. Permittee's Duty to Comply

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Water Quality Control Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

7.1.2. Penalties for Violations of Permit Conditions

Pursuant to ~~T.C.A. § 69-3-115~~T.C.A. § 69-3-115 of The Tennessee Water Quality Control Act of 1977, as amended:

(a) any person who violates an effluent standard or limitation or a water quality standard established under this part (~~T.C.A. § 69-3-101~~T.C.A. § 69-3-101, et.seq.); violates the terms or conditions of this permit; fails to complete a filing requirement; fails to allow or perform an entry, inspection, monitoring or reporting requirement; violates a final determination or order of the board, panel or commissioner; or violates any other provision of this part or any rule or regulation promulgated by the board, is subject to a civil penalty of up to ten thousand dollars ($10,000) per day for each day during which the act or omission continues or occurs;

(b) any person unlawfully polluting the waters of the state or violating or failing, neglecting, or refusing to comply with any of the provisions of this part (~~T.C.A. § 69-3-101~~T.C.A. § 69-3-101, et.seq.) commits a Class C misdemeanor. Each day upon which such violation occurs constitutes a separate offense;

(c) any person who willfully and knowingly falsifies any records, information, plans, specifications, or other data required by the board or the commissioner, or who willfully and knowingly pollutes the waters of the state, or willfully fails, neglects or refuses to comply with any of the provisions of this part (~~T.C.A. § 69-3-101~~T.C.A. § 69-3-101, et.seq.) commits a Class E felony and shall be punished by a fine of not more than twenty-five thousand dollars ($25,000) or incarceration, or both.

Nothing in this permit shall be construed to relieve the discharger from civil or criminal penalties for noncompliance. Notwithstanding this permit, the discharger shall remain liable for any damages sustained by the State of Tennessee, including but not limited to fish kills and losses of aquatic life and/or wildlife, as a result of the discharge of treated groundwater to any surface or subsurface waters. Additionally, notwithstanding this permit, it shall be the responsibility of the discharger to conduct its groundwater treatment and/or discharge activities in a manner such that public or private nuisances or health hazards will not be created. Furthermore, nothing in this permit shall be construed to preclude the State of Tennessee from any legal action or relieve the discharger from any responsibilities, liabilities,

or penalties established pursuant to any applicable State law or the Federal Water Resources Act.

7.2. Duty to Reapply

7.2.1. Permittee's 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.

7.2.2. Continuation of the Expired General Permit

Coverage of the expired permit is administratively continued and remains in force and effect until a new general permit is issued. Permittees that choose, or are required, to obtain an individual permit must submit an application (Forms 1 and 2E and any other relevant information~~and any other applicable forms~~) 180 days prior to expiration of this general permit. Permittees who are eligible and choose to be covered by a new general permit must submit an NOI by the date specified in that permit.

7.3. Duty to Provide Information

The permittee shall furnish to the commissioner, within a reasonable time, any information which the commissioner 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 commissioner upon request, copies of records required to be kept by this permit.

7.4. Signatory Requirements

All Notices of Intent (NOI), requests for termination of permit coverage, discharge monitoring report (DMR) forms, acute toxicity testing reports, certifications and/or any other information either submitted to the division, or that this permit requires be maintained by the permittee, shall be signed and dated.

7.4.1. Signatory Requirements

All Notices of Intent (NOI), reports, or information submitted to the commissioner shall be signed and certified as follows:

a) For a corporation:

(i) by a responsible corporate officer, i.e., 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;

(ii) by a manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which

govern the operation of the regulated facility to assure long term environmental compliance with environmental laws and regulations; or

(iii) by a person in a corporate position to which signatory authority has been delegated by a corporate officer.

NOTE: The division does not require specific assignments or delegations of authority to responsible corporate officers. The division will presume that these responsible corporate officers have the requisite authority to sign permit applications unless the corporation has notified the director to the contrary. Corporate procedures governing authority to sign permit applications may provide for assignment or delegation to applicable corporate positions rather than to specific individuals.

b) For a partnership or sole proprietorship: by a general partner or the proprietor, respectively.

c) For a municipality, state, federal, or other public agency:

(i) a principal executive officer (i.e. the chief executive officer of the agency, or a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency); or

(ii) ranking elected official.

7.4.2. Changes to Authorization

If an authorization under subpart 7.4~~7.4 above~~ is no longer accurate because a different individual or position has responsibility for the overall operation of the site, a new authorization satisfying the requirements of subpart 7.4~~7.4 above~~ must be submitted to the director prior to or together with any reports, information, or applications to be signed by an authorized representative.

7.4.3. Certification

Any person signing a document under subpart 7.4~~7.4 above~~ 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.*"

7.5. Planned Changes

The permittee shall give notice to the director as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

a) The alteration or addition to a permitted facility is considered a new source as defined in TN Rules 0400-40-05-.02;

b) The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged; or

c) The alteration or addition results in a significant change in the permittee's sludge use or disposal practices.

7.6. Requiring an Individual Permit, an Alternative General Permit, or Other Corrective Action

7.6.1. Division of Water Resources Designation

If the division has notified the owner or operator in writing before or after the filing of a Notice of Intent (NOI) that the site's discharges will cause or contribute to a violation of water quality standard or that coverage under this general permit is subject to being modified or revoked for any grounds under ~~T.C.A. § 69-3-108(f)~~T.C.A. § 69-3-108(f), the discharger has the following options:

a) Provide a demonstration to the division within 60 days of the notification that the discharge does not cause or contribute to a violation of water quality standard;
b) Modify treatment methods and control measures at the site to address the state's concerns within 60 days of the notification; or
c) Apply for coverage under other general permit (if available) or file an individual permit application within 180 days of the notification. Individual permit applications shall be submitted to the following address:~~Individual permit applications shall be submitted to the address shown in the list in subpart 1.2 for the division's Environmental Field Office responsible for the county where the site is located.~~

UST NOI Processing
Tennessee Division of Water Resources
Tennessee Tower, 11th Floor
312 Rosa L. Parks Ave.
Nashville, TN 37243

The permittee does not lose coverage under the general permit while exercising the above options. Although a permittee may exercise more than one of these three options, if the division does not approve the actions taken under (a) or (b), the permittee must comply with (c) within the stated time or an extension thereof granted by the division. If the owner or operator fails to submit in a timely manner an individual NPDES permit application as required by the division, the applicability of this permit to the individual NPDES permittee is automatically terminated at the end of the day specified for application submittal.

Any interested person may petition the division (in writing, providing valid justification) to take action under this paragraph.

7.6.2. Individual Permit Application

Any owner or operator authorized by this permit may request to be excluded from the coverage of this permit by applying for an individual permit. The owner or operator shall submit an individual application (Forms 1 and 2C and any other ~~applicable forms~~relevant information) with reasons supporting the request to the division. Individual permit applications shall be submitted to the address of the appropriate division's Environmental Field Office as shown in part 1.2~~1.2~~. The request may be granted by the issuance of any individual permit or an alternative general permit if the reasons cited by the owner or operator are adequate to support the request.

7.6.3. Individual/Alternative General Permit Issuance

When an individual NPDES permit is issued to an owner or operator otherwise subject to this permit, or the owner or operator is authorized for coverage under an alternative NPDES general permit, the applicability of this permit to the individual NPDES permittee is automatically terminated on the effective date of the individual permit or the date of authorization of coverage under the alternative general permit, whichever the case may be. When an individual NPDES permit is denied to an owner or operator otherwise subject to this permit, or the owner or operator is denied for coverage under an alternative NPDES general permit, the applicability of this permit to the individual NPDES permittee is automatically terminated on the date of such denial, unless otherwise specified by the division.

7.7. State/Environmental 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 Tennessee law or regulation under authority preserved by the ~~Section 510 of the Clean Water Act~~Section 510 of the Clean Water Act. No condition of this permit shall release the permittee from any responsibility or requirements under other environmental statutes or regulations.

7.7.1. 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 (CWA)~~Section 311 of the Clean Water Act (CWA) or Section 106 of the ~~Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA)~~Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA). This permit does not relieve the person of the reporting requirements for releases in excess of reportable quantities as described in ~~40 CFR Part 117~~40 CFR Part 117 and ~~40 CFR Part 302~~40 CFR Part 302.

7.7.2. Property Rights

This permit does not convey property rights of any sort, or any exclusive privilege.

7.7.3. Severability

The provisions of this 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.

7.8. Proper Operation and Maintenance

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, installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

7.9. Monitoring, Records, and Reporting

7.9.1. Representative Samples/Measurements

Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. The samples and measurements shall be taken after treatment of the contaminated groundwater and prior to mixing with contaminated or uncontaminated storm water runoff or the receiving stream.

7.9.2. Retention of Records

The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, 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 three years from the date of sample, measurement, report or application. This period may be extended by request of the director at any time. Permittees must submit any such records to the division upon request.

7.9.3. Records Contents

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

a) The date, exact place, and time of sampling or measurements;
b) The individual(s) who performed the sampling or measurements;
c) The date analyses were performed;
d) The individual(s) who performed the analyses;
e) The laboratory where the analyses were performed;

f) The analytical techniques or methods used; and
g) The results of such analyses.

7.9.4. Approved Monitoring Methods

Monitoring results must be conducted according to test procedures approved under 40 CFR part 136.

7.9.5. Reporting

Regular reporting (at a frequency of not less than once per year) to assure that compliance is being achieved will normally be required of the discharger in any permit as indicated below:

(a) Monitoring results must be reported on a Discharge Monitoring Report (DMR) or forms provided or specified by the commissioner. Monitoring may also be reported via electronic reporting methods established by the commissioner.

(b) If the permittee monitors any pollutant more frequently than required by the permit using test procedures approved under 40 CFR part 136, or as specified in the permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or other reporting form specified by the commissioner.

(c) Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in the permit.

7.9.6. Penalties for Falsification of Reports

~~Section 69-3-115~~Section 69-3-115 of the Tennessee Water Quality Control Act and in ~~Section 309 of the Federal Water Resources Act~~Section 309 of the Federal Water Resources Act provide that any person who knowingly makes any false material statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than two years, or by both.

7.10. Inspection and Entry

The permittee shall allow the commissioner, or an authorized representative, upon 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; and
d) Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the commissioner.

7.11. Permit Actions

This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition. Causes for such permit action include but are not limited to the following:

a) Violation of any terms or conditions of the permit;
b) Obtaining a permit by misrepresentation or failure to disclose fully all relevant facts; and
c) A change in any conditions that requires either a temporary or permanent reduction or elimination of the permitted discharge.

7.12. Bypass of Treatment Facility

Bypass, as defined in TN Rule 0400-40-05-.02, is prohibited unless:

a) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

b) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and

c) For anticipated bypass, the permittee submits prior notice, if possible at least ten days before the date of the bypass; or

d) For unanticipated bypass, the permittee submits notice of an unanticipated bypass within 24 hours from the time that the permittee becomes aware of the bypass.

7.13. Noncompliance

In the case of any noncompliance which could cause a threat to human health or the environment, the permittee shall report the noncompliance to the commissioner within 24 hours from the time the permittee becomes aware of the circumstances. A written submission must be provided within five days of the time the permittee becomes aware of the noncompliance. The permittee shall provide the following information:

a) A description of, and the cause of the noncompliance;

b) The period of noncompliance, including exact dates and times or, if not corrected, the anticipated time the noncompliance is expected to continue; and

c) The steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance.

7.14. Upset

An upset shall constitute an affirmative defense to an action brought for noncompliance with such technology-based numeric effluent limitations if the permittee demonstrates, through properly signed, contemporaneous operating logs, or other relevant evidence that:

a) An upset occurred and that the permittee can identify the cause(s) of the upset;

b) The permitted facility was at the time being operated in a prudent and workman-like manner and in compliance with proper operation and maintenance procedures;

c) The permittee submitted information required under "Reporting of Noncompliance" within 24 hours of becoming aware of the upset (if this information is provided orally, a written submission must be provided within five days); and

d) The permittee complied with any remedial measures required under "Adverse Impact."

7.15. Need to Halt or Reduce Activity Not a Defense

The permittee shall take all reasonable steps to minimize any adverse impact to the waters of Tennessee resulting from noncompliance with this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the non-complying discharge. It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

7.16. Placement of signs

Within sixty (60) days of obtaining a notice of coverage under this general permit, the permittee shall place and maintain a sign at each discharge outfall. The sign(s) should be clearly visible to the public from the bank and the receiving stream or from the nearest public property/right-of-way, if applicable. The minimum sign size should be two feet by two feet (2'x2') with one inch (1") letters. The sign should be made of durable material and have a white background with black letters.

The sign(s) are to provide notice to the public as to the nature of the discharge and, in the case of the permitted outfalls, that the discharge is regulated by the Tennessee Department of Environment and Conservation, Division of Water Resources. The following is given as an example of the minimal amount of information that must be included on the sign:

UNDERGROUND STORAGE TANK REMEDIATION
TREATED GROUNDWATER DISCHARGE
(PERMITTEE'S NAME)
(PERMITTEE'S PHONE NUMBER)
NPDES PERMIT TRACKING # TNG83_ _ _ _
TENNESSEE DIVISION OF WATER RESOURCES
1-888-891-8332 ENVIRONMENTAL FIELD OFFICE – (EFO NAME)

8. REOPENER CLAUSE

8.1. Potential or Realized Impacts on Water Quality

If there is evidence indicating potential or realized impacts on water quality or on a listed endangered species due to any effluent discharge covered by this permit, the owner or operator of such discharge may be required to obtain an individual permit or an alternative general permit in accordance with subpart 7.6~~7.6 above: Requiring an Individual Permit, an Alternative General Permit, or Other Corrective Action~~ or the permit may be modified to include different limitations and/or requirements.

8.2. Applicable Regulations

Permit modification or revocation will be conducted according to ~~40 CFR §122.62~~40 CFR §122.62, ~~§122.63~~§122.63, ~~§122.64~~§122.64 and ~~§124.5~~§124.5.

9. TERMINATION OF COVERAGE

9.1. Notice of Termination

A permittee shall request termination of coverage under this permit if and when discharges of treated groundwater associated with UST site remediation to the surface waters of the State of Tennessee have been eliminated. The permittee must submit facts in support of the notice, which shall be signed in accordance with ~~Paragraph~~ subpart 7.4~~7.4 above: Signatory Requirements~~ of this permit. The division retains the right to deny termination of coverage under this general permit upon receipt of the necessary notice and information from the permittee. If discharges have ceased but coverage under the general permit is still in effect because the permittee has not requested termination of permit coverage, the permittee will continue to be responsible for annual permit maintenance fees billed according to Chapter 0400-40-11 – Environmental Protection Fund Fees. The written notice of termination shall include the following information:

- Site Information: Name, mailing address, and location of the site for which the notice is submitted;
- Operator Information: The name, address, and telephone number of the operator addressed by the notice;
- Permit Number: The NPDES permit tracking number for the site discharging treated groundwater associated with underground storage tank remediation identified by the notice;
- Reason for Termination: An indication of whether the discharges of treated groundwater associated with underground storage tank remediation have been eliminated or the operator of the discharges has changed; and

- Certification: The following certification signed in accordance with 7.4~~7.4 above: Signatory Requirements~~ of this permit:

  "I certify under penalty of law that all discharges of treated groundwater associated with underground storage tank remediation from the identified site that are authorized by an NPDES general permit have been eliminated or that I am no longer the operator of the industrial activity. I understand that by submitting this notice of termination, that I am no longer authorized to discharge treated groundwater associated with underground storage tank remediation under this general permit, and that discharging pollutants associated with treated groundwater associated with underground storage tank remediation to waters of the state is unlawful under the Clean Water Act where the discharge is not authorized by an NPDES permit. I also understand that the submittal of this notice of termination does not release an operator from liability for any violations of this permit or the Clean Water Act."

9.2. Where to Submit

A permittee shall request termination of coverage under this general permit when discharges of effluent from treatment of groundwater that has been contaminated by petroleum from an underground storage tank to waters of the State of Tennessee have ceased. All written notices of termination shall be submitted to the address shown below:

UST NOT Processing
Tennessee Division of Water Resources
Tennessee Tower, 11th Floor
312 Rosa L. Parks Ave.
Nashville, TN 37243

9.3. Electronic Submission of Notice of Termination

If the division notifies dischargers (directly by mail or E-mail, by public notice, or by making information available on the Internet) of other Notice of Termination options that become available at a later date (e.g., electronic submission of forms or letters), the permittees may take advantage of those options to satisfy the notice of termination notification requirements.

10. DEFINITIONS

BEST MANAGEMENT PRACTICES (BMPs) means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the State. BMPs can also include treatment requirements, operating procedures, and practices to control site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

BYPASS is defined as the intentional diversion of waste streams from any portion of a treatment facility.

CALENDAR DAY~~,~~ is defined as the 24-hour period from midnight to midnight or any other 24-hour period that reasonably approximates the midnight to midnight time period.

COMMISSIONER means the commissioner of the Department of Environment and Conservation or the commissioner's duly authorized representative and, in the event of the commissioner's absence or a vacancy in the office of commissioner, the deputy commissioner.

COMPOSITE SAMPLE~~,~~ is a combination of not less than 8 influent or effluent portions, of at least 100 ml, collected over a 24-hour period. Under certain circumstances a lesser time period may be allowed, but in no case, less than 8 hours.

CONTINUOUS DISCHARGE means a "discharge" which occurs without interruption for periods greater than four days or more. Infrequent shutdowns for maintenance, process changes, or other similar activities are not deemed interruptions for this definition. For the purposes of this permit, all other discharges are **intermittent**.

CWA means Clean Water Act (formerly referred to as the Federal Water Resources Act or Federal Water Resources Act Amendments of 1972).

DAILY MAXIMUM CONCENTRATION is a limitation on the average concentration, in units of mass per volume, of the discharge during any calendar day. When a proportional-to-flow composite sampling device is used, the daily concentration is the concentration of that 24-hour composite; when other sampling means are used, the daily concentration is the arithmetic mean of the concentrations of equal volume samples collected during any calendar day or sampling period.

DIRECTOR means the director of the Division of Water Resources, or an authorized representative.

EXCEPTIONAL TENNESSEE WATERS and OUTSTANDING NATIONAL RESOURCE WATERS are surface waters of the State of Tennessee that satisfy characteristics as listed in Rule 0400-40-3-.06 of the official compilation - rules and regulations of the State of Tennessee. Characteristics include waters designated by the Water Quality Control Board as Outstanding National Resource Waters (ONRW); waters that provide habitat for ecologically significant populations of certain aquatic or semi-aquatic plants or animals; waters that provide specialized recreational opportunities; waters that possess outstanding scenic or geologic values; or waters where existing conditions are better than water quality standards.

GRAB SAMPLE is a single influent or effluent sample collected at a particular time.

IC25 refers to the inhibition concentration in which at least a 25% reduction in reproduction and/or growth in test organisms occurs.

LC50 refers to the concentration that causes at least 50% lethality of the test organisms.

LOAD ALLOCATION (LA): The portion of ~~a~~ receiving water's loading capacity that is attributed either to one of its existing or future nonpoint sources of pollution or to natural background (40 CFR 130.2(g)).

MARGIN OF SAFETY (MOS): The "MOS" accounts for uncertainty in the loading calculation. The MOS may not be the same for different waterbodies due to differences in the availability and strength of data used in the calculations.

MONTHLY AVERAGE CONCENTRATION, a limitation on the discharge concentration, in units of mass per volume, other than bacteria, is the arithmetic mean of all the composite or grab samples collected in a one calendar-month period.

NEW SOURCE means any building, structure, facility, area or installation from which there is or may be a "discharge of pollutants" the construction of which commenced after the publication of state or federal regulations prescribing a standard of performance.

NONPOINT SOURCE POLLUTION occurs when precipitation moves over and through the ground, picks up and carries away pollutants and deposits them into waters of the state.

POINT SOURCE means any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff.

A **QUARTER** is defined as any one of the following three-month periods: January 1 through March 31, April 1 through June 30, July 1 through September 30, and/or October 1 through December 31.

SIGNIFICANT SPILLS includes, but is not limited to: releases of oil or hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (see 40 CFR 110.10 and CFR 117.21) or Section 102 of CERCLA (see 40 CFR 302.4).

SITE, for the purpose of this permit, shall mean the location at which the groundwater remediation will take place.

STORM WATER means contaminated or uncontaminated storm water runoff, snow melt runoff, and surface runoff and drainage.

TMDL (Total Maximum Daily Load) is the sum of the individual wasteload allocations for point sources and load allocations for nonpoint sources and natural background (40 CFR 130.2(I)). TMDL is a study that: 1. quantifies the amount of a pollutant in a stream, 2. identifies the sources of the pollutant, 3. and recommends regulatory or other actions that may need to be taken in order for the stream to no longer be polluted. Following are actions that might be recommended: Re-allocate limits on the sources of pollutants documented as impacting streams. It might be necessary to lower the amount of pollutants being discharged under NPDES permits or to require the installation of other control measures, if necessary, to insure that standards will be met. For sources the division does not have regulatory authority over, such as ordinary non-point source agricultural and forestry activities, provide information and technical assistance to other state and federal agencies that work directly with these groups to install appropriate Best Management Practices. Even for impacted streams, TMDL development is not considered appropriate for all bodies of water: if

enforcement has already been taken and a compliance schedule has been developed; or if best management practices have already been installed for non-regulated activities, the TMDL is considered not applicable. In cases involving pollution sources in other states, the recommendation may be that another state or EPA perform the TMDL analysis. TMDLs can be described by the following equation:

TMDL =
sum of non-point sources (LA) + sum of point sources (WLA)
+ margin of safety (MOS)

UNAVAILABLE CONDITIONS exist where water quality is at, or fails to meet, the criterion for one or more parameters.

UPSET means an exceptional incident in which there is unintentional and temporary noncompliance with technology based effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

WASTELOAD ALLOCATION (WLA): The portion of a receiving water's loading capacity that is allocated to one of its existing or future point sources of pollution. WLAs constitute the type of water quality-based effluent limitation. (40 CFR 130.2(h)).

WATER QUALITY-LIMITED SEGMENTS: Those water segments that do not or are not expected to meet applicable water quality standards even after the application of technology-based effluent limitations required by sections 301(b) and 306 of the Act. (40 CFR 130.2(j)) Technology-based controls include, but are not limited to, best practicable control technology currently available (BPT) and secondary treatment.

WATERS OF THE STATE or simply **WATERS** means any and all water, public or private, on or beneath the surface of the ground, which are contained within, flow through, or border upon Tennessee or any portion thereof except those bodies of water confined to and retained within the limits of private property in single ownership which do not combine or effect a junction with natural surface or underground waters.

WATERS WITH UNAVAILABLE PARAMETERS means any segment of surface waters that has been identified by the division as failing to support classified uses. The division periodically compiles a list of such waters. The division will notify applicants and permittees if their discharge is into, or is affecting, waters with unavailable parameters.

11. RATIONALE

**State of Tennessee General NPDES Permit for
Discharges of Treated Groundwater Associated with
Underground Storage Tank Remediation**

11.1. Introduction

The purpose of this rationale sheet is to provide the basis for State of Tennessee and National Pollutant Discharge Elimination System (NPDES) discharge permit conditions and related general permit procedures for any new or existing discharges of treated groundwater associated with petroleum product underground storage tank (UST) remediation, to surface waters of the State of Tennessee.

11.2. Background

Underground storage tanks (USTs) considered in this rationale sheet are those underground tanks which contain or have contained stored petroleum fuels, generally at gas stations and truck stops. The tanks are or were located underground for reasons of aesthetics, space savings, and safety. They range in size from 500 gallons to 40,000 gallons.

If the tank leaks, fuel seeps into the ground surrounding the tank, contaminating groundwater. Cleaning up the contaminated groundwater involves withdrawing the water, removing the contaminants and discharging the treated water into surface waters.

Water Resources laws require that discharges into the waters of the State of Tennessee or of the United States be permitted by the Department of Environment and Conservation and that the quality of the discharged water meets standards set by the department.

The discharges from these operations generally require the same effluent limitations and monitoring requirements. Since permit requirements for all these facilities are similar, it is the opinion of the Division of Water Resources (division) that this category of sources is controlled more appropriately under a NPDES general permit rather than under individual permits. General NPDES permits are issued by the Division of Water Resources in accordance with the TN Rules 0400-40-10-.01 through .03. This rationale sheet describes and gives the basis for permit conditions to be applied statewide to these discharges from the treatment of contaminated groundwater associated with underground storage tank remediation.

11.3. Description of Discharges

This permit will address only sites contaminated by petroleum fuels, primarily including leaded and unleaded gasoline, or diesel fuels.

The extent of the contamination to the groundwater from a leaking tank depends on several variables. The size of the leak in the tank, the number of tanks with leaks, the fuels which are being leaked, the material surrounding the tanks, (soil type, porous or non-porous rock), the proximity of the groundwater table, as well as other factors all contribute to the degree of the contamination. Discharges of treated contaminated groundwater generally will be typically between 1,500 to 20,000 gallons per day, based on the number of recovery wells and the treatment system at the site and the hours of operation.

11.4. Present Permit Conditions

On July 23, 2013, the Division of Water Resources issued NPDES General Permit TNG830000 which contained effluent limitations and monitoring requirements for parameters that both the division and the Division of Underground Storage Tanks (DUST) considered significant characteristics of discharges from UST clean-up sites. It was decided at that time that the Division of Water Resources would establish effluent limits based upon available treatment technologies and water quality criteria.

The present NPDES General Permit for Discharges of Treated Groundwater Associated with Underground Storage Tank Remediation expires on May 31, 2018. The present permit protects the quality of waters of the state by regulating the quality of water discharged from petroleum product underground storage tank remediation through the following numerical limitations and monitoring requirements:

Parameter	Effluent Limitation	Basis
Benzene	0.005 mg/L as a daily maximum concentration	Water Quality
Ethyl benzene	0.010 mg/L as a daily maximum concentration	Technology
Toluene	0.010 mg/L as a daily maximum concentration	Technology
Xylene	0.010 mg/L as a daily maximum concentration	Technology
Lead, total recoverable	0.45 mg/L as a daily maximum concentration	Technology
Lead, total recoverable	0.017 mg/L as a monthly average concentration *	Technology
Total Suspended Solids (TSS)	40.0 mg/L as a daily maximum concentration	Technology
Floating Material, Color, Foam and Oil Sheen	No distinctly visible floating scum, oil or other matter	Water Quality
pH	6.5 - 9.0 (range)	Water Quality
IC25 (see Note)	Survival, Reproduction, & Growth in 100 % effluent	Water Quality
48 Hour LC50 (see Note)	Survival in 100% effluent	Water Quality

* In addition to the daily maximum concentration limitation for total recoverable lead, monthly average limitation (based on Criterion Continuous Concentration CCC) will apply to those treatment systems that are discharging continuously for more than 4 days at any period of time.

In addition to those above, the following requirements were included in the previous permit:

- There shall be no distinctly visible floating scum, oil or other matter contained on or in the treated groundwater discharge.
- The treated groundwater discharge must result in no other materials in concentrations sufficient to be hazardous or otherwise detrimental to humans, livestock, wildlife, plant life, or fish and aquatic life in the receiving stream.
- Sludge or any other material removed by any treatment works must be disposed of in a manner which prevents its entrance into or pollution of any surface or subsurface waters. Additionally, the disposal of such sludge or other material must be in compliance with the Tennessee Solid Waste Disposal Act, T.C.A. § 68-31-101 et seq. and the Tennessee Hazardous Waste Management Act, T.C.A. § 68-46-101 et seq.
- The treated groundwater discharge must not cause an objectionable color contrast in the receiving stream.

- The permittee shall use best management practices (BMPs) and good engineering practices to prevent contamination of the treated groundwater discharge from materials (including but not limited to excavation pumpout, excavated soil, equipment lubricants and products) associated with underground storage tank remediation activities.

11.5. Proposed Permit Conditions

11.5.1. State and EPA requirements

Under State and Federal law and regulations, a discharge permit must establish effluent limitations equivalent to best available technology economically achievable (BAT). For some industry categories, such effluent limitations have already been established by the EPA. This is not the case with UST groundwater remediation discharges; thus, the division has used Best Professional Judgment (BPJ) to choose effluent limitations that meet technology based levels equivalent to BAT.

Permits must also contain any requirements, in addition to or more stringent than technology-based limits, necessary to achieve water quality standards or to control all pollutants which may be discharged at a level which will cause, have the reasonable potential to cause or contribute to an excursion above any state water quality standard, including narrative criteria.

11.5.2. Pollutants to be limited and standard technology

The division proposes limiting the following parameters: total suspended solids (TSS), pH, total recoverable lead, benzene, ethyl benzene, toluene, xylene, whole effluent toxicity, and floating material, color, foam and oil sheen.

Benzene, ethylbenzene, toluene, and xylene are typical organic pollutants of petroleum fuel contamination in groundwater, and are among the least volatile components of gasolines. The division proposes that these contaminants be limited and monitored as indicators of the effectiveness of the treatment systems used.

Given the contaminants listed, it is the opinion of the division that the standard method for the treatment of the contaminated groundwater is to be air stripping, or equivalent treatment, followed by activated carbon absorption, if necessary, to meet the effluent limitations set forth in this permit. The division believes that this treatment method is equivalent to BAT and is used as the basis for the proposed limits.

The division's BPJ-BAT level for each of these parameters is 0.010 mg/L as a daily maximum concentration. To insure that the proposed limit protects water quality, this BAT-based level was compared to water quality criteria.

Benzene – For benzene, E.P.A.'s 1986 Quality Criteria for Water states acute toxicity to fresh water aquatic life occurs at concentrations as low as 5.3 mg/L. The State of Tennessee Water Quality Standards do not include a fish and aquatic life criteria for benzene. For the recreation classified use, Tennessee's standards specify 0.022 mg/L for water and organisms criteria and 0.510 mg/L for the organisms only. The water and organisms criteria are for protection of public health due to consumption of water and organisms and should only be applied to waters designated for both recreation and domestic water supply. The criteria for water classified for domestic water supply is 0.005 mg/L. Because some sites likely to be covered under this general permit will discharge to the streams designated for domestic water supply classification, the division proposes that 0.005 mg/L be set as the daily maximum limit for benzene.

Ethyl benzene – For ethyl benzene, the division has promulgated concentration levels in the recreation and domestic water supply classification. For the recreation classified use, Tennessee's standards specify 0.53 mg/L for water and organisms criteria and 2.1 mg/L for the organisms only. The water and organisms criteria are for protection of public health due to consumption of water and organisms and should only be applied to waters designated for both recreation and domestic water supply. The domestic water supply criterion for ethyl benzene is 0.7 mg/ L.

The water quality criteria is less stringent than the technologically achievable levels, so the previous permit limit for ethyl benzene will be retained at 0.010 mg/L, as a daily maximum concentration.

Toluene – For toluene, the division has promulgated concentration levels in the recreation and domestic water supply classifications. For the recreation classified use, Tennessee's standards specify 1.3 mg/L for water and organisms criteria and 15 mg/L for the organisms only. The water and organisms criteria are for protection of public health due to consumption of water and organisms and should only be applied to waters designated for both recreation and domestic water supply. The domestic water supply criterion for toluene is 1.0 mg/ L.

The water quality criteria is less stringent than the technologically achievable levels, so the previous permit limit for toluene will be retained at 0.010 mg/L, as a daily maximum concentration.

Xylene – For xylene, the division has promulgated concentration levels for the domestic water supply classification. The criterion for total xylenes is 10.0 mg/L. The water quality criteria is less stringent than the technologically achievable levels, so the previous permit limit for xylene will be retained at 0.010 mg/L, as a daily maximum concentration.

Lead, total recoverable – Process wastewater discharges of treated groundwater associated with underground storage tank remediation can be intermittent or continuous. The table below shows the division’s standardized calculations for establishing allowable effluent concentrations protective of receiving stream designated uses (acute and chronic criteria). For acute and chronic criteria, EPA recommends averaging periods of 1 hour and 4 days, respectively. Please note that stream background concentration, listed at 50% of allowable chronic number, does not affect the result, since the receiving stream flow is 0 MGD.

Stream (1Q10) [MGD]	Stream (30Q5) [MGD]	Waste Flow [MGD]	Ttl. Susp. Solids [mg/l]	Hardness (as CaCO3) [mg/l]	Stream Allocation [%]
0.000	0.000	0.020	10	100	100

	1	2	3	4	5	6	7	8
	Stream Bckgrnd.	Fish/Aqua. Life Water Quality Criteria		Effluent Fraction	Fish & Aquatic Life Water Quality Criteria (1Q10)			
					In-Stream Allowable		Calc. Effluent Concentration	
EFFLUENT CHARACTERISTIC	Conc.	Chronic	Acute	Dissolved	Chronic	Acute	Chronic	Acute
	[ug/l]	[ug/l]	[ug/l]	[Fraction]	[ug/l]	[ug/l]	[ug/l]	[ug/l]
Lead *	4.093	2.517	64.581	0.143	17.539	450.093	**17.5**	**450.1**

	9	10	11	12	13	14
	Human Health Water Quality Criteria (30Q2)					
	In-Stream Criteria			Calc. Effluent Concentration		
EFFLUENT CHARACTERISTIC	Organisms	Water/Organisms	DWS	Organisms	Water/Organisms	DWS
	[ug/l]	[ug/l]	[ug/l]	[ug/l]	[ug/l]	[ug/l]
Lead *	NA	NA	5.0	**NA**	**NA**	**5.0**

* Denotes metals for which Fish & Aquatic Life Criteria are expressed as a function of total hardness.The Fish & Aquatic Life criteria for this metal are in the dissolved form at laboratory conditions. The in-stream allowable criteria and calculated effluent concentrations are in the total recoverable form.

NOTE: Water Quality criteria for stream use classifications other than Fish & Aquatic Life are based on the 30Q5 flow. However, the calculated effluent concentration was based on the zero low-flow conditions, which is not in accord with an underlying concept of a receiving stream being used as a source for domestic water supply on a continuous basis.

If a continuous flow of treated groundwater is discharged into a zero low-flow receiving stream, such effluent has to be protective of in-stream criteria for total recoverable lead. Therefore, assuming the most conservative discharge scenario (zero low-flow receiving stream, continuous discharge), the total recoverable lead limitation would be 0.018 mg/L, to apply only to treatment systems discharging continuously for more than four days at any period of time into a zero low-flow receiving stream. The applicable critical low-flow values are determined using either the USGS The StreamStats Progam webpage (StreamStats) or USGS data from: "Flow Duration and Low Flows of Tennessee Streams through 1992 by George S. Outlaw and Jess D. Weaver; Water Rersources Investigations report 95-4293 prepared by the U.S. Geological Survey in Cooperation with the Tennessee Department of Environment and Conservation and the Tennessee Valley Authority, Nashville, Tennessee, 1996" (or the most current edition, or other appropriate USGS sources) or the USGS Tennessee Stream Stats web page (TN StreamStats).

The total recoverable lead limits shall be 0.45 mg/L daily maximum concentration and 0.018 mg/L monthly average concentration (where applicable).

Total Suspended Solids (TSS) – The division proposes to retain the BPJ limit of 40 mg/L as a daily maximum concentration. The division believes this limit will provide protection of Tennessee narrative water quality criteria, which states, in part: "there shall be no distinctly visible floating scum, oil or other matter contained on or in the waste water discharge."

Floating Material, Color, Foam and Oil Sheen monitoring will be retained in the new permit: "No distinctly visible floating scum, oil or other matter." Visual monitoring for the presence of scum, oil or other matter on or in the discharge will be required based on the department's current Water Quality Criteria for Solids, Floating Materials and Deposits (Chapter 0400-4-3-.03 (1) (e)). In addition, consultation with the Division of Underground Storage Tanks and considering that the standard method for the treatment of the contaminated groundwater is air stripping, followed by activated carbon

absorption, it is the division's judgment that a visual monitoring of the effluent will be sufficient to protect the narrative water quality criteria.

pH – According to the department's current Water Quality Criteria for pH (Chapter 0400-4-3-.03 (3)(b)), the pH for the protection of Fish and Aquatic Life shall lie within the range of 6.5 to 9.0 and shall not fluctuate more than 1.0 unit in this range over a period of 24 hours. Considering that some, if not many receiving streams are zero-flow streams under low flow conditions, and will therefore provide little or no buffering capacity for treated contaminated groundwater, the division proposes a water-quality based pH limit range between 6.5-9.0.

Whole Effluent Toxicity (WET) – Since the treated discharge may contain some level of toxic substances, i.e. benzene, ethyl benzene, toluene, etc., the division feels toxicity testing is necessary to insure the discharges will not adversely affect the quality of the receiving waters. Based on current individual NPDES permit requirements, and that proper performance of treatment equipment can reduce or eliminate effluent toxicity, the permit will require that 100% effluent have no toxicity. The WET tests to be used are IC25 (Survival, Reproduction, & Growth in 100 % effluent) and 48 Hour LC50 (Survival in 100 % effluent). The species shall be the water flea (Ceriodaphnia dubia) and the fathead minnow (Pimephales promelas). Toxicity will be demonstrated if the 48 Hour LC50 or IC25 is less than or equal to the permit limit (100 % effluent).

The type of WET testing applicable to any discharge depends on the receiving stream low flow conditions. The applicable critical low flow values are determined using either the USGS The StreamStats Progam webpage (StreamStats) or USGS data from: "Flow Duration and Low Flows of Tennessee Streams through 1992 by George S. Outlaw and Jess D. Weaver; Water Resources Investigations Report 95-4293 prepared by the U.S. Geological Survey in Cooperation with the Tennessee Department of Environment and Conservation and the Tennessee Valley Authority, Nashville, Tennessee, 1996" (or the most current edition, or other appropriate USGS sources). The applicable critical low flow values for Fish and Aquatic Life Protection are: 7Q10 for low flow under natural conditions and 1Q10 for regulated low flow conditions. Discharges into zero low flow receiving streams and streams that provide dilution factor of 100:1 or less will have to comply with the numerical effluent limitation for IC25. Discharges with dilution factor of receiving stream to effluent between 100:1 and 500:1 will have to comply with the numerical effluent limitation for 48 hour LC50. If the calculated dilution factor is more than 500:1, and assuming immediate and complete mixing, there will be no WET testing required, unless toxicity was shown in the previous WET tests. This information is summarized in the table below:

Dilution Factor	**0-100**	**100-500**	**>500**
Type of WET testing	IC25	LC50	No Testing Required
Percent Effluent	100%	100%	Not Applicable

Calculation of dilution factor is as follows:

$$DF = \frac{Qs + Qw}{Qw} = \text{Dilution Factor}$$

where Qw is a long-term average treated groundwater flow rate and Qs is a receiving stream low flow (7Q10 or 1Q10, see text above).

11.5.3. Proposed narrative water quality based conditions

The following standard permit language is included in the permit:

- The treated groundwater discharge must result in no other materials in concentrations sufficient to be hazardous or otherwise detrimental to humans, livestock, wildlife, plant life, or fish and aquatic life in the receiving stream.
- Sludge or any other material removed by any treatment works must be disposed of in a manner which prevents its entrance into or pollution of any surface or subsurface waters. Additionally, the disposal of such sludge or other material must be in compliance with the Tennessee Solid Waste Disposal Act, TCA § 68-31-101 et seq., and the Tennessee Hazardous Waste Management Act, TCA §68-46-101 et seq.
- The treated groundwater discharge must not cause an objectionable color contrast in the receiving stream.
- The permittee shall use best management practices (BMPs) and good engineering practices to prevent contamination of the treated groundwater discharge from materials (including but not limited to excavation pumpout, excavated soil, equipment lubricants and products) associated with underground storage tank remediation activities.

11.5.4. Monitoring and reporting requirements

Monitoring requirements will be set at once per quarter, except for the toxicity testing as described below.

The type of whole effluent toxicity testing applicable to any discharge depends on the receiving stream low flow conditions. The applicable critical low flow values are determined using either USGS data from: "Flow Duration and Low Flows of Tennessee Streams through 1992 by George S. Law and Jess D. Weaver. Water Resources Investigations Report 95-4293 prepared by the U.S. Geological Survey in Cooperation with the Tennessee Department of Environment and Conservation and the Tennessee Valley Authority, Nashville, Tennessee, 1996" (or the most current edition, or other appropriate USGS sources) or the USGS StreamStats Program for Tennessee. The applicable critical low flow values for Fish and Aquatic Life Protection are: 7Q10 for low flow under natural conditions and 1Q10 for regulated low flow conditions. Discharges into zero low flow receiving streams and streams that provide dilution factor up to 100:1 will have to comply with the numerical effluent limitation for IC25. Discharges with dilution factor of receiving stream to effluent between 100:1 and 500:1 will have to comply with the numerical effluent limitation for 48 hour LC50. If the calculated dilution factor is more than 500:1, and assuming immediate and complete mixing, there will be no WET testing required, unless toxicity was shown in the previous tests. The division will notify the applicant of applicable test requirements in writing, included with the Notice of Coverage (NOC). Toxicity testing information is summarized in the table below:

Dilution Factor	**0-100**	**100-500**	**>500**
Type of WET testing	IC25	LC50	No Testing Required
Percent Effluent	100%	100%	Not Applicable

Calculation of dilution factor is as follows:

$$DF = \frac{Qs + Qw}{Qw} = \text{Dilution Factor}$$

where Qw is a long-term average treated groundwater flow rate and Qs is a receiving stream low flow (7Q10 or 1Q10, see text above). The waiver of the whole effluent toxicity testing shall be made in writing to the division's Environmental Field Office responsible for the county where the discharge is located.

For the first three months of the intial start-up operations, whole effluent toxicity (WET) testing shall be conducted monthly on two appropriate test species. For established and renewed permitted operations, WET testing shall be conducted once during the first 180 days from the effective date of coverage under the general permit. If toxicity is determined in any of these tests, annual testing will be required for the duration of the permit.

At the end of the initial WET testing period it is the responsibility of the permittee to notify the division of their results and to request either removal of the WET testing requirement or an annual testing frequency, based on their results. Requests should include the permit tracking number assigned, as shown on the Notice of Coverage, and should be submitted to the division at the address shown in part 5 of the permit.

11.6. General Permit Issuance Procedures

This general permit is drafted in accordance with applicable NPDES regulations (40 CFR 122, 123, 124 and 125), the Tennessee Water Quality Control Act (§ 69-3-101 et seq.), and the department's permit issuance regulations (Rules of the department 0400-40-01-.05 and 0400-40-10.01 through .03).

11.7. Permit Issuance and Public Notice Procedures

This general permit is drafted in accordance with applicable NPDES regulations (40 CFR 122, 123, 124, and 125), the Tennessee Water Quality Control Act (T.C.A. § 69-3-101, et.seq.), and the TDEC's permit issuance regulations in TN Rules 0400-40-05.

The applicable regulations for issuance of this general permit are found in 40 CFR 122.28 and 123.44, and the regulations for fact sheet (Rationale) requirements are found in 40 CFR 124.8 and 124.56.

The division will publish notice of its intent to issue the General NPDES Permit for Discharges of Treated Groundwater Associated with Underground Storage Tank Remediation and notice public hearing to receive comments on the draft permit. At least 30 days notice will be given for the public hearings. Comments will be received at least 10 ten days after the last hearing. Any interested person may request copies of the rationale (fact sheet) and draft permit and submit written comments on the draft permit.

For additional information, or to submit comments, contact:

Vojin Janjić
Tennessee Division of Water Resources
Tennessee Tower, 11th Floor
312 Rosa L. Parks Ave.
Nashville, TN 37243

Phone: (615) 532-0670
E-mail: Vojin.Janjic@tn.gov

APPENDIX A – Notice of Intent (NOI)

(Continued on next page)

DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF WATER RESOURCES
Tennessee Tower, 11th Floor, 312 Rosa L. Parks Ave., Nashville, TN 37243

NOTICE OF INTENT (NOI)

for discharges of treated groundwater associated with

UNDERGROUND STORAGE TANK (UST) REMEDIATION

This application is for: ☐ New Permit ☐ Permit Reissuance ☐ Permit Modification

(If this NOI is submitted for Permit Modification provide the existing permit tracking number: **TNG83____)**

Site Name:		County:	
Street Address or Location:		Latitude:	
		Longitude:	
UST Site ID Number:	Attach a site location (topographic) map ☐ Map attached		

Owner or Operator: (the person or legal entity which controls site's operation; this may or may not be the same as the site name or the official contact name)				
1	Official Contact Person: (individual responsible for a site)	Title or Position:		
	Mailing Address:	City:	State:	Zip:
	Phone:	E-mail:		

2	Local Contact Person: (if appropriate, write "same as #1")	Title or Position:		
	Site Address: (may or may not be the same as mailing address)	Site City:	State: TN	Zip:
	Phone:	E-mail:		

Write in the box (to the right) or circle the number (above) to indicate where to send correspondence:

UST REMEDIATION FACILITY DESCRIPTION

Treated groundwater from site enters following stream(s) and/or lake(s): (for each outfall, give names and stream miles)	No.of outfalls:
List type of product(s) currently or previously stored in tanks located at the site:	
Description of contamination, assessment study, extent of contamination, etc. Attach additional pages if necessary.	
Description and design capacity of treatment process and facilities.	
Select discharge type (continuous means more than 4 days at a time): ☐ Continuous ☐ Intermittent	
Expected starting date for groundwater treatment, and estimated life of remediation project:	

CERTIFICATION AND SIGNATURE

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. As specified in Tennessee Code Annotated Section 39-16-702(a)(4), this declaration is made under penalty of perjury.

Printed Name	Official Title	Signature	Date

Submit the original completed and signed form to Water.Permits@tn.gov or a paper copy to:

UST NOI Processing
Division of Water Resources
Tennessee Tower, 11th Floor, 312 Rosa L. Parks Ave., Nashville, TN 37243

(continued)

UNDERGROUND STORAGE TANK (UST) REMEDIATION
NOTICE OF INTENT (NOI) - INSTRUCTIONS

Complete the form Type or print clearly, using black or blue ink; not markers or pencil. Answer each item or enter "N/A," for not applicable. If you need additional space, attach a separate piece of paper to the NOI. **Requesting coverage under this permit means that an applicant has obtained and examined a copy of this permit, and thereby acknowledges applicant's ability to be in compliance with permit terms and conditions.** This permit is required for discharges of effluent from the treatment of groundwater that has been contaminated by petroleum from an underground storage tank to surface waters. This form should be submitted at least 30 days prior to the commencement of operation of the UST remediation facility.

Permittee Identification/Facility Identification Describe and identify the project location, use the legal or official name of the facility or site. ***Provide the latitude and longitude, expressed in decimal degrees**, of the center of the site, which can be located on USGS quadrangle maps. Attach a copy of a portion of a 7.5 minute quad map or a similar map, showing location of site, with boundaries at least one mile outside the site boundaries.

Give the name(s) of receiving waters Trace the route of effluent discharge runoff from the site and determine the name of the river(s), stream(s), creek(s), wetland(s), lake(s) or any other water course(s) into which the storm water drains. Note that the receiving water course may or may not be located on the site. If the first water body receiving discharge is unnamed ("unnamed tributary"), determine the name of the water body which the unnamed tributary enters.

Submitting the form Note that this form must be signed by the company President, Vice-President, or a ranking elected official in the case of a municipality, for details see subpart 7.4 of the general permit. Submit the completed NOI form (keep a copy for your records) to the division at the following address:

UST NOI Processing
Division of Water Resources
Tennessee Tower, 11th Floor
312 Rosa L. Parks Ave.
Nashville, TN 37243

Notice of Coverage The division will review the NOI for completeness and accuracy and transmit to the permittee a Notice of Coverage (NOC).

Obtaining more information/assistance For more information or assistance, contact your local Environmental Field Office (EFO), toll-free, at 1-888-891-8332 (TDEC) or at the number listed below.

EFO	Street Address	City	Zip	Telephone
Chattanooga	1301 Riverfront Parkway, Suite 206	Chattanooga	37402	(423) 634-5745
Columbia	1421 Hampshire Pike	Columbia	38401	(931) 380-3371
Cookeville	1221 South Willow Ave.	Cookeville	38506	(931) 432-4015
Jackson	1625 Hollywood Drive	Jackson	38305	(731) 512-1300
Johnson City	2305 Silverdale Road	Johnson City	37601	(423) 854-5400
Knoxville	3711 Middlebrook Pike	Knoxville	37921	(865) 594-6035
Memphis	8383 Wolf Lake Drive	Bartlett	38133	(901) 371-3000
Nashville	711 R S Gass Boulevard	Nashville	37216	(615) 687-7000