

## Chapter Comm 10

### APPENDIX A

The material contained in this Appendix is for clarification only. The notes, illustrations, forms, etc., are numbered to correspond to the number of the rule as it appears in the text of the chapter.

#### A10.10 (4) (b) 2. and 3. DISPENSING EQUIPMENT PROGRAM CHECKLIST

The following sample format of a dispensing equipment agreement form/training program satisfies the subject requirements:

#### STATE OF WISCONSIN/DEPARTMENT OF COMMERCE/ FIRE PREVENTION SECTION PROGRAM CHECKLIST

The following information relates to training of persons who will operate the key, card or code dispensing devices in accordance with ch. Comm 10 Flammable and Combustible Liquids Code, s. Comm 10.10 (4) (b) 2. and 3.

#### CARDTROL OPERATING INSTRUCTIONS

1. Turn off engine and extinguish all smoking materials.
2. Insert key, card or code into reader unit.
3. When "Select Pump" light comes on, push button to select desired pump.
4. Remove key or card from reader. You now have 80 seconds to start fueling before unit "times out".
5. Remove nozzle from selected pump and turn lever on.
6. After fueling, turn pump lever off and replace nozzle on pump.

#### SAFETY INSTRUCTIONS AGREEMENT

1. Always turn off engine before fueling.
2. Never smoke or use open flame devices in vicinity of pumps.
3. Never dispense gasoline into a glass container. Use only red metal containers or UL listed or classified containers for gasoline.
4. Never dispense diesel fuel into a red container.
5. Familiarize yourself with the locations of the fire extinguisher and emergency electrical cutoff switch.
6. To use fire extinguisher, break glass to gain access.
7. Follow instructions on the use of the fire extinguisher.
8. To disconnect electric power to pumps, break glass and pull switch on emergency shutoff located on the building.
9. The emergency telephone number is conspicuously posted at the site and customer agrees to call this number in case of a spill or if any other hazardous condition is found to exist.

AGREEMENTS: (special provisions between owner and member) \_\_\_\_\_

RESPONSIBILITY OF CUSTOMER: (use, payment, key-card control, etc.) \_\_\_\_\_

I certify that I received the instructions and training necessary for operation of \_\_\_\_\_ key, card or code dispensing unit.

Customer's signature \_\_\_\_\_ Date \_\_\_\_\_

Company representative signature \_\_\_\_\_ Date \_\_\_\_\_



**FLAMMABLE LIQUID TANKS  
INSTALLATION APPLICATION**

Environmental & Regulatory Services Division  
Bureau of Storage Tank Regulation  
P.O. Box 7837, Madison, WI 53707-7837  
(608) 267-9795 (608) 266-8981

**INSTRUCTIONS:** Fill in ALL applicable data. **CAUTION:** Failure to complete the form entirely may cause additional delay. Submit this form with four sets of plans which include details and data as required by Comm 10.10, along with the required fees made payable to: Department of Commerce at the address in the upper right corner of this page. Personal information you provide may be used for secondary purposes [Privacy Law, s. 15.04(1)(m)]

<b>OWNER INFORMATION</b> Customer ID# Name		<b>PROJECT INFORMATION</b> Site ID# Facility ID# Facility Name		<b>CONTRACTOR INFORMATION</b> Customer ID# Contractor Name	
Company Name		Site Address		Number and Street	
Number and Street		<input type="checkbox"/> City <input type="checkbox"/> Village <input type="checkbox"/> Town of:		City, State, Zip Code	
City, State, Zip Code		County		Contact Person Customer ID#	
Telephone Number ( ) ( )	Fax Number ( ) ( )	Fire Dept. Providing Fire Coverage	FDID#	Telephone Number ( ) ( )	Fax Number ( ) ( )

Install tank(s)       Install automated fueling device       System upgrade       Corrosion system upgrade  
 Install piping       Key control system       Spill protection       Line tanks  
 New install self service       Card control system       Overfill protection       Impressed current  
 Revise a plan       Code control system       Leak detection       Galvanic

**TANK SYSTEM OCCUPANCY:**

Gas/Retail Sales       Bulk Storage       Utility       Mercantile/Commercial       Backup Generator  
 Industrial       School       Residential       Agricultural       Other (specify):

**TANK CONSTRUCTION:**

1.  Bare Steel      2.  Cathodically Protected & Coated Steel (Check one: A  Galvanic or B  Impressed Current)  
 3.  Coated Steel      4.  Fiberglass      5.  Other (specify):  
 6.  Lined - Date:      7.  Steel - Fiberglass Reinforced Plastic Composite

Approval: 1.  Nat'l. Std.      2.  UL      3.  Other:      Tank Type:  Single wall       Double wall

**TANK SPECIFICATIONS: (each tank)**       Underground      Distance Buried:       Aboveground

Manufacturer:      Tank Listing:      Dimensions:      Capacity:      Contents:      WI Regulated Object No. (if applicable):

Overfill Protection:  Yes  No Make/Model:      Spill Containment:  Yes  No Make/Model:

Tank leak detection method: 1.  Automatic tank gauging      2.  Vapor monitoring      3.  Groundwater monitoring  
 4.  Inventory control and tightness testing      5.  Interstitial monitoring  
 7.  Manual tank gauging (only for tanks of 1,000 gallons or less)      8.  Statistical Inventory Reconciliation (SIR)

**PIPING CONSTRUCTION:**

Underground       Aboveground  
 1.  Bare Steel      2.  Cathodically Protected & Coated Steel (Check one: A  Galvanic or B  Impressed Current)  
 3.  Coated Steel      4.  Fiberglass      5.  Other (Specify):      6.  Flexible

Approval: 1.  Nat'l. Std.      2.  UL      3.  Other:      Pipe Type:  Single wall       Double wall

**Piping System Type:** 1.  Pressurized piping with A  auto shutoff; B  alarm or C  flow restrictor.

2.  Suction piping with check valve at tank      3.  Suction piping with check valve at pump and inspectable      Make/Model:

**Piping leak detection method:** used if pressurized or check valve at tank: 1.  Vapor monitoring      2.  Interstitial monitoring

3.  Groundwater monitoring      4.  Tightness testing      5.  Electronic line monitor      6.  Not required

Vapor Recovery:  Stage I CARB#       Stage II CARB#      Stage II Operational:  Yes  No

4.  Fiberglass      5.  Other (specify):      6.  Flexible

Installation or Lining	No. of Tanks	Cost	Subtotal
• Plan Examination - 1st tank system		X \$ 35.00	(7636)
• 2nd thru 10th system/component (Maximum charge = \$150.00 for 11 or more)		X \$ 10.00 ea.	(7636)
• Site Inspection - \$50.00/tank system (\$100.00 minimum fee; \$1700.00 maximum fee)		X \$ 50.00 ea.	(8253)
• Line Tanks (includes inspection fee) (\$22.00 = 7636 \$43.00 = 8253) (Groundwater fee req'd.)	per submission	\$ 65.00	
• New Construction/Key - Card - Code (\$35.00 = 7636 \$43.00 = 8253)	per submission	\$ 78.00	
• Addition OR Upgrade for Leak detection; Spill protection; Overfill protection; Corrosion protection	per submission	\$ 65.00	
• REVISION (Previous Appvd. Plan #		\$ 22.00	
GROUNDWATER SURCHARGE (WI Stat. 101.14(5))		\$100.00*	(7637)
<b>TOTAL FEE</b>			

I certify by signature that provisions of the current Flammable and Combustible Liquids Code, 40 CFR Part 280, and all required well setbacks (DNR), listed or not listed on this document, will be complied with

Signature \_\_\_\_\_ Date \_\_\_\_\_

For Office Use Only

Transaction # \_\_\_\_\_

Service Agent # \_\_\_\_\_

Review Date: \_\_\_\_\_

Reviewer: \_\_\_\_\_

Wisconsin Department of  
Commerce

**WISCONSIN MATERIAL APPROVAL  
APPLICATION**

Safety and Buildings Division  
P.O. Box 2689  
Madison, WI 53701-2689  
(608)261-6546

**INSTRUCTIONS:** One application form per material approval. Type or print clearly. Make checks payable to: Dept. of Commerce. Send application, fee and any additional information to address shown in top right corner.

<b>1. Submitting Party Information</b>		<b>2. Manufacturer Information</b>	
Applicant Company Name:		Manufacturer Name (If same as applicant, write "same"):	
Applicant Address:		Manufacturer Address:	
City, State, Zip Code:		City, State, Zip Code:	
Contact Person and Telephone Number:		Contact Person and Telephone Number:	
<b>3. Product information</b>			
Product (e.g. Furnace, Metal Building, Fuel Tank etc.):		Trade Name	

**Description And Use of Material (attach additional sheets if necessary):**

**Submittal Type and Fee (check type and submit fee):**

- |  |  |
|--|--|
| <input type="checkbox"/> New Approval..... \$800.00          | <input type="checkbox"/> Minor Revision At Manufacturer's Request..... \$200.00<br>(No extension of approval period) |
| <input type="checkbox"/> Renewal, With Changes..... \$800.00 | <input type="checkbox"/> Major Revision At Manufacturer's Request..... \$800.00<br>(new 5-year period)               |
| <input type="checkbox"/> Renewal, No Changes..... \$600.00   |  |

Current Approval Number, If Any: \_\_\_\_\_

**Wisconsin Code Sections Under Which Approval Is Requested (if known):**

Determination of approval will be based on evidence which shows that the material performs in a manner which is equal or superior to the material required by the code section listed above.

**PUBLIC RECORDS:** Department files and records may be subject to public inspection and copying unless they are designated as containing trade secrets. Do you wish your documents to be so designated?

- Yes     No

I affirm that the information submitted with this application is, to my knowledge and understanding, correct.

Applicant's Signature: \_\_\_\_\_ Date Signed: \_\_\_\_\_

**PETITION FOR VARIANCE**  
**Flammable and Combustible Liquid Storage Tank**  
**INFORMATION AND INSTRUCTIONS – Comm 3**

In instances where exact compliance with a particular code requirement cannot be met or alternative designs are desired, the Division has a petition for variance program where it reviews and considers acceptance of alternatives which are not in strict conformance with the letter of the code, but which meet the intent of the code. **A variance is not a waiver from a code requirement.** The petitioner must **provide an equivalency which meets the intent** of the code section petitioned to obtain a variance. Documentation of the rationale for the equivalency is requested below. Failure to provide adequate information may delay your petition. Pictures, sketches, and plans may be submitted to support equivalency. If the proposed equivalency does not adequately safeguard the health, safety, and welfare of building occupants, frequenters, firefighters, etc., the variance request will be denied. It should be noted that **a petition for variance does not take the place of any required plan review submittal.**

The Division is unable to process petitions for variance that are not properly completed. Before submitting the application, the following items should be checked for completeness in order to avoid delays:

- Petitioner's name (typed or printed).
- Petitioner's signature.
- The Petition For Variance Application must be signed by the owner of the building or project unless a Power of Attorney is submitted.
- Notary Public signature with affixed seal.
- Analysis to establish equivalency, including any pictures, illustrations or sketches of the existing and proposed conditions to clearly convey your proposal to the reviewer. If aboveground or underground tank is located outside of a building, a schematic reflecting setbacks, vehicle parking area and vehicle traffic patterns must be submitted.
- Fee of \$200.
- Any required position statements by fire chief or municipal official.

A position statement from the chief of the local fire department is required for fire safety issues. Position statements must be completed and signed by the appropriate fire chief or municipal enforcement official. See the back of ERS-9890-A, Petition For Variance Application form for these position statement forms. Signatures or seals on all documents must be originals. Photocopies are not acceptable.

Except for special cases, the Division will review and make a determination on a petition for variance within 30 business days of receipt of all calculations, documents, and fees required for the review.

Dept. Use Only
Class Code 7636
Trans. No. _____
Amount Paid _____

**PETITION FOR VARIANCE APPLICATION  
Flammable and Combustible Liquid  
Storage Tanks**

Environmental and Regulatory  
Services Division  
201 W. Washington Ave.  
P.O. Box 7837  
Madison, WI 53707-7837  
Telephone: (608) 266-0956

Page 1 of \_\_\_\_\_

PLEASE TYPE OR PRINT CLEARLY - Personal information you provide may be used for secondary purposes [Privacy Law, s.15.04 (1)(m)].

1. Owner Information		2. Project Information	3. Designer Information	
Name		Code Chapter(s) and Use	Designer	
Company Name		Tenant Name (if any)	Design Firm	
Number and Street		Facility Location (number and street)	Number and Street	
City, State, Zip Code		<input type="checkbox"/> City <input type="checkbox"/> Village <input type="checkbox"/> Township of	City, State, Zip Code	
Contact Person		County of	Contact Person	
Telephone Number ( ) ( )	FAX Number ( ) ( )	Property ID # (tax parcel # - contact county)	Telephone Number ( ) ( )	FAX Number ( ) ( )

**4. Tank System Plan Review by:**  State  Local Program Operator (LPO)  
**Plan Status:**  Plan will be submitted after petition determination  Preliminary design  
 Already built  On hold  Approved, requesting revision Plan #:

**5. State the code section being petitioned AND the specific condition or issue you are requesting be covered under this petition for variance.**

\_\_\_\_\_

\_\_\_\_\_

**6. Reason why compliance with the code cannot be attained without the variance.** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**7. State your proposed means and rationale of providing equivalent degree of health, safety, or welfare as addressed by the code section petitioned.**

\_\_\_\_\_

\_\_\_\_\_

**8. List attachments to be considered as part of the petitioner's statements (i.e., model code sections, test reports, research articles, expert opinion, previously approved variances, pictures, plans, sketches, etc ).**

\_\_\_\_\_

\_\_\_\_\_

**VERIFICATION BY OWNER - PETITION IS VALID ONLY IF NOTARIZED WITH AFFIXED SEAL AND ACCOMPANIED BY REVIEW FEE**

(See Section Comm 2.52 for complete fee information)

Note: Petitioner must be the owner of the building or project. Tenants, agents, designers, contractors, attorneys, etc., shall not sign petition unless Power of Attorney is submitted with the Petition for Variance Application.

\_\_\_\_\_ being duly sworn, I state as petitioner that I have read the foregoing petition and I believe it is true and that I have significant ownership rights to the subject building or project.

Petitioner's Name (type or print)

Petitioner's Signature	Subscribed and sworn to before me this date	Notary Public	My commission expires on
Owner's Name	Project Location		

### Fire Department Position Statement

To be completed for variances requested from ILHR 50-64, ILHR 69, Comm 10, and other fire related requirements.

I have read the application for variance and recommend: (check appropriate box)

- Approval     
  Conditional Approval     
  Denial     
  No Comment

Explanation for recommendation including any conflicts with local rules and regulations and suggested conditions:

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Fire Department Name and Address	
Name of Fire Chief or Designee (type or print)	Telephone Number
Signature of Fire Chief or Designee	Date Signed

### MUNICIPAL BUILDING INSPECTION RECOMMENDATION

To be completed for variances requested that may involve or be associated with buildings from ILHR 50-64 plan review, conducted by a municipality or if orders are written on the building under construction; optional in other cases.

I have read the application for variance and recommend: (check appropriate box)

- Approval     
  Conditional Approval     
  Denial     
  No Comment

Explanation for recommendation including any conflicts with local rules and regulations and suggested conditions:

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Municipality Exercising Jurisdiction	
Name and Address of Municipal Official (type or print)	Telephone Number of Enforcement Official
Signature of Municipal Enforcement Official	Date Signed

A

CHECKLIST FOR ABOVEGROUND TANK INSTALLATION

Return Completed Checklist To: Wisconsin Department of Commerce ERS Division Bureau of Storage Tank Regulation P. O. Box 7837 Madison, WI 53707-7837

Reg Obj #: For Office Use Only

Complete one form for each tank and related piping.

The information you provide may be used for secondary purposes [Privacy Law, s.15.04(1)(m)].

This checklist covers

- installation of: Tank; Piping; Secondary Containment; Overfill Protection; Vapor Recovery; Leak Detection; Spill Containment; Automated Fueling (key-card-code); Lining

A. IDENTIFICATION: (Please Print)

1. Installation Name, 2. Owner Name, Installation Street Address, Owner Street Address, City, Village, Town of, State, Zip Code, County, Telephone No.

B. TANK CONTENTS (Current, or previous product if tank now empty)

- Diesel, Leaded, Unleaded, Gasohol, Aviation, Premix, Fuel Oil, Kerosene, Waste/Used Motor Oil, Hazardous Waste, Chemical, Other, Unknown, Empty

C. LAND OWNER TYPE (check one)

- County, Federal Leased, Federal Owned, Municipal, Other Government, Private, State, Tribal Nation

D. OCCUPANCY TYPE (check one)

- Gas/Retail Sales, Bulk Storage, Industrial, Mercantile/Commercial, Utility, Residential, School, Agricultural, Backup or Emergency Generator, Other

E. PLAN APPROVAL

1. Plans have been submitted and approved. 2. State plan number/LPO plan number is: 3. Tank Capacity: gallons.

F. TANK CONSTRUCTION

1. Tank is new and carries national testing label for aboveground use. 2. Tank is used and has been tested for leaks. 3. Tank labels provided. 4. Class I operating vent sized and located per NFPA 30. 5. Class II or III A normal vents are at least 4 feet above ground level. 6. Emergency relief vent is provided. 7. All normal and emergency vents terminate outside. 8. Overfill protection provided? 9. Tank gauge is provided.

G. TANK HANDLING AND PRE-TESTING

1. Tank was lifted using lifting lugs, no chains or slings were placed around the tank shell. 2. Tank was tested for leakage per the manufacturer's recommendations.

H. TANK SITE

1. Tank located per approved plans (walls, bldgs, P/L, streets, etc.). 2. Tank is spaced a minimum of 3 feet from any other tank. 3. Tank foundation designed to minimize settling.

I. PROJECT SITE

1. Collision protection provided. 2. Vehicle fueling tank is secured by non combustible enclosure. 3. Warning signs posted for dispensing area. 4. A rated fire extinguisher provided.

J. PIPING MATERIAL IS: Fiberglass; Steel; or Other (type)

Pipe installation is: single wall or double wall. Check one of the types below before proceeding to answer questions 1-3 and/or 1-14. Piping System Type: 1. Pressurized piping with a. auto shutoff, b. alarm, or c. flow restrictor. 2. Suction piping with check valve at tank. 3. Suction piping with check valve at pump and inspectable.

Aboveground Pipe:

1. Coated to inhibit corrosion. 2. Supported and protected against physical damage and stress. 3. Piping was isolated from the tank and dispenser and air tested at 150% of operating pressures of the system (but not less than 50 p.s.i.) for 1 hour.

J. PIPING (continued)

Underground Pipe

	Installer Verified	Inspector Verified	NA
1. Piping is sloped back to tank (min. 1/8 inch per foot)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Piping is evenly and adequately supported by at least 6 inches of backfill bedding	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Piping trench provides at least 18 inches of compacted backfill and paving on top of piping	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Pipes are separated by at least twice the pipe diameter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Pipes are separated from the trench excavation sidewalls by at least 6 inches	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Piping inspected for damage to pipe or coating	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Metal piping is at least schedule 40 black steel or galvanized pipe, and is wrapped or coated	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Metal piping protected from corrosion by: <input type="checkbox"/> cathodic protection or <input type="checkbox"/> impressed current	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Fittings and couplings are extra-heavy malleable iron screw-type, schedule 40 or better	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Piping was isolated from the tank and dispenser and air tested at 150% of operating pressure of the system (but not less than 50 psig) for 1 hour prior to backfilling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. After backfilling, piping was isolated from the tank and dispenser and precision tested at 110% of operating pressure but not less than 50 psi for 1 hour	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Test stations have been installed for monitoring cathodic protection on piping	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Approved flexible connectors are used below the dispenser	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Dispensers, pumps, check valves, etc., not cathodically protected are electrically isolated from metallic piping	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

K. SECONDARY CONTAINMENT/LEAK DETECTION (Check which applies under both TANK and PIPING)

1. Tank: <input type="checkbox"/> Diked <input type="checkbox"/> Double Wall			
Tank clearance with dike walls and floor. <input type="checkbox"/> Vehicle fueling <input type="checkbox"/> Bulk storage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Interstitial monitoring	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Automatic (verified as operative)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other (specify)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Piping Leak Detection Method: used if pressurized or suction with check valve at tank: <input type="checkbox"/> Vapor monitoring <input type="checkbox"/> Interstitial monitoring			
<input type="checkbox"/> Groundwater monitoring <input type="checkbox"/> Tightness testing <input type="checkbox"/> Line leak detector <input type="checkbox"/> Not required (visual)			

L. LIQUID HANDLING, TRANSFER AND USE

1. Fill pipe shall be locked, labeled and color coded. [Comm 10.415 (11)]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Check valve installed in piping at connection/disconnection for tank vehicle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Tank is provided with spill protection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Dispensing device is listed and has proper setbacks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Electrically operated solenoid valve provided for vehicle fueling. [Comm 10.415 (10)]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Anti-siphon device provided on tank mounted pump	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Electric equipment and wiring is installed in accordance with Comm 16 (NFPA 70)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Emergency shutoff clearly identified and accessible	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Where required, listed emergency breakaway, hose and dispensing devices are provided	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Dispensing nozzle at marine service stations shall be auto-closing without hold open device	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Hose length:			

M. INSTALLER CERTIFICATION

Installation Company Name (print)	Installation Company Mailing Address	City/State/Zip Code
Company Telephone No. (include area code)	Certified Installer Name (print)	Installer Certification No.

I certify that the tank system and related components have been installed according to the manufacturer's instructions, conditionally approved plans, and comply with Comm 10.

Installer Signature: \_\_\_\_\_

Date Signed: \_\_\_\_\_

N. INSPECTOR INFORMATION

Inspection Dates: \_\_\_\_\_

Inspection Company Name: \_\_\_\_\_

Inspector Signature: \_\_\_\_\_ Inspector #: \_\_\_\_\_ Local Operator #: \_\_\_\_\_

Date Signed: \_\_\_\_\_ Fire department providing coverage: \_\_\_\_\_ FDID #: \_\_\_\_\_

O. COMMENTS:

TANK INVENTORY FORM ERS-8731 SIGNED BY THE OWNER MUST BE SUBMITTED WITH EACH INSTALLATION CHECKLIST.



File by:
Reg Obj #:

**ABOVEGROUND  
FLAMMABLE/COMBUSTIBLE LIQUID  
STORAGE TANK INVENTORY**  
Information Required By Section 101.142, Wis. Stats.

Send Completed Form To:  
Department of Commerce  
Bureau of Storage Tank Regulation  
P.O. Box 7837  
Madison, WI 53707-7837

Aboveground tanks in Wisconsin that have stored or currently store petroleum or regulated substances must be registered. A separate form is needed for each tank. Send each completed form to the agency designated in the top right corner. Have you previously registered this tank by submitting a form?  Yes  No If yes, are you correcting/updating information only?  Yes  No  
Personal information you provide may be used for secondary purposes [Privacy Law, s. 15.04 (1)(m)].

This registration applies to a tank that is (check one):			Fire Department providing fire coverage where tank is located:
<input type="checkbox"/> Existing In Use	<input type="checkbox"/> Closed - Tank Removed	<input type="checkbox"/> Ownership Change (indicate new owner name in block 2)	<input type="checkbox"/> City <input type="checkbox"/> Village
<input type="checkbox"/> Newly Installed	<input type="checkbox"/> Closed - Cleaned		<input type="checkbox"/> Town of _____
<input type="checkbox"/> Abandoned with Product	<input type="checkbox"/> Temporarily Out of Service -- Provide Date: _____		
<input type="checkbox"/> Abandoned without Product (empty)			

**A. IDENTIFICATION (Please Print)**

1. Tank Site Name	Site Address	Site Telephone Number ( )
<input type="checkbox"/> City <input type="checkbox"/> Village <input type="checkbox"/> Town of:	State Zip Code	County
2. Tank Owner Name	Mailing Address	Telephone Number ( )
<input type="checkbox"/> City <input type="checkbox"/> Village <input type="checkbox"/> Town of:	State Zip Code	County
3. Previous Name	Previous site address if different than #1	

<b>B. Site ID #:</b>	<b>Facility ID #:</b>	<b>Customer ID #:</b>
	Tank Age (age or date installed):	Vehicle Fueling? <input type="checkbox"/> Yes <input type="checkbox"/> No

**D. LAND OWNER TYPE (check one)**

<input type="checkbox"/> County	<input type="checkbox"/> Federal Leased	<input type="checkbox"/> Federal Owned	<input type="checkbox"/> Municipal	<input type="checkbox"/> Other Government
<input type="checkbox"/> Private	<input type="checkbox"/> State	<input type="checkbox"/> Tribal Nation		

**E. OCCUPANCY TYPE (check one)**

<input type="checkbox"/> Gas/Retail Sales	<input type="checkbox"/> Bulk Storage	<input type="checkbox"/> Industrial	<input type="checkbox"/> Mercantile/Commercial	<input type="checkbox"/> Utility	<input type="checkbox"/> Residential	<input type="checkbox"/> School
<input type="checkbox"/> Agricultural (crop or livestock production)	<input type="checkbox"/> Backup or Emergency Generator	<input type="checkbox"/> Other (specify):				

<b>F. Tank Construction:</b>	<b>Corrosion Protection</b>	Overfill Protection? <input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Bare Steel <input type="checkbox"/> Concrete <input type="checkbox"/> Other (specify):	<input type="checkbox"/> Impressed Current <input type="checkbox"/> Sacrificial Anode	Spill Containment? <input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Steel - Fiberglass Reinforced Plastic Composite	<input type="checkbox"/> External Coating <input type="checkbox"/> None	If upgraded by Internal Lining give date:

**G. Primary Tank Leak Detection Method:**  Visual monitoring  Automatic tank gauging  Interstitial monitoring  SIR  
 Vapor or Groundwater monitoring  Inventory control & tightness testing  Manual tank gauging

**H. Aboveground Piping Construction:**

<input type="checkbox"/> Bare Steel <input type="checkbox"/> Coated Steel <input type="checkbox"/> Other (specify):	<input type="checkbox"/> N/A	Pipe Double Walled? <input type="checkbox"/> Yes <input type="checkbox"/> No
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**I. Underground Piping Construction:**

<input type="checkbox"/> Bare Steel <input type="checkbox"/> Coated Steel <input type="checkbox"/> Cathodically Protected Steel <input type="checkbox"/> Fiberglass <input type="checkbox"/> Flexible <input type="checkbox"/> Copper <input type="checkbox"/> Unknown	<b>Cathodic Protection</b> <input type="checkbox"/> Sacrificial Anodes <input type="checkbox"/> Impressed Current	Pipe Double Walled? <input type="checkbox"/> Yes <input type="checkbox"/> No
--	---	--

**J. Underground Piping Leak Detection Method:**  Tightness testing  Electronic line leak monitor  Groundwater monitoring  
 Vapor monitoring  Interstitial monitoring  SIR  Unknown  Other (Specify):

**K. Vapor Recovery/Stage II** CARB #: \_\_\_\_\_  
 Fiberglass  Other (specify):  Flexible  Operational - Provide Date (mo/day/yr):

**L. CONTAINMENT**

Dike Side Material: <input type="checkbox"/> Earth <input type="checkbox"/> Concrete <input type="checkbox"/> Steel <input type="checkbox"/> Block <input type="checkbox"/> Synthetic Liner	Double wall tank <input type="checkbox"/> Yes <input type="checkbox"/> No
Dike Base Material: <input type="checkbox"/> Earth <input type="checkbox"/> Concrete <input type="checkbox"/> Steel <input type="checkbox"/> Engineered Clay <input type="checkbox"/> Synthetic Liner	

**M. TANK CONTENTS (Current, or previous product if tank now empty)**

<input type="checkbox"/> Diesel <input type="checkbox"/> Leaded <input type="checkbox"/> Unleaded <input type="checkbox"/> Gasohol <input type="checkbox"/> Aviation <input type="checkbox"/> Premix <input type="checkbox"/> Fuel Oil <input type="checkbox"/> Kerosene <input type="checkbox"/> Waste/Used Motor Oil	<input type="checkbox"/> Other _____
<input type="checkbox"/> Hazardous Waste <input type="checkbox"/> Chemical (specify name & CAS#): _____	<input type="checkbox"/> Unknown
<input type="checkbox"/> Empty	

**N. If Tank Closed, Abandoned or Out of Service, give date (mo/day/yr):** \_\_\_\_\_

Geo Latitude
Geo Longitude

Has a site assessment been completed for closed tank? (see reverse side for details)  Yes  No

Owner or Operator Name (please print): \_\_\_\_\_ Indicate:  Owner or  Operator

Owner or Operator Signature: \_\_\_\_\_ Date Signed \_\_\_\_\_

**Note: Refer to comments on reverse side of form.**

ERS-8731 (R. 12/98)

**IMPORTANT:** Failure to provide sufficient information may cause you to fall under additional regulations, and may delay PECFA eligibility determination for those tank systems that qualify.

This form must be completed pursuant to s. 101.142, Wis. Stats., to register an aboveground flammable or combustible liquid product storage system. An aboveground liquid storage system is a system which stores a flammable or combustible liquid product with a flash point less than 200° F., together with integral piping or dispensing system. Tanks inside aboveground or underground vaults are considered aboveground tanks. **Not** included are:

- ◆ Pipeline facilities (tanks directly associated with the operation of the pipeline).
- ◆ Tanks of 110 gallons or less capacity.
- ◆ Farm tank systems of 1,100 gallon capacity or less.
- ◆ Residential tank systems of 1,100 gallon capacity or less.
- ◆ Tanks of 660 gallon or less capacity used for storage of heating oil for consumptive use on the premises where stored.
- ◆ Day tanks and stationary tanks less than 660 gallon capacity located inside buildings for industrial or manufacturing processes.
- ◆ Liquid petroleum gas (LPG) or compressed natural gas (CNG) which is not regulated by this code.

**A separate form is needed for each tank. Send each completed form to the address in the top right corner.**

**UST/AST Permit and Registration Group**

Lead Worker ..... (608) 267-1384

**Areas of responsibility by county**

Adams through Eau Claire counties ..... (608) 267-2051  
 Florence through Marquette counties ..... (608) 267-1383  
 Milwaukee through Rusk counties ..... (608) 267-5280  
 Menominee County and St. Croix through Wood counties ..... (608) 267-1382

**SITE ASSESSMENT INFORMATION**

Requirements for a site assessment at the closure or change in service for an aboveground storage tank:

Before permanent closure or a change-in-service is completed, owners and operators must evaluate for contamination from a release, spillage or overfill. If contamination is suspected or evident, the sampling must be conducted by a Comm. 10 Certified Site Assessor. In evaluating the site for contamination, and selecting sampling methods, sample locations, and measurement methods, owners, operators, or site assessors must consider the method of closure, the nature of the stored substance, the type of backfill or surrounding soil, the depth to ground water, and other factors appropriate for identifying the presence of a release.

Complete written guidelines on the conduct of a site assessment can be obtained from the DNR.

Site assessments are to be submitted to the DNR at the following address:

Bureau of Solid and Hazardous Waste Management  
 P.O. Box 7921  
 Madison, WI 53707

U

CHECKLIST FOR UNDERGROUND TANK INSTALLATION

Return Completed Checklist To: Wisconsin Department of Commerce ERS Division Bureau of Storage Tank Regulation P. O. Box 7837 Madison, WI 53707-7837

Reg Obj #: For Office Use Only

Complete one form for each tank and related piping.

The information you provide may be used for secondary purposes [Privacy Law, s.15.04(1)(m)].

This checklist covers

- installation of: Tank; Piping; Vapor Recovery; Spill Containment; Overfill Protection; Leak Detection; Corrosion Protection; Automated Fueling (key-card-code); Lining

A. IDENTIFICATION: (Please Print)

Form section A containing fields for Installation Name, Owner Name, Street Address, City, State, Zip Code, Installation Company Name, and Certified Installer Name.

B. PLAN APPROVAL

- 1. Plans have been submitted and approved
2. State plan number/LPO plan number is:
3. Tank Capacity: gallons. Tank contents, if known:

C. TANK CONSTRUCTION

- 1. Tank is new and carries UL or other national testing label.
2. Tank is used, but has been recertified to meet the EPA new tank standard.
3. Tank is corrosion protected...
4. Test stations have been installed for monitoring cathodic protection on the tank.
5. Gasoline and other Class I flammable tank vents discharge at least 12 feet above ground level...
6. Fuel oil, diesel or other Class II or III A liquid storage tank vents are at least 4 feet above ground level.
7. Overfill protection device is installed and matches plan submittal.
8. Spill containment device installed.

D. TANK HANDLING AND TESTING

- 1. Tank was lifted using lifting lugs, no chains or slings were placed around the tank shell.
2. Tank coating was inspected and any damage to the coating repaired.
3. Preinstallation test of single wall tank conducted by pressurizing tank with 3-5 psi air pressure, soaping all surfaces, seams, and fittings and inspecting for bubbles.
or
Preinstallation test of double-walled tank: pressurize inner tank to a maximum of 5 psi, seal inner tank and disconnect external air supply, monitor for one hour. After one hour, pressurize the interstitial space with a maximum 5 psi air from the inner tank and use a second gauge for monitoring the pressure. Soap all surfaces, seams and fittings and inspect for bubbles.
4. Tank tested after backfilling through precision test, approved tank gauge or interstitial monitor.
5. Tank gauge or interstitial monitor verified as operative.

E. TANK SITE AND BACKFILL

- 1. Tank located a minimum of 3 feet from property lines and 1 foot from buildings.
2. Tank is spaced a minimum of 2 feet from any other tank.
3. Backfill for steel or fiberglass clad steel tank is clean, washed, well granulated sand, crushed rock, or pea gravel no larger than 3/4 inch.
4. Backfill for fiberglass tank is pea gravel naturally round with minimum diameter of 1/8 inch and maximum size of 3/4 inch or crushed rock or gravel between 1/8 and 1/2 inch in size.
5. Minimum of 1 foot of backfill extended beyond perimeter of tank.
6. Minimum of 1 foot of compacted backfill in bottom of excavation. (If hold down pads are used, bedding may be reduced to 6 inches.)
7. Bottom hold down pads used.
a. Fiberglass tank with 1 foot of compacted backfill over top of pad.
b. Steel tank with 6 inches of compacted backfill over top of pad.
8. Backfill material placed over tank to a depth of at least 1 foot.

**E. TANK SITE AND BACKFILL (continued)**

Installer Verified Inspector Verified NA

- 9. Backfill compaction is adequate to securely and evenly support the tank and prevent movement/settlement.
- 10. Excavation is in a bog, swampy area or landfill and a filter fabric was used to prevent the migration of the backfill material.
- 11. Tank in area of vehicle traffic, 3 feet of earth cover or 18 inches of earth plus 6 inches of reinforced concrete or 8 inches of asphalt.
- 12. Tank in area not subject to traffic, a minimum of 2 feet of earth or 1 foot of earth plus 4 inches of reinforced concrete or 6 inches of asphalt.

**F. TANK ANCHORAGE**

- 1. Installation is in an area of high water table or subject to flooding and tank is anchored.   
  - a. Anchor straps for fiberglass tank were nonmetallic and were placed according to manufacturer's specifications.
  - b. Anchor straps for steel tank were either nonmetallic or electrically isolated from the tank structure. (All metal fittings are protected from corrosion.)
  - c. Mid anchoring with non conductive material between tank and concrete.

**G. PIPING (Indicate whether piping is Fiberglass; Steel; or Flexible; then check one of the types below before proceeding to answer 1-15).**

- Pipe installation is vapor recovery pipe only.
- Pressurized piping with  auto shutoff,  alarm or  flow restrictor.
- Suction piping with check valve at tank.  Suction piping with check valve at pump and inspectable.

- 1. Piping is sloped back to tank (1/8 inch per foot).
- 2. Piping is evenly and adequately supported by at least 6 inches of backfill bedding.
- 3. Piping trench provides at least 18 inches of compacted backfill and paving on top of piping.
- 4. Pipes are separated by at least twice the pipe diameter.
- 5. Pipes are separated from the trench excavation sidewalls by at least 6 inches.
- 6. Piping inspected for damage to pipe or coating.
- 7. Metal piping is at least schedule 40 black steel or galvanized pipe, and is wrapped or coated.
- 8. Fittings and couplings are extra-heavy malleable iron screw-type, Schedule 40 or better.
- 9. Piping was isolated from the tank and dispenser and tested at 150% of operating pressure of the system (but not less than 50 psi) for 1 hour prior to and after backfilling.
- 10. Secondary containment piping was tested for tightness before it was covered, enclosed or placed in use. For rigid secondary piping test at 10 psi.   
  - For flexible secondary piping, test at manufacturers' recommendation: \_\_\_\_\_ psi.
- 11. After backfilling, piping was isolated from the tank and dispenser and precision tested at 110% of operating pressure but not less than 50 psi for 1 hour.
- 12. Piping was isolated from the tank and dispenser and tested through another approved means prior to and after backfilling. Indicate method(s) prior \_\_\_\_\_   
  - after \_\_\_\_\_
- 13. Metal piping protected from corrosion by  cathodic protection or  operational impressed current.
- 14. Test stations have been installed for monitoring cathodic protection on piping.
- 15. Flexible connectors are used at the top of tank, between tank and vent pipe, below the dispenser and also where less than 4 feet of run exists between changes in direction with fiberglass piping.
- 16. Dispensers, pumps, check valves, etc., not cathodically protected are electrically isolated from metallic piping.

**H. PRIMARY LEAK DETECTION (Check which applies under both TANK and PIPING)**

- 1. Tank
  - Tightness testing and inventory control  Automatic tank gauging  Vapor monitoring  Groundwater monitoring
  - Interstitial monitoring  Manual tank gauging (only for tanks of 1,000 gallons or less)
- 2. Piping (pressurized or suction with check valve at tank) Pipe installation is:  single wall,  double walled.
  - Tightness testing  Automatic line leak detectors  Vapor monitoring
  - Groundwater monitoring  Interstitial monitoring

**I. INSPECTOR INFORMATION**

Inspection Dates: \_\_\_\_\_

Inspector Signature: \_\_\_\_\_ Inspector #: \_\_\_\_\_ Local Operator #: \_\_\_\_\_

Date Signed: \_\_\_\_\_ Fire department providing coverage: \_\_\_\_\_ FDID #: \_\_\_\_\_

**J. INSTALLER CERTIFICATION**

I certify that the tank and related piping was installed according to the manufacturers' instructions and comply with one of the following standards:  API 1615,  PEI RP100 or  ANSI B31.4.

Installer Signature: \_\_\_\_\_ Date Signed: \_\_\_\_\_

**TANK INVENTORY FORM ERS-7437 SIGNED BY THE OWNER MUST BE SUBMITTED WITH EACH INSTALLATION CHECKLIST.**

File by:
Reg Obj #:

**UNDERGROUND  
FLAMMABLE/COMBUSTIBLE LIQUID  
STORAGE TANK INVENTORY**  
Information Required By Section 101.142, Wis. Stats.

Send Completed Form To:  
Department of Commerce  
Bureau of Storage Tank Regulation  
P.O. Box 7837  
Madison, WI 53707-7837

Underground tanks in Wisconsin that have stored or currently store petroleum or regulated substances must be registered. A separate form is needed for each tank. Send each completed form to the agency designated in the top right corner. Have you previously registered this tank by submitting a form?  Yes  No If yes, are you correcting/updating information only?  Yes  No  
Personal information you provide may be used for secondary purposes [Privacy Law, s. 15.04 (1)(m)].

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<b>B. Site ID #:</b>	<b>Facility ID #:</b>	<b>Customer ID #:</b>
5. Tank Age (age or date installed):		

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<b>F. Tank Construction:</b> <input type="checkbox"/> Bare Steel <input type="checkbox"/> Coated Steel <input type="checkbox"/> Unknown <input type="checkbox"/> Fiberglass <input type="checkbox"/> Steel - Fiberglass Reinforced Plastic Composite <input type="checkbox"/> Lined (date): <input type="checkbox"/> Other (specify):		<b>Cathodic Protection</b> <input type="checkbox"/> Sacrificial Anodes <input type="checkbox"/> Impressed Current <input type="checkbox"/> N/A	Overfill Protection? <input type="checkbox"/> Yes <input type="checkbox"/> No Spill Containment? <input type="checkbox"/> Yes <input type="checkbox"/> No Tank Double Walled? <input type="checkbox"/> Yes <input type="checkbox"/> No
<b>G. Primary Tank Leak Detection Method:</b> <input type="checkbox"/> Inventory control and tightness testing <input type="checkbox"/> Manual tank gauging (only for tanks of 1,000 gallons or less)		<input type="checkbox"/> Automatic tank gauging <input type="checkbox"/> Interstitial monitoring <input type="checkbox"/> Statistical Inventory Reconciliation (SIR)	<input type="checkbox"/> Groundwater monitoring <input type="checkbox"/> Vapor monitoring <input type="checkbox"/> Unknown
<b>H. Piping Construction:</b> <input type="checkbox"/> Bare Steel <input type="checkbox"/> Coated Steel <input type="checkbox"/> Unknown <input type="checkbox"/> Fiberglass <input type="checkbox"/> Flexible <input type="checkbox"/> N/A <input type="checkbox"/> Other (specify):		<b>Cathodic Protection</b> <input type="checkbox"/> Sacrificial Anodes <input type="checkbox"/> Impressed Current <input type="checkbox"/> N/A	Pipe Double Walled? <input type="checkbox"/> Yes <input type="checkbox"/> No
<b>I. Primary Piping System Type:</b> <input type="checkbox"/> Pressurized piping with $\Rightarrow$ A. <input type="checkbox"/> auto shutoff; B. <input type="checkbox"/> alarm, or C. <input type="checkbox"/> flow restrictor <input type="checkbox"/> Unknown <input type="checkbox"/> Suction piping with check valve at tank <input type="checkbox"/> Suction piping with check valve at pump and inspectable <input type="checkbox"/> Not needed if waste oil			
<b>J. Piping Leak Detection Method:</b> (used if pressurized or check valve at tank): <input type="checkbox"/> SIR <input type="checkbox"/> Tightness testing <input type="checkbox"/> Electronic line leak monitor <input type="checkbox"/> Groundwater monitoring <input type="checkbox"/> Vapor monitoring <input type="checkbox"/> Interstitial monitoring <input type="checkbox"/> Not required <input type="checkbox"/> Unknown			
<b>K. Vapor Recovery/Stage II CARB #:</b> <input type="checkbox"/> Fiberglass <input type="checkbox"/> Other (specify): <input type="checkbox"/> Flexible <input type="checkbox"/> Operational - Provide Date (mo/day/yr):			

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

\* If chosen, this tank is NOT PECFA eligible.

<b>Geo Latitude:</b>	<b>Geo Longitude:</b>
<input type="checkbox"/>	<input type="checkbox"/>

**Note: Refer to comments on reverse side of form.**  
ERS-7437 (R 12/98)

**IMPORTANT:** Failure to provide sufficient information may cause you to fall under additional regulations, and may delay PECFA eligibility determination. It is necessary to complete ALL shaded areas and as many other items as possible.

**BACKGROUND FOR TANK INVENTORY**

On May 4, 1984, legislation commonly known as the Ground Water Protection Act was signed into law. This legislation required the creation of an inventory of underground petroleum product storage tanks. An underground storage tank is defined as any tank with at least 10 percent of its total volume (including piping) located below ground level. A record of this information was necessitated by numerous reported incidents of ground water contamination by petroleum products. Many tanks have been installed, used and forgotten. These installations can threaten the ground water.

This underground tank inventory is being established to help identify the need for future actions required to clear up potential problems before they occur. Your help in identifying abandoned, "in use" and "new use" tank locations will greatly assist this effort to protect Wisconsin's ground water.

**SITE ASSESSMENT INFORMATION**

Requirements for a site assessment at the closure or change in service for a federally regulated underground storage tank were outlined in federal rules published in the September 23, 1988 Federal Register, 40 CFR 280 and 281.

The requirements in § 280.72 state:

(a) Before permanent closure or a change-in-service is completed, owners and operators must measure for the presence of a release where contamination is most likely to be present at the UST site. In selecting sample types, sample locations, and measurement methods, owners and operators must consider the method of closure, the nature of the stored substance, the type of backfill, the depth to ground water, and other factors appropriate for identifying the presence of a release. The requirements of this section are satisfied if one of the external release detection methods allowed in § 280.43 (e) and (f) is operating in accordance with the requirements in § 280.43 at the time of closure, and indicates no release has occurred.

The external release detection methods in § 280.43 (e) and (f) are summarized below:

"(e) Vapor monitoring." This sub section refers to the testing or monitoring for vapors within the soil gas of the tank's excavation zone. It further requires seven (7) conditions to be met to qualify the testing program as a valid vapor monitoring system.

"(f) Ground-water monitoring." This sub section refers to the testing or monitoring for liquids on the ground water below the tank. It establishes the requirements for an acceptable system that effectively monitors the ground water for the presence of regulated substances and insures the integrity of the monitoring wells so the wells themselves do not become conduits for ground water contamination.

**UST/AST Permit and Registration Group**

Lead Worker ..... (608) 267-1384

**Areas of responsibility by county**

Adams through Eau Claire counties ..... (608) 267-2051  
Florence through Marquette counties ..... (608) 267-1383  
Milwaukee through Rusk counties ..... (608) 267-5280  
Menominee County and St. Croix through Wood counties ..... (608) 267-1382

Complete written guidelines on the conduct of a site assessment can be obtained from the DNR.

Site assessments are to be submitted to the DNR at the following address:

Bureau of Solid and Hazardous Waste Management  
P.O. Box 7921  
Madison, WI 53707

Complete one form for each site closure.

CHECKLIST FOR TANK CLOSURE

RETURN COMPLETED CHECKLIST TO:

The information you provide may be used for secondary purposes [Privacy Law, s.15.04 (1)(m)].



Wisconsin Department of Commerce ERS Division Bureau of Storage Tank Regulation P.O. Box 7837 Madison, WI 53707-7837

FOR PORTIONS OF THE FORM THAT DO NOT APPLY, CHECK THE N/A BOX BELOW

A. IDENTIFICATION: (Please Print) Indicate whether closure is for: Tank System Tank Only Piping Only. 1. Site Name 2. Owner Name. Site Street Address (not P.O. Box) Owner Street Address. City Village Town of: State Zip Code. State Zip Code County Telephone No. (include area code). 3. Closure Company Name (print) Closure Company Street Address. Closure Company Telephone No. (include area code) Closure Company City, State, Zip Code. 4. Name of Company Performing Closure Assessment Assessment Company Street Address, City, State, Zip Code. Telephone No. (include area code) Certified Assessor Name (print) Assessor Signature Assessor Certification No.

Table with 7 columns: Tank ID #, Closure, Temp. Closure, Closure in Place, Tank Capacity, Contents\*, Closure Assessment. Rows 1-4.

\* Indicate which product: Diesel; Leaded; Unleaded; Fuel Oil; Gasohol; Aviation Fuel; Kerosene; Premix; Waste/Used Motor Oil; Flammable/Combustible Hazardous Waste; Chemical (indicate the chemical name(s) and CAS number(s); Other

Written notification was provided to the local agent 15 days in advance of closure date. All local permits were obtained before beginning closure.

B. TEMPORARILY OUT OF SERVICE. Check applicable box at right in response to all statements in Sections B-E. Written inspector approval of temporary closure obtained, which is effective until (provide date). 1. Product Removed a. Product lines drained into tank (or other container) and resulting liquid removed, AND b. All product removed to bottom of suction line, OR c. All product removed to within 1" of bottom. 2. Fill pipe, gauge pipe, tank truck vapor recovery fittings, and vapor return lines capped. 3. All product lines at the islands or pumps located elsewhere are removed and capped, OR 4. Dispensers/pumps left in place but locked and power disconnected. 5. Vent lines left open. 6. Inventory form filed indicating temporary closure.

C. CLOSURE BY REMOVAL. 1. Product from piping drained into tank (or other container). 2. Piping disconnected from tank and removed. 3. All liquid and residue removed from tank using explosion proof pumps or hand pumps. 4. All pump motors and suction hoses bonded to tank or otherwise grounded. 5. Fill pipes, gauge pipes, vapor recovery connections, submersible pumps and other fixtures removed. NOTE: DROP TUBE SHOULD NOT BE REMOVED IF THE TANK IS TO BE PURGED THROUGH THE USE OF AN EDUCTOR. 6. Vent lines left connected until tanks purged. 7. Tank openings temporarily plugged so vapors exit through vent. 8. Tank atmosphere reduced to 10% of the lower flammable range (LEL) - see Section F. 9. Tank removed from excavation after PURGING/INERTING; placed on level ground and blocked to prevent movement. 10. Tank cleaned before being removed from site.

C. CLOSURE BY REMOVAL (continued)

- |  | Remover Verified                                      | Inspector Verified       | NA                       |
|--|---|--------------------------|--------------------------|
| 11. Tank labeled in 2" high letters after removal but before being moved from site. ....   | <input type="checkbox"/> Y <input type="checkbox"/> N | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>NOTE: COMPLETE TANK LABELING SHOULD INCLUDE WARNING AGAINST REUSE; FORMER CONTENTS; VAPOR STATE; VAPOR FREEING TREATMENT; DATE.</b> |   |                          |                          |
| 12. Tank vent hole (1/8" in uppermost part of tank) installed prior to moving the tank from site. ....                                 | <input type="checkbox"/> Y <input type="checkbox"/> N | <input type="checkbox"/> | <input type="checkbox"/> |
| 13. Form ERS-7437 or ERS-8731 filed by owner with the Dept. of Commerce indicating closure by removal. ....                            | <input type="checkbox"/> Y <input type="checkbox"/> N | <input type="checkbox"/> | <input type="checkbox"/> |
| 14. Site security is provided while the excavation is open. ....   | <input type="checkbox"/> Y <input type="checkbox"/> N | <input type="checkbox"/> | <input type="checkbox"/> |

D. CLOSURE IN PLACE

**NOTE: CLOSURES IN PLACE ARE ONLY ALLOWED WITH THE PRIOR WRITTEN APPROVAL OF THE DEPARTMENT OF COMMERCE OR LOCAL AGENT.**

- |   |   |                          |                          |
|---|---|--------------------------|--------------------------|
| 1. Product from piping drained into tank (or other container) .....   | <input type="checkbox"/> Y <input type="checkbox"/> N | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Piping disconnected from tank and removed .....  | <input type="checkbox"/> Y <input type="checkbox"/> N | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. All liquid and residue removed from tank using explosion proof pumps or hand pumps. ....   | <input type="checkbox"/> Y <input type="checkbox"/> N | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. All pump motors and suction hoses bonded to tank or otherwise grounded. ....   | <input type="checkbox"/> Y <input type="checkbox"/> N | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. Fill pipes, gauge pipes, vapor recovery connections, submersible pumps and other fixtures removed. ....                                  | <input type="checkbox"/> Y <input type="checkbox"/> N | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>NOTE: DROP TUBE SHOULD NOT BE REMOVED IF THE TANK IS TO BE PURGED THROUGH THE USE OF AN EDUCTOR - EDUCTOR OUTPUT 12 FT. ABOVE GRADE.</b> |   |                          |                          |
| 6. Vent lines left connected until tanks purged. ....   | <input type="checkbox"/> Y <input type="checkbox"/> N | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. Tank openings temporarily plugged so vapors exit through vent. ....  | <input type="checkbox"/> Y <input type="checkbox"/> N | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. Tank atmosphere reduced to 10% of the lower flammable range (LEL) see Section F. ....  | <input type="checkbox"/> Y <input type="checkbox"/> N | <input type="checkbox"/> | <input type="checkbox"/> |
| 9. Tank properly cleaned to remove all sludge and residue. ....   | <input type="checkbox"/> Y <input type="checkbox"/> N | <input type="checkbox"/> | <input type="checkbox"/> |
| 10. Solid inert material (sand, cyclone boiler slag, pea gravel recommended) introduced and tank filled. ....                               | <input type="checkbox"/> Y <input type="checkbox"/> N | <input type="checkbox"/> | <input type="checkbox"/> |
| 11. Vent line disconnected or removed. ....   | <input type="checkbox"/> Y <input type="checkbox"/> N | <input type="checkbox"/> | <input type="checkbox"/> |
| 12. Inventory form filed by owner with the Department of Commerce indicating closure in place. ....   | <input type="checkbox"/> Y <input type="checkbox"/> N | <input type="checkbox"/> | <input type="checkbox"/> |

E. CLOSURE ASSESSMENTS

**NOTE: DETERMINE IF A CLOSURE ASSESSMENT IS REQUIRED BY REFERRING TO COMM 10.**

- |  |   |                          |                          |
|--|---|--------------------------|--------------------------|
| 1. Individual conducting the assessment has a closure assessment plan (written) which is used as the basis for their work on the site. ....  | <input type="checkbox"/> Y <input type="checkbox"/> N | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Do points of obvious contamination exist? .....   | <input type="checkbox"/> Y <input type="checkbox"/> N | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Are there strong odors in the soils? .....  | <input type="checkbox"/> Y <input type="checkbox"/> N | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Was a field screening instrument used to pre-screen soil sample locations? .....  | <input type="checkbox"/> Y <input type="checkbox"/> N | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. Was a closure assessment omitted because of obvious contamination? .....  | <input type="checkbox"/> Y <input type="checkbox"/> N | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. Was the DNR notified of suspected or obvious contamination? .....   | <input type="checkbox"/> Y <input type="checkbox"/> N | <input type="checkbox"/> | <input type="checkbox"/> |
| Agency, office and person contacted: _____   |   |                          |                          |
| 7. Contamination suspected because of: <input type="checkbox"/> Odor <input type="checkbox"/> Soil Staining <input type="checkbox"/> Free Product <input type="checkbox"/> Sheen on Groundwater <input type="checkbox"/> Field Instrument Test |   |                          |                          |

F. METHOD OF ACHIEVING 10% LEVEL DESCRIPTION

- Eductor Or Diffused Air Blower  
Eductor driven by compressed air, bonded and drop tube left in place; vapors discharged minimum of 12 feet above ground. Diffused air blower bonded and drop tube removed. Air pressure not exceeding 5 psig.
- Dry Ice  
Dry Ice introduced at 1.5 pounds per 100 gallons of tank capacity. Dry ice crushed and distributed over the greatest possible tank area. Dry ice evaporated before proceeding.
- Inert Gas (CO/2 or N/2) **NOTE: INERT GASSES PRODUCE AN OXYGEN DEFICIENT ATMOSPHERE. THE TANK MAY NOT BE ENTERED IN THIS STATE WITHOUT SPECIAL EQUIPMENT.**  
Gas introduced through a single opening at a point near the bottom of the tank at the end of the tank opposite the vent.  
Gas introduced under low pressure not to exceed 5 psig to reduce static electricity. Gas introducing device grounded.
- Tank atmosphere monitored for flammable or combustible vapor levels.  
Calibrate combustible gas indicator. Drop tube removed prior to checking atmosphere. Tank space monitored at bottom, middle and upper portion of tank. Readings of 10% or less of the lower flammable range (LEL) obtained before removing tank from ground.

G. NOTE SPECIFIC PROBLEMS OR NONCOMPLIANCE ISSUES BELOW

H. REMOVER/CLEANER INFORMATION

Remover Name (print) _____	Remover Signature _____	Remover Certification No. _____	Date Signed _____
----------------------------	-------------------------	---------------------------------	-------------------

I. INSPECTOR INFORMATION

Inspector Name (print) _____	Inspector Signature _____	Inspector Certification No. _____
FDID # For Location Where Inspection Performed _____	Inspector Telephone Number _____	Date Signed _____

TANK INVENTORY FORM ERS-7437 or ERS-8731 SIGNED BY THE OWNER MUST BE SUBMITTED WITH EACH CLOSURE CHECKLIST





Personal information you provide may be used for secondary purposes [Privacy Law, s.15.04 (1)(m)].

TO: \_\_\_\_\_ OFFICE LOCATION: \_\_\_\_\_

**LOCATION / IDENTIFICATION (Please print or type)**

Site Name		Owner Name			
Site Street Address		Owner Street or P.O. Address			
<input type="checkbox"/> City	<input type="checkbox"/> Village	<input type="checkbox"/> Town of:	<input type="checkbox"/> City	<input type="checkbox"/> Village	<input type="checkbox"/> Town of:
County	Zip Code	State	Zip Code	Telephone (     )	
Fire Department providing fire protection coverage:					

Name of Contractor: \_\_\_\_\_

Address of Contractor: \_\_\_\_\_

City/Town: \_\_\_\_\_

Telephone Number: (     ) \_\_\_\_\_ Fax Number: (     ) \_\_\_\_\_

Date work is to begin: \_\_\_\_\_

Comm10 certified project supervisor: \_\_\_\_\_

Project will involve:	No. of tanks		Plan Number	Approval Date
	UST	AST		
Tank Installation	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____
Piping Installation/Upgrade	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____
Leak Detection Upgrade	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____
Spill/Overfill Protection	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____
Stage II Vapor Recovery	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____
Tank Closure	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____
Cathodic Protection/Lining	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____

Remarks: \_\_\_\_\_

Wisconsin Department of Commerce  
Environmental & Regulatory Services Division  
Bureau of Storage Tank Regulation

ERS-9198 (R.11/98)

State of Wisconsin

**UNDERGROUND STORAGE TANK SYSTEM  
USE PERMIT APPLICATION**

Send Completed Form To:  
Dept. of Commerce/ERS Division  
Bureau of Storage Tank Regulation  
P. O. Box 7837  
Madison, WI 53707-7837

Tank ID Number

If this system is permanently closed, complete only the  
**TANK CLOSURE INFORMATION** section on this page.

1. Tank Leak Detection Compliance Date		2. Tank Installation Date		3. Gallons		4. User	
5. Tank Construction		6. Tank Double Walled?		7. Tank Overfill Protection		8. Tank Spill Containment	
9. Tank Leak Detection Method		10. Piping Construction		11. Piping Double Walled?		12. Piping System Type	
13. Piping Leak Detection		14. Tank Contents					

If the site name and/or address appearing above is incorrect in any way, please indicate corrections below:

If the owner/mailling and/or address appearing above is incorrect in any way, please indicate corrections below:

**TANK SYSTEM DESCRIPTION VERIFICATION**

A Use Permit must be obtained for the continued operation of the underground petroleum storage tank system described on this application. Upon review and verification of the pre-printed codes and descriptions appearing above in boxes 2 thru 14, please sign and provide verification date below. If any box has no code or the pre-printed code is incorrect, provide the correct code for that box from the Code Key below. PLEASE NOTE: "TANK CONSTRUCTION" IN BOX 5, "PIPING CONSTRUCTION" IN BOX 10, AND "PIPING SYSTEM TYPE" IN BOX 12 MUST BE COMPLETED. IF THIS INFORMATION IS NOT PROVIDED, A USE PERMIT CANNOT BE ISSUED.

Owner/Operator Signature

Date Signed

**CODE KEY**

- Type of User:** 01-Gas/Retail Sales; 02-Bulk Storage; 03-Utility; 04-Mercantile/Commercial; 05-Industrial; 06-Government; 07-School; 08-Residential; 09-Agriculture; 10-Other; 11-Tribal Nation; 12-Federal Property; 13-Backup Generator
- Tank Construction:** 01-Bare Steel; 02-Cathodically Protected and Coated Steel (a.-Sacrificial Anodes or b.-Impressed Current); 03-Coated Steel; 04-Fiberglass; 05-Other; 06-Relined; 07-Steel - Fiberglass Reinforced Plastic Composite
- Tank Leak Detection Method:** 01-Automatic Tank Gauging; 02-Vapor Monitoring; 03-Groundwater Monitoring; 04-Inventory Control and Tightness Testing; 05-Interstitial Monitoring; 07-Manual Tank Gauging (up to 1,000 gallons only); 08-SIR (Statistical Inventory Reconciliation)
- Piping Construction:** 01-Bare Steel; 02-Cathodically Protected and Coated or Wrapped Steel (a.-Sacrificial Anodes or b.-Impressed Current); 03-Coated Steel; 04-Fiberglass; 05-Other
- Piping System Type:** 01-Pressurized Piping with: a.-Auto Shutoff; b.-Alarm; or c.-Flow Restrictor; 02-Suction Piping with Check Valve at Tank; 03-Suction Piping with Check Valve at Pump and Inspectable; 04-Not Needed if Waste Oil Tank
- Piping Leak Detection Method:** 01-Vapor Monitoring; 02-Interstitial Monitoring; 03-Groundwater Monitoring; 04-Tightness Testing; 05-Line Leak Detector; 06-Not Required; 08-SIR (Statistical Inventory Reconciliation)
- Tank Contents:** 01-Diesel; 02-Leaded; 03-Unleaded; 04-Fuel Oil; 05-Gasohol; 06-Other; 10-Premix; 11-Waste Oil; 13-Chemical; 14-Kerosene; 15-Aviation

**TANK CLOSURE INFORMATION**

Indicate whether tank was: <input type="checkbox"/> Removed <input type="checkbox"/> Abandoned	Date tank was closed (mo/day/yr):	Has closure assessment been completed? <input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Filled with Inert Material <input type="checkbox"/> Out of Service		
Owner or Operator Signature		Date Signed

**IMPORTANT INSTRUCTIONS FOR COMPLETION OF REVERSE SIDE**

- Section A on the reverse side must be completed to verify compliance with leak detection code requirements.
  - If box 12 above shows code 01 or if you have pressurized piping but had not previously indicated such, you must complete Section B to verify compliance with pressurized piping code requirements.
  - If box 12 above shows code 02, or if you have a suction system with the check valve at the tank but previously had not reported it, the compliance date for leak detection on your piping is the same as that for the tank. If you have reached the tank leak detection compliance date indicated in box 1 above, you must complete Section C on the reverse side.
- Personal information you provide may be used for secondary purposes [Privacy Law, s. 15.04 (1)(m)].

**COMPLETE ALL SECTIONS ON REVERSE SIDE**

ERS-7658 (R.07/97)

**A. Leak Detection Verification For Tank** Indicate which leak detection method(s) you are using. Check all applicable items and attach requested information.

- 1 Tightness testing and inventory control. Attach a copy of the current tank test.**
- 1 Vapor monitoring.** Provide Material Approval number, model name and number of device/system. Include probe model # used to monitor for presence of vapors. **Attach a copy of the last 12 months of monitoring records.**  

Device Name	Model Number	Material Approval Number	Probe Number
-------------	--------------	--------------------------	--------------
- 1 Groundwater monitoring.** Provide Material Approval number, model name and number of device/system. Include probe model # used to monitor for presence of product in well. **Attach a copy of the last 12 months of monitoring records.**  

Device Name	Model Number	Material Approval Number	Probe Number
-------------	--------------	--------------------------	--------------
- 1 Interstitial monitoring.** Provide Material Approval number, model name and number of device/system. Include probe model # used to monitor the interstice. **Attach a copy of the last 12 months of monitoring records.**  

Device Name	Model Number	Material Approval Number	Probe Number
-------------	--------------	--------------------------	--------------
- 1 Automatic tank gauging.** Provide Material Approval number, model name and number of device/system. Include probe model # used to monitor the system. **Attach a copy of the last 3 months of the ATG monthly monitoring or current annual test.**  

Device Name	Model Number	Material Approval Number	Probe Number
-------------	--------------	--------------------------	--------------
- 1 Statistical Inventory Reconciliation.** Provide Material Approval number and date SIR was first used. **Attach a copy of the last 12 months of statistical inventory reconciliation.**  

Name of SIR Method Used	SIR Start Date	Material Approval Number
-------------------------	----------------	--------------------------
- 1 Manual tank gauging (tanks of 1,000 gallons or less in size only)**

**B. Pressurized Piping Systems Must Have Leak Detection Installed By 12/22/90. System requires both: Flow restrictor, automatic shutoff or continuous alarm; provide the name and model number of system installed:**

Device Name                      Model Number                      Material Approval Number

**AND**

**A leak detection method from the following list; check all items that apply and attach requested information**

- 1 Tightness testing and inventory control. Attach a copy of the current line test.**
- 1 Vapor monitoring.** Provide Material Approval number, model name and number of device/system. Include probe model # used to monitor for presence of vapors. **Attach a copy of the last 12 months of monitoring records.**  

Device Name	Model Number	Material Approval Number	Probe Number
-------------	--------------	--------------------------	--------------
- 1 Groundwater monitoring.** Provide Material Approval number, model name and number of device/system. Include probe model # used to monitor presence of product in well. **Attach a copy of the last 12 months of monitoring records.**  

Device Name	Model Number	Material Approval Number	Probe Number
-------------	--------------	--------------------------	--------------
- 1 Interstitial monitoring.** Provide Material Approval number, model name and number of device/system. Include probe model # used to monitor the interstice. **Attach a copy of the last 12 months of monitoring records.**  

Device Name	Model Number	Material Approval Number	Probe Number
-------------	--------------	--------------------------	--------------
- 1 Line leak detector.** Provide Material Approval number, model name and number of device/system.  

Device Name	Model Number	Material Approval Number
-------------	--------------	--------------------------
- 1 Statistical Inventory Reconciliation.** Provide Material Approval number and date SIR was first used. **Attach a copy of the last 12 months of statistical inventory reconciliation.**  

Name of SIR Method Used	SIR Start Date	Material Approval Number
-------------------------	----------------	--------------------------

**C. Leak Detection For Piping** Suction piping with the check valve at the tank: indicate which method(s) of leak detection you are using. Check all items that apply and attach requested information. Leak detection deadlines for suction piping (with the check valve at the tank) match that of the tank system.

- 1 Tightness testing and inventory control. Attach a copy of the current line test.**
- 1 Vapor monitoring.** Provide Material Approval number, model name and number of device/system. Include probe model # used to monitor for presence of vapors. **Attach a copy of the last 12 months of monitoring records.**  

Device Name	Model Number	Material Approval Number	Probe Number
-------------	--------------	--------------------------	--------------
- 1 Groundwater monitoring.** Provide Material Approval number, model name and number of device/system. Include probe model # used to monitor for presence of product in well. **Attach a copy of the last 12 months of monitoring records.**  

Device Name	Model Number	Material Approval Number	Probe Number
-------------	--------------	--------------------------	--------------
- 1 Interstitial monitoring.** Provide Material Approval number, model name and number of device/system. Include probe model # used to monitor the interstice. **Attach a copy of the last 12 months of monitoring records.**  

Device Name	Model Number	Material Approval Number	Probe Number
-------------	--------------	--------------------------	--------------
- 1 Statistical Inventory Reconciliation.** Provide Material Approval number and date SIR was first used. **Attach a copy of the last 12 months of statistical inventory reconciliation.**  

Name of SIR Method Used	SIR Start Date	Material Approval Number
-------------------------	----------------	--------------------------

State of Wisconsin  
Department of Commerce

**UNDERGROUND STORAGE TANK SYSTEM  
USE PERMIT**

ERS Division  
Bureau of Storage Tank Regulation  
P.O. Box 7837  
Madison, WI 53707-7837

**THIS PERMIT MUST BE KEPT ON SITE  
AVAILABLE FOR INSPECTION AT ALL TIMES**

This tank system has met the requirements of Wisconsin Administrative Code Chapter Comm 10. The three year use period has been approved with the issuance of this Use Permit. This permit may be revoked for failure to maintain compliance with the requirements of Comm 10. See reverse side for codes used below.

Tank ID Number	Permit Effective On	Permit Expires As Of	Tank Installation Date	Gallons	User	Tank Construction
Mailing Address:			Tank Double Walled	Tank Overfill Protection	Tank Spill Containment	
			Tank Leak Detection	Piping Construction	Piping Double Walled	
			Piping System Type	Piping Leak Detection	Tank Contents	
			Permitted Tank Located At			

ERS-7659 (R. 07/97)

**CODE KEY**

- Type of User:** 01-Gas/Retail Sales; 02-Bulk Storage; 03-Utility; 04-Mercantile/Commercial; 05-Industrial; 06-Government; 07-School, 08-Residential; 09-Agriculture; 10-Other; 11-Tribal Nation; 12-Federal Property; 13-Backup Generator
- Tank Construction:** 01-Bare Steel; 02-Cathodically Protected and Coated Steel (a.-Sacrificial Anodes or b.-Impressed Current); 03-Coated Steel; 04-Fiberglass; 05-Other; 06-Lined; 07-Steel - Fiberglass Reinforced Plastic Composite
- Tank Leak Detection Method:** 01-Automatic Tank Gauging; 02-Vapor Monitoring; 03-Groundwater Monitoring; 04-Inventory Control and Tightness Testing; 05-Interstitial Monitoring; 07-Manual Tank Gauging (up to 1,000 gallons only); 08-SIR (Statistical Inventory Reconciliation)
- Piping Construction:** 01-Bare Steel; 02-Cathodically Protected and Coated or Wrapped Steel (a.-Sacrificial Anodes or b.-Impressed Current); 03-Coated Steel; 04-Fiberglass; 05-Other
- Piping System Type:** 01-Pressurized Piping with: a.-Auto Shutoff, b.-Alarm; or c.-Flow Restrictor; 02-Suction Piping with Check Valve at Tank; 03-Suction Piping with Check Valve at Pump and Inspectable; 04-Not Needed if Waste Oil Tank
- Piping Leak Detection Method:** 01-Vapor Monitoring; 02-Interstitial Monitoring; 03-Groundwater Monitoring; 04-Tightness Testing; 05-Line Leak Detector; 06-Not Required; 08-SIR (Statistical Inventory Reconciliation)
- Tank Contents:** 01-Diesel; 02-Leaded; 03-Unleaded; 04-Fuel Oil; 05-Gasohol; 06-Other; 10-Premix; 11-Waste/Used Motor Oil; 13-Chemical; 14-Kerosene; 15-Aviation

## Site Assessments for Underground Storage Tanks

### Technical Guidance

Wisconsin Department of Natural Resources

September 1992

PUBL-SW-175 97

### NOTICE

Comm 10.734 states that when a site assessment is required, owners and operators must measure for the presence of a release where contamination is identified or is most likely to be present at the UST site. In addition, it states that in selecting sample types, sample locations, and measurement methods, owners and operators must consider the method of closure, the nature of the stored substance, the type of backfill, the depth to groundwater, and other factors appropriate for identifying the presence of a release.

Section 292.11 (2) (a), Wis. Stats., requires any person who possesses or controls a hazardous substance or who causes the discharge of a hazardous substance to immediately notify the Wisconsin Department of Natural Resources (WDNR) of the discharge.

Petroleum products and their constituents are hazardous substances. The discharger must notify WDNR immediately of all releases of petroleum products including leaking underground storage tanks, leaking piping and distribution systems and overfills.

Failure to notify WDNR of a discharge may have serious consequences including forfeitures of not less than \$10 or more than \$5000 for each violation (each day of continued violation is a separate offense) or ineligibility for reimbursement under the Petroleum Environmental Cleanup Fund Act (PECFA, s. 101.143, Wis. Stats.).

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#### I. Introduction

- A. Purpose of this Document
- B. Purpose of the Site Assessment
- C. Site Assessment Process
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- B. Develop Tank Closure and Site Assessment Plans
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#### III. Visual Inspection

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Attachment 1 – Instructions for Mailing Closure Assessments

Attachment 2 – Examples

Attachment 3 – Release Reporting Guidelines

Attachment 4 – Contractor Certification

Attachment 5 – Tank and Sludge Management Factsheet

Attachment 6 – Soil Sampling Forms and Information

Attachment 7 – Geographic Referencing Using the Public Lands Survey System

## I. Introduction

### A. Purpose of this Document

This document specifies technical procedures that are acceptable to the Department of Natural Resources for complying with the site assessment requirement. The attachments to this document provide additional information to the contractor(s) or environmental consultant(s) hired by the tank owner. Given the large number and wide variety of underground storage tanks (USTs) found in Wisconsin, it is not possible to develop comprehensive guidance applicable to every single case. If you encounter a situation not covered by this guidance, contact one of the Department of Natural Resources (DNR) contacts listed in "Instructions for Mailing Site Assessments" (attachment 1). Any questions regarding the legal requirements of ILHR 40 should be referred to the Department of Industry, Labor, and Human Relations (DILHR).

### B. Purpose of the Site Assessment

The purpose of the site assessment is to determine if a release has occurred from an UST System. The definition of release includes any discharge from the system regardless of the cause (e.g. overfills, surface spills). A site assessment is required in accordance with Comm 10 and applicable federal law. Even if a site assessment is not required, failure to perform one may limit an owner's ability to sell or lease the property.

**NOTE:** *The detection of any release, no matter how small, must be reported to the DNR pursuant to s. 292.11, Wis. Stats., and causes the case to move out of the site assessment process and into the leaking underground storage tank (LUST) cleanup process. Conduct all sampling performed following the discovery of any release in accordance with the "Guidance on Conducting Environmental Response Actions" PUBL SW-157-92 (reference 1). In general, more samples are necessary to confirm complete cleanup of a LUST than to confirm clean closure of an UST (see Appendix Q of the Guidance entitled "Soil Sampling Requirements for LUST Site Investigation and Excavations" PUBL-SW-127; reference 2).*

### C. Site Assessment Process

When a site assessment is required, owners and operators must measure for the presence of a release where contamination is identified or is most likely to be present at the UST site. In selecting sample types, sample locations, and measurement methods, owners and operators must consider the method of closure, the nature of the stored substance, the type of backfill, the depth to groundwater, and other factors appropriate for identifying the presence of a release.

Because an UST system can fail at any point, the site assessor must assess the tank system from the fill pipe(s), through the tank(s) and piping, to the dispenser(s) to properly assess the site. If the site assessor discovers obvious contamination he or she need not complete the site assessment sampling but should collect a confirmation sample and complete the closure documentation in its entirety. Also, because multiple releases can occur from an UST system, all system components (e.g. pumps and lines) not assessed during the site assessment must be assessed during the LUST site investigation for final closure of the LUST site.

**NOTE:** *The term "site assessment" is also often used to refer to investigations of the degree and extent of a confirmed release and also to general investigations for the presence of contamination (i.e. environmental audits for property transfer). In this document, "site assessment" means the assessment of an UST system at the time of tank closure or change-in-service.*

### D. Applicability

Comm 10 requires site assessments for certain tanks under specific conditions. The tanks affected include all underground storage tanks except tanks less than 60 gallons, farm and residential tanks of 1,100 gallons or less capacity used for storing motor fuel for noncommercial purposes, and USTs of 4,000 gallons or less capacity used for storing heating oil for consumptive use on the premises where stored. The exempt tanks are required to have site assessments if the product stored in them was ever resold.

The definition of tank in Comm 10 includes all associated piping. A separate assessment is required for piping if abandoned at a different time from the UST. See the examples (attachment 2) or Comm 10 for the definition of "farm tank" and "residential tank".

Site assessments must be performed for affected tanks when:

1. Permanently closing all or part of the UST system (tank, piping or both) by removal or closure in place.
- NOTE:** *Comm 10 allows closure in place only in a limited number of situations and permission must be obtained from DILHR.*
2. There is a change-in-service defined as a change from storing a federally regulated substance to a non-regulated substance.
  3. Holes or rust plugs are found in a tank during the process of relining the tank (holes or rust plugs identified either before or after sandblasting).
  4. A request is made to extend, beyond twelve months, the temporary closure of a tank that does not meet the performance standards (except spill and overflow protection) for new UST's or the upgrade requirements for existing USTs specified in Comm 10.

5. Directed by DNR or DILHR due to a current or potential threat to human health or the environment from an UST closed prior to December 22, 1988.

Site assessments must be performed at the time of tank closure, change-in-service, relining, etc. If the site assessment is not performed at this time, follow the procedures under "Late Site Assessments." A site assessment is not required if one of the external release detection methods allowed under Comm 10 is in use and properly functioning at the time of closure or change-in-service and indicates that no release has occurred.

#### E. Reporting and Cleanup of Releases

Report releases to DNR immediately in accordance with the release reporting guidelines (attachment 3). This includes all contamination regardless of amount or method of discovery, including contaminated backfill, surface spillage, and releases discovered either during visual assessment, field screening or following lab analysis. Unconfirmed releases (for example high field readings) can and should be reported as suspected releases.

Imminent threats to people, property or the environment must be addressed immediately. Reference 1 provides guidance on emergency response.

If the contamination is discovered during the visual assessment it is not necessary to complete the site assessment sampling. However, collect at least one sample of the contaminated soil for laboratory analysis to provide confirmation of the release. In addition, it is necessary to complete the site assessment report and provide the information shown under "Documentation" regardless of the number of samples collected. The documentation may be completed as a separate closure report or included in the site investigation report and should be submitted to DILHR and the appropriate DNR field office shown in attachment 1.

DNR requires investigation and cleanup at all sites with confirmed releases in accordance with the state spills law, ch. 292.11, Wis. Stats. Reference 1 provides detailed technical guidance on investigating and remediating confirmed releases. "Cleanup Process for the Emergency and Remedial Response Program" PUBL-SW-132 (reference 3) provides an overview of the leaking underground storage tank (LUST) cleanup process.

#### F. Roles During UST Closure and Assessment

Tank closure and site assessment tasks are shown in table 1. The exact order of execution will depend upon contractor considerations and site-specific conditions. The table shows the party most likely to complete specific jobs and a source for additional information. "Contractor" means that either the tank remover, the site assessor, or a third contractor or consultant can complete the task. All parties involved should cooperate to complete the tasks shown in table 1. Underground storage tanks sites may contain numerous safety hazards due to the presence of such things as heavy equipment, buried utilities, excavations, and liquids, gases, and solids that may be flammable, explosive, and/or toxic. Site safety is everyone's responsibility and the site assessor should observe all safety procedures.

**NOTE: Tank removers and site assessors must be certified by DILHR. See Attachment 4 for information on contractor certification under Comm 10.**

## II. Pre-Assessment Steps

### A. Check Local Ordinances

Always check for local ordinances that may govern tank closures. Comm 10 specifies minimum statewide standards and local governments can establish more restrictive requirements.



Table I – Roles During UST Closure and Assessment

JOB/TASKS	CONTRACTOR	INFORMATION
<b>Planning</b>		
Develop field procedures plan	Site assessor	DNR
Develop tank cleaning and tank waste management plan	Tank remover	DNR/Comm 10
Develop contingency plan for contaminated soil and water	Site assessor	DNR
Contact diggers hotline for hazards and contaminant pathways	Contractor	800-242-8511
<b>Tank Removal</b>		
15 day advance notice	Owner/Remover	Comm 10
Complete closure checklist (SBD-8951)	Contractor/Other	Comm 10
Manage surplus product	Tank Remover	ILHR 48
Remove tank	Tank Remover	Comm 10
Clean tank	Tank Remover	Comm 10-DNR
Manage tank and tank wastes	Tank Remover	DNR
Complete inventory form(s) (SBD-7437)	Owner/Contractor	Comm 10
Send form(s) to DILHR and include copies in site assessment documentation	Owner/Contractor	Comm 10
<b>Site Assessment</b>		
Inspect system	Site assessor	DNR
Inspect Excavation	Site assessor	DNR
Collect samples	Site assessor	DNR
Analyze samples	Certified Lab	DNR
Complete documentation	Site assessor	DNR
Send documentation to DNR & DILHR	Site assessor	DILHR-DNR
<b>Release Response</b>		
Report releases	See Attachment 3	DNR
Address emergencies	Contractor	DNR
Manage contaminated soil and groundwater	Contractor	DNR
Develop workplan	Contractor	DNR

#### Develop Tank Closure and Site Assessment Plans

The following site specific written plans should be prepared prior to beginning the tank closure and site assessment and made available for reference and inspection by the fire chief, DNR, DILHR and/or the local authority having jurisdiction. The plans identify the person or contractor responsible for completing the jobs outlined above. The responsibility for developing and following the plans listed below rests with the owner or the contractor, consultant, or individual acting as the owner's agent. The plans do not have to be submitted as part of the site assessment report.

1. A **Field Procedures Plan** that addresses the following:
  - a. who will collect soil samples;
  - b. anticipated depth to groundwater;
  - c. number of samples, sample locations, and parameters and methods for analysis;
  - d. sample jars and collection procedures;
  - e. sample preservation, handling, storage, and transportation;

- f. decontamination of sampling tools;
  - g. field screening methods, locations, and procedures; and
  - h. scheduling with the laboratory analyzing the samples.
2. A **Tank Cleaning and Tank Waste Management Plan** including the following elements:
- a. site health and safety plan;
  - b. methods for inerting or venting and cleaning the tank. The "Tank and Sludge Management Factsheet" (Attachment 5) includes guidelines for cleaning tanks.
  - c. designation of responsibility and a plan for managing surplus product such as oil or gasoline in accordance with DILHR product handling rules (ILHR 48). Attachment 5 includes guidelines for managing surplus product.
  - d. designation of responsibility and a plan for managing tank wastes such as sludge or accumulated water in accordance with DNR solid and hazardous waste rules (NR 500 and NR 600). Attachment 5 includes guidelines for managing tank wastes; and
  - e. a plan for transporting excavated tanks and a description of the final disposal point of the tank. Attachment 5 includes guidelines;

**NOTE:** Tanks must be cleaned on site in accordance with solid and hazardous waste regulations. Obtain an emergency waiver from the DNR district hazardous waste specialist as detailed in Attachment 5 if the tanks cannot be cleaned on site.

3. A **Contingency Plan** for managing contaminated soils and contaminated excavation water, that specifies:
- a. the person who will notify DNR if a release is discovered in accordance with attachment 3;
  - b. the phone number and name of the DNR LUST project manager or program assistant to notify in the event of a release;
  - c. the person or firm that will develop a work plan to address the contamination. A list of firms that offer this service is also acceptable. Guidance on selecting an environmental consultant for petroleum cleanup is provided in "Selecting an Environmental Consultant" PUBL-SW-113 (reference 4);
  - d. A plan for managing contaminated soil and/or groundwater in accordance with NR 500 and NR 600. "Solid Waste Rules Concerning Petroleum Contaminated Soil" (reference 5) includes guidelines for managing these wastes;
  - e. a list of and source for additional field equipment necessary to investigate and cleanup contamination and to respond to emergencies;
  - f. a proposed location for stockpiling contaminated soil;
  - g. procedures for identifying contaminated soil in accordance with reference 2; and
  - h. the person or firm that can transport excavated contaminated soil for treatment or disposal, if necessary.

C. **Plan to Attend the Tank Removal**

Site assessors must be present at the time of tank closure to properly assess the site. It is much easier to visually assess the tank system while it is still on site and to evaluate the excavation while it is still open. It is much easier to collect soil samples while the hole is open and the excavator is available to assist than it is to collect native soil samples with borings through backfill. Attending the removal requires close coordination with the remover. If the site assessor is early, the cost of the assessment increases unnecessarily. If the site assessor is late, the cost of the removal increases unnecessarily. Follow the procedures for late site assessments provided below if it is not possible to conduct the site assessment at the time of tank closure.

**NOTE:** It is not necessary for the site assessor to witness the entire closure operation in order to comply with this requirement. It is sufficient to be present immediately following the removal of the tanks while the excavation is still open and the tanks are still on site.

**III. Visual Inspection**

The site assessor should visually assess the UST site, system, and excavation. Inspection can be the simplest and most cost-effective way to identify the presence of contamination at an UST site. The visual assessment consists of the following components:

A. **Weather**

Note and report weather conditions including temperature and precipitation during and immediately prior to the site assessment.

**B. Site Conditions**

Inspect the site for signs of contamination such as surface staining and stressed or dead vegetation. Look for previously unreported tanks.

**C. Excavation**

Inspect the excavation for signs of a release such as free product, soil discoloration, an oil sheen on excavation water, or obvious odors. Identify soil type(s) and the soil profile(s) in the excavation(s) using the Unified Soil Classification System (USCS). At a minimum, the assessor should describe:

1. Type of backfill originally surrounding the tank;
2. Native soil type(s) in excavation;
3. Total depth of the excavation(s); and
4. Type of backfill used to fill in the excavation (if applicable).

Information from the United States Department of Agriculture (USDA) Soil Survey may be submitted as supplementary information. However it is still necessary to describe the soil conditions observed at depth in the actual excavation as they may vary significantly from soil survey information.

Identify free-standing water present in the excavation as either runoff, perched water, or groundwater and report the depth to the water. Determine the type of water present through knowledge of local groundwater conditions or by pumping the water out of the excavation and observing how long before the water returns.

**NOTE: Manage contaminated excavation water in accordance with attachment 5.**

**D. Tank Condition**

The site assessor should visually inspect the tank system to assess the degree of corrosion and/or the structural integrity of the tanks and piping. Indicators of the degree of corrosion include metal thickness and whether the original tank coating is intact. Scrape off patches of encrusted soil on the tank(s) and piping using a wire brush or knife and inspect the underlying surface for holes. Note and report evidence of previous repairs. Report the tank condition in the closure documentation.

**E. Obvious Contamination**

If free product, strong petroleum product odors, stained soil or backfill, or other conditions make it obvious that a release from the tank has occurred, then it is necessary to report the release immediately to the DNR in accordance with attachment 3. It is not necessary to complete the site assessment sampling. However, collect at least one sample of the contaminated soil for laboratory analysis to confirm the release in accordance with the procedures under "Sample Collection—Obvious Contamination" and complete the closure documentation. Report the specific cause of the release (e.g. hole in tank, loose piping), if known.

**NOTE: The purpose of the site assessment is to determine whether a release has occurred. If a release is discovered then it is necessary to move out of the site assessment process and conduct all subsequent sampling and investigation in accordance with reference 1. In general more samples are necessary to confirm complete cleanup of a LUST than to confirm clean closure of an UST (see reference 2).**

**IV. Sample Collection****A. Sampler Certification**

Persons collecting soil samples for Comm 10 site assessments must be certified by DILHR or supervised by a certified site assessor. Attachment 4 provides information on certification.

**B. Soil Sample Locations**

Collect samples in the native soil, not in the backfill material around the tank, from all of the following locations:

1. In native soil one to three feet beneath each end of each tank in the excavation.
2. In native soil on the supply side one to three feet beneath each dispenser. Only take one sample beneath each dispenser, regardless of the number of products dispensed.
3. In native soil one to three feet beneath the surface every 20 feet, or segment thereof, along piping runs. In doing so, take samples preferentially under swing joints, flex connectors, and pipe elbows, choosing the joints to sample. Collect at least one piping sample in addition to any pump island samples, if the piping run is greater than 10 feet.
4. In native soil 5 feet beneath remote fill pipe opening, if present.
5. Beneath the middle of tanks over 18 feet long.

These are minimum sample locations and attachment 2 includes examples. Additional sample locations include changes in soil type and underground conduits for utilities. Collect additional samples if warranted on the basis of field screening or other factors.

C. Variations to Soil Sample Locations

1. Redundant Samples

Eliminate redundant samples. Examples include the following:

- a. If the length of the tank is less than 5 feet, collect only one sample beneath the tank instead of two.
- b. If the pump is located above the tank or within 2.5 feet of the end of tank do not collect a pump sample.
- c. If dispensers are separated no more than 5 feet, collect one sample for every two dispensers.
- d. If two or more tanks are laid end to end and are within 2.5 feet of each other, collect one sample instead of two between the two tank ends. Samples should still be collected under each end of each tank for tanks laid side by side.
- e. If part of the piping runs above the tank(s), do not collect separate piping samples under those sections.
- f. If the tank is less than 5 feet from a building and the piping leads directly from the tank into the building (e.g. waste oil tanks, fuel oil tanks), do not collect a piping sample.
- g. If a piping run contains more than one product line or lines are separated by less than 2.5 feet, collect only one sample every 20 feet.

2. Sampling Backfill

If native soil is absent from the soil sample locations described above then sample backfill, provided the type of backfill is coarse sand or finer. **DO NOT SAMPLE PEA GRAVEL AND COARSER MATERIAL.** If pea gravel or coarser material extends more than three feet beneath the prescribed sample locations, excavate to native soil for the purposes of sample collection. If groundwater is encountered in gravelly backfill (i.e. the depth to groundwater is less than the depth to native soil) then excavate laterally to sample native soil from the sidewalls of the excavation just above the water level.

3. Obvious Contamination

If free product, strong petroleum product odors, stained soil or backfill, or other conditions make it obvious that a release from the tank has occurred, then do not complete the site assessment soil sampling. Report the release immediately in accordance with attachment 3 and collect one sample of contaminated soil for laboratory analysis to provide confirmation of the release. Collect the sample from an area that is representative of the contamination in accordance with the soil sampling guidance presented in this document. Do not collect a composite sample from several locations.

In addition, complete the documentation requirements for a release (see below). "Overexcavation" of obvious contamination, if attempted, should be conducted in accordance with reference 1. The site assessment soil sampling locations do not apply to overexcavation. Closeout samples for overexcavations should conform to the procedures for documenting LUST case closure provided in reference 2.

4. Closure in Place

Comm 10 allows closure in place of USTs in a limited number of circumstances. Closure in place must be requested in writing from the DILHR authorized agent responsible for closure verification. Only written permission for closure in place is valid. Site assessments are still required when tanks are closed in place. Collect soil samples from all of the locations specified above by one of the following methods.

- a. **Soil borings**, through the use of a drill rig, power auger, or hand auger. Conduct the borings within three feet of and below each end of each tank, drilling at an angle if necessary. Conduct soil borings along piping runs and pump islands immediately adjacent to these structures. The borings must be completed, documented and abandoned in compliance with the requirements of ch. NR 141, Wis. Adm. Code, which governs monitoring wells and soil borings.
- b. **Holes cut in the bottom of the tank(s)**. If the tank(s) can be safely entered, and holes can be cut in the bottom, the soil beneath the tank(s) may be sampled through the holes. Cut the holes near each end of each tank. If native soil cannot be accessed from the holes, sample the backfill material. Include visual observations of the interior of the tank in the closure documentation.

- c. **Test pits beside the tank(s).** Many tanks are abandoned in place due to their proximity to building foundations. Often it is possible to excavate a test pit or trench on the side of the tank opposite the foundation. Soil conditions can then be visually assessed and soil samples collected directly.
- d. **Groundwater monitoring.** If soil samples cannot be collected within 3 feet of the tank ends then it is necessary to assess the site using groundwater monitoring. Install at least three groundwater monitoring wells within 20 feet of the tank(s), accurately measure water levels in the wells to determine the hydraulic gradient, and conduct at least one round of groundwater sampling in accordance with the LUST analytical guidance. The wells must be constructed and documented in accordance with ch. NR 141, Wis. Adm. Code.

**NOTE: Closure in place makes site assessment more difficult. It may require special equipment or persons with special qualifications or training. Some certified site assessors may not be technically qualified to conduct a site assessment for closure in place. The closure in place may also present problems if remediation is necessary, in future property sales, or in future construction. Therefore it is advisable to remove the tanks(s) if possible. Contact the DNR district LUST project manager for the county in which the tank is located to discuss site-specific sampling problems and additional alternatives for conducting an adequate site assessment.**

#### 5. Shallow Depth to Groundwater

If the groundwater table occurs within the tank or piping excavation, collect soil samples from the side walls of the excavation above the water level as near as possible to all of the sample locations described above.

**NOTE: Do not collect groundwater samples for the purpose of conducting the site assessment. However, water removed from the excavation must be disposed of properly and this may require sampling.**

#### 6. Alternate Sampling Plans

Tank owners and their consultants may submit alternative site-specific site assessment sampling plans where the total number of samples according to the site assessment guidance would exceed 15 samples. The site assessor should develop the plan and submit it to the DNR for review prior to tank closure. The purpose of an alternate sampling plan is to eliminate unnecessary or excessive sampling. The plan should describe how the number of samples specified by the site assessment guidance is excessive and how the alternate plan will adequately check for the presence of a release. Submit alternate sampling plans at least 30 business days prior to the site assessment to the DNR address listed for clean site assessments in attachment 1 and include a diagram of the tank system.

#### 7. Late Site Assessments

Soil sampling for site assessments should be performed at the time of tank closure while the tank excavation is open and the soil sampling locations are readily accessible. However, occasionally site assessments must be performed at a later date (e.g. if the tank owner closed the tank and did not know that a site assessment was required). In these cases, use and document the following procedures, which also apply to resampling of sites when holding times are exceeded or samples are cross-contaminated or broken:

- a. collect samples from all of the areas specified under sample locations above.
- b. collect samples using test pits or soil borings. If borings are used, use hammer samplers to collect undisturbed samples.
- c. collect samples from a depth greater than the depth of the original excavation since contamination migrates downward. Samples collected at shallower depths are unreliable due to dilution by clean backfill.
- d. identify and report all soil types including the native soil type, the type of backfill used to fill in the excavation following removal, and the original backfill used to install the tank (if still present).

Reports prepared for late site assessments should provide all of the information included under "Documentation" and should be submitted to the appropriate DNR office, in accordance with, attachment 1.

#### D. Analytical Parameters, Methods, Holding Times, and Quality Control

All soil samples sent to a laboratory must be analyzed for parameters and using methods appropriate for the substance contained in the UST system. The parameters and methods to use for petroleum USTs are specified below and summarized in table 2 in accordance with the "Leaking Underground Storage Tank and Petroleum Analytical and Quality Assurance Guidance" PUBL-SW-130 93 (reference 6). Contact the DNR District LUST project manager with questions regarding parameters and methods for investigating suspected releases from chemical tank systems.

##### 1. Parameters

The parameters for which soil samples must be analyzed depend on the substance stored in the UST and/or piping as shown below.

- a. analyze soil samples from tank systems that stored regular or unleaded gasoline, aviation fuel (grades 80, 100, and 100 low lead) for **gasoline range organics (GRO)**.

- b. analyze soil samples from tank systems that stored diesel, jet fuel, fuel oil, crude oil, lubricating oil, or waste oil for **diesel range organics (DRO)**. –
- c. analyze soil samples from tank systems where the substance stored is unknown for both **gasoline range organics (GRO)** and **diesel range organics (DRO)**.
- d. analyze soil samples collected under system components where multiple substances were stored for the high volatility parameter. For example, if a piping run contains both a gasoline line and a diesel line, collect only one sample every 20 feet and analyze it for GRO.

TABLE 2  
ANALYTICAL PARAMETERS, METHODS, HOLDING TIMES, AND QUALITY CONTROL

SUBSTANCE IN TANK	ANALYTICAL PARAMETER	ANALYTICAL METHOD	SHIPPING/ EXTRACTION	HOLDING TIME	JARS/ SIZE	QUALITY CONTROL	NOTES
Regular, Unleaded, Aviation fuel (Grades 80 & 100)	Gasoline Range Organics (GRO)	Wisconsin DNR Modified GRO Method	Shipping: 4 days, Methanol Preservation: Within a Maximum of 2 Hours After Collection	14 days	60 ml WM: 35 gm, 40 ml WM: 20 gm	Methanol Trip Blank, Temperature Blank if "Blue Ice" Used	Use in-field Preservation with Methanol
Diesel, Fuel Oil, Jet Fuel, Crude Oil, Lubricating Oil, Waste Oil	Diesel Range Organics (DRO)	Wisconsin DNR Modified DRO Method	Shipping: 4 days, Solvent Addition: Within 18 Hours of Delivery to Lab in Most Cases, 114 Hours Maximum	47 days	60 ml WM: 35 gm, 40 ml WM: 20 gm	Temperature Blank if "Blue Ice" Used	

## 2. Methods

Soil samples should be analyzed according to the analytical methods approved by the DNR as shown below. A laboratory certified for purgeable organics under ch. NR 149, Wisconsin Administrative Code, must conduct the analysis.

- a. The approved method for gasoline range organics (GRO) is the **Wisconsin DNR Modified GRO Method**. This method includes field preservation of samples using methanol.
- b. The approved method for diesel range organics (DRO) is the **Wisconsin DNR Modified DRO Method**.

## 3. Holding Times

Handle and process all samples in accordance with the following timeliness

- a. GRO samples should be preserved in the field with methanol within 2 hours of collection, delivered to the lab within 4 days of collection and analyzed within 14 days of collection.
- b. DRO samples should be delivered to the lab within 4 days of collection. The lab should add solvent within 18 hours of receipt and analyze the samples within 47 days of collection.

## 4. Quality Control

The following quality control measures apply to samples collected for site assessment:

- a. If a GRO sample is collected, one GRO trip blank (i.e. a tared jar containing 25 ml of purge and trap grade methanol) should accompany the sample jars to the site and be analyzed with the soil samples. The jar should undergo all procedures performed on soil samples. If soil is added directly to jars containing methanol, open and close the trip blank at one of the sampling locations. If methanol is added to the jars using one of the transfer procedures described in attachment 6, perform the transfer procedure on the trip blank.
- b. All samples must have their temperature measured upon receipt by the lab. If ice is used in the cooler then no special measures are necessary because the lab can determine the temperature directly from either the ice or the meltwater. However, if "blue ice" or other Commercial coolants are used then a temperature blank (i.e. a sample jar containing ordinary water) should accompany the samples to the lab.

The preceding guidance is summarized in table 2. Reference 6 provides additional information about the analytical parameters and methods.

## E. Sample Collection Procedures

Collect soil samples in accordance with the soil type, substance, and analytical parameters and methods. Sample collectors should observe all standard scientific and industry practices. All certified site assessors must submit written descriptions of their standard sample collection techniques to DILHR and DNR. The following sampling proce-

dures are provided as guidance. Attachment 6 includes additional suggestions and a list of sampling equipment suppliers.

1. Identify sample collection points based on tank system layout and soil sample locations specified above. Assign sample I.D. numbers at this time or at the time of collection.
2. Identify the type of analysis for each sample location. For example, two GRO samples for each gasoline tank, two DRO samples for each diesel tank, etc. Collect GRO samples in tared wide mouth 60 ml VOC vials containing 25 mls of purge and trap grade methanol. Collect DRO samples in tared 60 ml VOC vials. All sample jars should have teflon lined septa caps.

**NOTE: The purpose of methanol preservation is to reduce errors due to volatilization and biodegradation. Soil preserved in methanol is a hazardous waste unless analyzed by a lab. DNR advises site assessors not to collect extra GRO samples and to analyze all GRO samples they collect. Additional information on methanol sample preservation is included in attachment 6.**

3. Gain access to the soil sample locations. This can be done directly by entering the excavation, remotely using a soil coring device such as a hand auger or split barrel core sampler, or indirectly by sampling from the backhoe bucket.

**NOTE: Enter excavation only if they are extremely shallow or if entry will comply with applicable OSHA regulations. Sampling from the backhoe bucket, while convenient and safe, increases errors due to non-representative samples, volatilization, and cross-contamination. Therefore, it is especially important to follow all recommended sampling procedures when sampling from the backhoe bucket.**

4. Use appropriate sampling equipment to collect samples. Sampling equipment should be capable of rapidly collecting samples with a minimum of atmospheric exposure. Depending on the type of equipment used, transfer the soil to the laboratory jar directly or using a lab spatula or a hand trowel.
  - c. **Hand augers** are limited to use in unconsolidated sediments and are particularly useful in sandy materials but tend to be impractical in dense clays or stony materials. Use of extensions may provide remote access to soil sample locations at some excavations.
  - d. **Trowels** can be used to collect soil samples from in place or the backhoe bucket.
  - e. **A large (30 ml) plastic syringe** with the end cut off can be used to collect soil samples with a minimum of disturbance in sands and silts.
  - f. **A metal pipe** can be used to collect soil samples with minimal disturbance in heavy clays. The pipe can be pounded into the soil and the resulting sample extruded using a metal or plastic plunger.
  - g. **Split spoon samplers** consist of a metal cylinder split longitudinally and threaded on both ends. A cutting bead is threaded onto the lower end and a drill-rod attachment onto the upper end. The split spoon sampler is driven into the formation at the bottom of the borehole, usually using a drilling rig. When withdrawn and opened, the sample is relatively undisturbed and shows the natural stratification of the geologic material. They are most commonly used with borings, (i.e. for closure in place or advance sampling) but can be used to sample soil directly.
  - h. **Shelby tubes** are thin-walled metal tubes that are driven into the formation, usually using a drilling rig.
  - i. **Gloves** are recommended for personal protection from exposure to contaminants. Wear either specially formulated (e.g. nitrile) or disposable gloves for this purpose. Do not wear work gloves while collecting samples because they cannot be adequately decontaminated.
5. Collect at least one soil sample from each sample location from a freshly exposed surface. Remove at least 18" of soil from the immediate surface area where the sample is to be taken. Work quickly and minimize agitation of the soil to prevent loss of volatile contaminants. Collect at least 25 g of soil for GRO and DRO samples. Do not combine soil from several different locations into one sample because it decreases the specificity of the sample and increases the potential for volatilization.

**NOTE: GRO samples should contain at least 25 g of soil but do not need to weigh exactly 25 g (the laboratory determines the exact sample weight). Correct sample size can be determined prior to sampling by weighing-out 25 g of site soil using a pocket spring scale, placing it into an empty 60 ml jar and marking a fill line. It is not necessary to weigh actual samples intended for analysis and weighing can cause excessive volatilization of contaminants in the sample. A 30 ml plastic syringe, if used, can also be used to ensure an ample sample.**

6. Seal the sample making sure that no soil particles are present on the mouth of the jar or cap. Use a toothbrush or other utensil to sweep particles off the rim. Also sweep the inside of the lid, if you put it down. A good sample seal is necessary to prevent loss of volatile contaminants. Shake GRO samples after sealing to coat the soil with methanol.
7. Pack samples for lab analysis in ice immediately. Keep samples at or below 4° C after collection and prior to analysis.

8. Collect an additional sample for field screening (if used) from each soil sample location. Refer to the "LUST Field Screening Procedures" PUBL-SW-176 (reference 7) for more information on field screening. **DO NOT PERFORM HEADSPACE ANALYSIS ON SAMPLES COLLECTED FOR LAB ANALYSIS.**
9. Collect an additional sample for dry weight determination at each sampling location. Do not put dry weight samples for GRO analysis in jars containing methanol.
10. Collect grab samples for field identification of soil type.
11. Properly label each sample collected. Assign an I.D. (if not done previously) and write the number directly on the sample label in waterproof ink. Write the sample I.D., the time of collection, the sample location, type of analysis, and method of preservation (if applicable) on the chain-of-custody form. Also write the number and time and date collected in the field notebook along with a verbal description of the sample location (e.g., north end of 10,000 gallon unleaded tank). It may also be helpful sketch the site in the field notebook and to write the number on the sketch.
12. Look at the sample for the presence of obvious contamination or staining. Identify the soil texture using the USCS classification and note soil color. Note any obvious sample odor. Also note the moisture content (dry, damp, moist, saturated). Record observations in field notebook.

**NOTE: DO NOT SNIFF SOIL SAMPLES. Petroleum vapors are extremely toxic and the human nose cannot objectively measure for the presence of contamination. Rely on field screening and lab results**

13. Decontaminate sample collection equipment between each sampling location. Scrub sampling tools in detergent or solvent solution, rinse (repeatedly) in pure water, wipe dry with paper towel or allow to air dry. Use rinse water that is distilled or obtained from a source that is known to be uncontaminated. Wash bare hands or safety gloves (neoprene, nitrile, etc.) in addition to the sampling tools. Change disposable gloves, if used, between each sampling location. Decontaminate syringes between each sample location or use a different syringe for each sample location.  
  
Decontaminate plastic syringes, if reused, using soap and water only because solvents can cause them to leach phthalates. It is not necessary to decontaminate equipment between lab, headspace, dry-weight, and grab sample collection at a particular sampling location.
14. Proceed with field analysis (if used). Reference 7 provides field screening procedures.
15. Complete the LUST chain-of-custody form included in attachment 6. List name of sampler, name of project/property, time samples relinquished.

**NOTE: Samplers can use their own chain-of-custody form as long as it contains all data included on the standard LUST program chain-of-custody form**

16. Pack samples in ice and ship to certified lab. Use insulated styrofoam shippers or other style of ice chest. Follow methanol shipping instructions included in attachment 6.

#### F. Field Documentation

Soil samplers should keep comprehensive field notes. Field notes are not required to be submitted in the closure report. Record the following information in the field notebook and retain for future reference in accordance with Reference 6.

1. Date(s) of field work and time of arrival on site.
2. Equipment used for screening (make, model, lamp strength, etc.).
3. Calibrations performed, calibration curves or standards.
4. Results and techniques used for field screening.
5. Sampling locations (this requires an accurate map).
6. Sample ID that clearly correlates to sample locations shown on a map.
7. Methods and/or devices used in sampling.
8. Climatic conditions during screening and sampling.
9. Decontamination procedures used.
10. Time and date of sample collection.
11. Type of sample (soil, groundwater, surface water, etc.).
12. Field preservation performed.
13. Any deviations from standard operating procedures or special conditions.



## 14. Name of sampler.

## G. Field Instruments

A photoionization detector (PID), flame ionization detector (FID), or portable gas chromatograph (GC) may be used to screen soil samples collected from the sample locations to provide support of laboratory results and field observations. Field instruments may also be used to screen additional locations where the cost of collecting a laboratory sample would be prohibitive. Examples of such locations include changes in soil type and underground utility conduits. Field instruments may not be used to decrease the number of soil samples that must be laboratory analyzed. Collect and present all field instrument data in accordance with DNR-approved field instrument techniques provided in reference 7. "Additional Information Required for Certification" (located after the references) lists sources for information on field screening techniques and sampling locations.

## V. Documentation

Site assessments must be properly documented to show that the site assessment requirement has been met. If a release is discovered prior to sample collection, provide all of the information shown below except for the sample results and lab reports. Minimum acceptable documentation is outlined below in checklist form for convenience.

Send copies of the site assessment documentation to DNR. Clearly mark the report "SITE ASSESSMENT FOR UNDERGROUND STORAGE TANK" on the cover or inside page. Submit a separate report for each site assessed. If it is necessary to include several sites in one report, then a copy of the report should be submitted for each individual site assessed. Send the documentation to the following address if there is no evidence of a release:

Tank Response Unit – SW/3  
DNR  
P.O. Box 7921  
Madison, WI 53707

If there is my indication of a release (including contaminated backfill or low detects), send the documentation to the appropriate DNR district contact as shown in attachment 1. Include a distribution list showing the contacts receiving copies in the report.

The DNR reCommends that the site assessment documentation follow the sequence of information listed here. This will allow for a quick completeness check and more timely review of submittals. Incomplete reports will be listed as indeterminate sites until all of the necessary information has been received.

## A. Site Background Information

Include a narrative describing site background information. Obtain the information through interviews with present and past owners and site inspections. Obtain groundwater information from the United States Geological Survey, the Wisconsin Geologic and Natural History Survey, city water utilities, local health departments, environmental drillers, water well drillers, and published reports. Provide the following information in the narrative:

1. Cover letter and report distribution;
2. UST system owner/operator;
3. Land owner (if different);
4. Address of tank site;
5. Legal description of site (quarter/quarter, quarter, section, township, and range);
6. Certified site assessor: name, address, phone number, and certification number;
7. Site assessment subcontractors (e.g. drillers): name, address, and phone number;
8. Summary of past and present property use;
9. Description of tanks removed previously;
10. Results of tank tightness tests (if performed);
11. Information on past system leaks or repairs;
12. Results of previous investigations;
13. Other tanks/gas stations/LUST sites on surrounding properties;
14. Depth to groundwater and local groundwater use;

## B. Tank Activities and Excavation

The site assessment should state the reason why the assessment was done (e.g., the tank removal, relining, closure in place).

1. Method(s) of tank closure (e.g., removal, closure in place, DILHR order);
2. Date of removal or abandonment;
3. DILHR certified remover/cleaner: name, address, phone number, and certification number;
4. Subcontractors (e.g. excavators, waste disposal): name, address, and phone number;
5. Description of tanks removed (size, age, substance stored);
6. Number of tanks remaining on site;
- C. Tank Cleaning and Disposal Provide the method used to clean the tank(s) and the final disposal of the tank(s) including:
  1. handling of any cleaning wastewater;
  2. location where tank was cleaned;
  3. method of tank transport;
  4. documentation of emergency waiver to transport tank (if applicable);
  5. names, addresses, and phone numbers of firms dismantling, transporting, and disposing of tank(s).

**NOTE: Tanks and wastewater are regulated as wastes in Wisconsin, and must be disposed of properly under Wisconsin law. Please refer to Attachment 5.**

D. Surplus Product Management

Provide the final disposition of any product remaining in the tank at the time of closure, including:

1. types of liquids;
2. quantity of liquids;
3. final disposition of liquids;
4. names, addresses and phone numbers of firms storing, transporting, and/or recycling liquids.

**NOTE: Surplus product is regulated as a flammable and combustible liquid by Department of Commerce. Please refer to attachment 5.**

E. Tank Sludge Management

Provide the final disposition of any wastes remaining in the tank at the time of closure, including:

1. types of sludge;
2. quantity of sludge;
3. waste characterization data;
4. copies of hazardous waste manifests and EPA generator i.d. numbers (if manifested);
5. final disposition of sludge;
6. names, addresses, and phone numbers of firms storing, transporting, recycling, or disposing of sludge.

**NOTE: Tank sludge is regulated as a waste in Wisconsin. It is either a solid waste or a hazardous waste, and can either be tested to determine if it is hazardous, or simply handled as a hazardous waste. Please refer to attachment 5.**

F. Site Location Map

Provide a map showing the location of the site relative to nearby towns, streets or major highways. Sections of USGS topographic maps, highway maps, or plat maps with the site location clearly marked are acceptable as a site location map.

G. Site Layout Plan

The site layout/plot plan should be to scale and provide the locations of—tanks, piping, dispensers, utilities, buildings, driveways, and parking areas. Show the locations of field and laboratory sampling points and other relevant data. Label all sampling points with identification numbers (or letters) cross-referenced to laboratory and tank information included in the body of the report. Show the limits and depth of the excavation and an outline of the tank system components within the excavated area. Label each tank removed (e.g., 10,000 gallon unleaded). Number tanks of

the same size holding the same substance as shown on the sample site sketch in attachment 2 and write the number on the tank inventory form. If the location of the pumps or piping cannot be readily depicted in plan view or if they were removed previously, include an explanatory note on the site plan (e.g. "pump above tank"). The plot should be legible. In checklist form, the site plan should show:

- 1 tanks;
2. piping;
3. dispensers;
4. remote fill pipes;
5. utilities;
6. buildings;
7. driveways;
8. parking areas;
9. property lines (if within map area);
10. field instrument sampling points numbered in accordance with data tables;
11. lab analysis sampling points numbered in accordance with data tables;
12. areal extent of excavation;
13. map scale (between 1"=10' and 1"=20');
14. north arrow;
15. descriptive title;
16. name of map-maker;
- H. Visual Inspection
  1. Weather
    - a. temperature;
    - b. precipitation (on day of assessment and previous day);
  2. Site Conditions
    - a. surface staining;
    - b. stressed or dead vegetation;
    - c. previously undiscovered or unregistered tanks;
  3. Excavation
    - a. excavation depth;
    - b. free product, if present;
    - c. obvious odors, if present;
    - d. soil discoloration, if present;
    - e. oil sheen on excavation water, if present;
    - f. soil type/profile (USCS classification), including backfill;
    - g. free standing water, if present;
      - (1) type (runoff, perched, or groundwater)
      - (2) depth to water
      - (3) results of pump-out test (if conducted);
  4. Tank System Components
    - a. tank condition;

- b. piping condition;
- c. possible leak locations;
- 5. Confirmation Sample for Obvious Contamination

I. Soil Sampling

1. Soil Sample Data Presentation

Provide soil sample results in tabular form and include all of the following data. See sample table in attachment 2.

- a. sample ID that clearly correlates to a sample location provided on the site map.

**NOTE: Include the sample ID whenever providing information on samples in the report.**

- b. lab result for each sample;
- c. compounds or parameters analyzed for or detected;
- d. units (parts per million or parts per billion)
- e. depth at which sample was taken.
- f. time and date sample was collected.
- g. petroleum product odor if noticed;
- h. sample soil type;
- i. relative moisture content of sample;

2. Field Screening Results (if applicable)

If field screening was performed, provide the following information. The information may be combined with the soil sample data listed above into one table.

- a. sample ID that clearly correlates to a sample location provided on the site map.
- b. peak reading for each sample;
- c. stable reading for each sample (optional);
- d. compounds or parameters analyzed for or detected;
- e. units (instrument units as either calibration gas or total organic vapors).
- f. depth at which sample was taken;
- g. time and date samples were collected and analyzed;
- h. relative moisture content of sample;
- i. petroleum product odor if noticed;
- j. method of analysis;
- k. instrument quenching, if applicable;
- l. sample soil type;

3. Lab Reports

Provide the following data from the LUST Standard Data Reporting Form (4400-152) included in attachment 6 in accordance with reference 6. It is not necessary to use the standard form as long as all of the information is provided. For example, standard laboratory reports providing the following and signed by the analyst may be used.

- a. sample ID;
- b. internal laboratory ID;
- c. project name;
- d. date of sample extraction;
- e. date of sample analysis;
- f. flags on data (if applicable);

- g. Wisconsin certified lab number;
- h. analyst's signature;
- i. associated quality control data (if applicable);
- j. copies of chain of custody.

J. Discussion

Include a narrative describing the results of the assessment. The narrative should clearly present the evidence relevant to determining whether a release occurred from the UST system and describe any unusual situations encountered but not covered by this guidance.

K. Supporting Documentation and Information

Provide the following information in the body of the report or as appendices or attachments to the report:

1. Standard sample collection procedures;
2. Copies of lab reports and chain-of-custody forms;
3. Field screening documentation in accordance with reference 7;
4. Copies of the tank inventory forms (SBD-7437) for each tank closed filled out as completely as possible;  
*NOTE: The original forms should be submitted to DILHR.*
5. Additional documentation for surplus product and tank waste management (e.g., manifests, bills of lading);
6. Boring logs and abandonment forms (if applicable);
7. Photographs (optional)

L. Other Information Requested by DNR or DILHR

REFERENCES

1. Guidance on Conducting Environmental Response Actions (PUBL-SW-157-92).
2. Soil Sampling Requirements for LUST Site Investigation and Excavation (PUBL-SW-127; Appendix Q of the **Guidance on Conducting Environmental Response Actions-4/92**)
3. Cleanup Process for the Emergency and Remedial Response Program (PUBL-SW-132-3/92)
4. Selecting an Environmental Consultant (PUBL-SW-113-11/91)
5. Solid Waste Rules Concerning Petroleum Contaminated Soil (Appendix 0 of the **Guidance on Conducting Environmental Response Actions-4/92**)
6. LUST and Petroleum Analytical and Quality Assurance Guidance (PUBL-SW-130-93; Appendix B of the **Guidance on Conducting Environmental Response Actions-6/93**)
7. LUST Field Screening Procedures (PUBL-SW-176).

These references are available from:

LUST Information Requests  
 Department of Natural Resources  
 P.O. Box 7921  
 Madison, WI 53707  
 (608) 266-2111

ADDITIONAL INFORMATION FOR CERTIFICATION

**Field Measurements: Dependable Data When You Need It**, EPA publication 530/UST-90/003, September 1990. Provides information on field screening techniques for petroleum releases. Superintendent of Documents Stock No. 055-000-00368-8, U.S. Government Printing Office, Washington, D.C. 20402 (202) 783-3238. \$5.50, Visa and MasterCard accepted.

**A Guide to the Assessment and Remediation of Underground Petroleum Releases**, API Publication 1628, 2nd Edition, 1989. Pages 1-20 provide an excellent overview of where to look for spilled petroleum. American Petroleum Institute, 1220 L St NW, Washington, DC 20005 (202) 682-8000. \$37.00 + shipping and handling if prepaid.

## ATTACHMENT 1

## INSTRUCTIONS FOR SUBMITTING UNDERGROUND STORAGE TANK SITE ASSESSMENTS

## DEPARTMENT OF NATURAL RESOURCES 7/97

1. A site assessment report that shows no contamination should be sent to the following address:

UST Site Assessments – RR/3  
 Department of Natural Resources  
 PO Box 7921  
 Madison WI 53707

2. A site assessment report documenting a release or the removal of one or more tanks where any of the tanks showed 'any sign of contamination should be sent to the DNR region for that county:

County	Region	County	Region	County	Region	County	Region
Adams	WCR	Florence	NOR	Marathon	WCR	Rusk	NOR
Ashland	NOR	Fond du Lac	NER	Marinette	NER	Sauk	SCR
Barron	NOR	Forest	NOR	Marquette	NER	Sawyer	NOR
Bayfield	NOR	Grant	SCR	Menominee	NER	Shawano	NER
Brown	NER	Green	SCR	Milwaukee	SER	Sheboygan	SER
Buffalo	WCR	Green Lake	NER	Monroe	WCR	St. Croix	WCR
Burnett	NOR	Iowa	SCR	Oconto	NER	Taylor	NOR
Calumet	NER	Iron	NOR	Oneida	NOR	Trempealeau	WCR
Chippewa	WCR	Jackson	WCR	Outagamie	NER	Vernon	WCR
Clark	WCR	Jefferson	SCR	Ozaukee	SER	Vilas	NOR
Columbia	SCR	Juneau	WCR	Pepin	WCR	Walworth	SER
Crawford	SCR	Kenosha	SER	Pierce	WCR	Washburn	NOR
Dane	SCR	Kewaunee	NER	Polk	NOR	Washington	SER
Dodge	SCR	La Crosse	WCR	Portage	WCR	Waukesha	SER
Door	NER	LaFayette	SCR	Price	NOR	Waupaca	NER
Douglas	NOR	Langlade	NOR	Racine	SER	Waushara	NER
Dunn	WCR	Lincoln	NOR	Richland	SCR	Winnebago	NER
Eau Claire	WCR	Manitowoc	NER	Rock	SCR	Wood	WCR

Notifications of releases should be made immediately by calling the statewide spills hotline, 800-943-0003, or faxing the appropriate regional office. Notification by fax is preferred and should include the information on the fax format.

Abbreviation	Region	Fax
NER	Northeast Region	414-492-5859
NOR	Northern Region	715-365-8932
SCR	South Central Region	608-275-3338
SER	Southeast Region	414-229-0808
WCR	Western Central Region	715-839-6076

Mailing Addresses:

Northeast Region (NER)  
 1125 N. Military Avenue, P.O. Box 10448  
 Green Bay WI 54307-0448

Southeast Region—Richards Street Annex (SER)  
 4041 N. Richards Street, P.O. Box 12436  
 Milwaukee WI 53212

Northern Region (NOR)  
107 Sutliff Avenue, Box 818  
Rhineland WI 54501

Western Central Region (WCR)  
1300 W. Clairemont Avenue, Call Box 4001  
Eau Claire WI 54701-4001

South Central Region (SCR)  
3911 Fish Hatchery Road  
Fitchburg WI 53711

Fax Format:

- 1. Name, company, mailing address and phone number of person reporting the discharge:
- 2. Site information.

Name of site at which discharge occurred (name of site/business; not owners unless residence):  
 Location (street address, no P0 boxes; if address, describe precisely, e.g. 1/4 mile NW of CTHS 60 & 123):  
 Municipality (city, village, township in which the site is located -- not mailing address)  
 County:  
 Legal Description: \_\_\_\_\_ 1/4 \_\_\_\_\_ 1/4 Section: \_\_\_\_\_ Tn: \_\_\_\_\_ Range: \_\_\_\_\_ E/W

- 3. Responsible Party (RP) and/or RP Representative Information

Company Name:  
 Contact Person:  
 Mailing Address (with zip code):  
 Telephone Number:

- 4. Identity, physical state and quantity of the hazardous substance discharged (check all that apply):

Unleaded gasoline  
 Leaded gasoline  
 Diesel  
 Fuel oil  
 Waste oil  
 Other: \_\_\_\_\_

- 5. Impacts to the environment (enter "K" for known or "P" for potential for all that apply):

Fire/explosion threat                       Soil contamination  
 Contaminated private wells (# of wells)     Surface water impacts  
 Contaminated public wells                       Floating product  
 Groundwater contamination                       Other \_\_\_\_\_

- 6. Contamination was discovered as a result of:

Tank closure (site) assessment                       Phase I or II Environmental Site Assessment  
 Other \_\_\_\_\_                      On the following date: \_\_\_\_\_

- 7. Additional Comments:

**ATTACHMENT 2****EXAMPLES OF TANKS REQUIRING SITE ASSESSMENTS**

Comm 10 specifies that a site assessment shall be performed for certain tanks under specific conditions. The tanks affected include all underground storage tanks except tanks less than 60 gallons, farm and residential tanks of 1,100 gallons or less capacity used for storing motor fuel for noncommercial purposes, and USTs of 4,000 gallons or less capacity used for storing heating oil for consumptive use on the premises where stored.

In general, site assessments are required for affected tanks at the time of closure (i.e. removal or abandonment) or change-in-service. For example:

**Site Assessment Required:**

- 100 gallon gasoline tank removed from bakery;
- 1,200 gallon gasoline tank abandoned in place at a residence;
- 1,500 gallon diesel tank removed from a farm;
- 4,100 gallon heating oil tank removed from a residence;
- 500 gallon heating oil tank removed from a gas station (fuel was sold from the tank).

**Site Assessment Not Required:**

- 55 gallon gas tank removed (anywhere);
- 700 gallon diesel tank removed from a farm;
- 3,000 gallon heating oil tank removed from a school.

The definition of tank in Comm 10 includes all associated piping and a separate assessment is required for piping if abandoned at a different time from the UST. A "change-in-service" is defined as the continued use of a federally regulated UST to store a non-regulated substance. The definition of "farm tank" means a tank located on a tract of land (including fish hatcheries, rangeland and nurseries) devoted to the production of crops or raising animals and associated residences and improvements ("farm" tanks must be located on farm property). The definition of "residential tank" means a tank located on the same property as a one- or 2-family dwelling or an ILHR 57 residential building (apartments, condominiums, hotels, motels, dormitories, etc.) and used only by the residents or for the maintenance of the property.

***NOTE: Tanks at these facilities must have site assessments if the product stored in them was ever sold.***

**Site Assessment Required:**

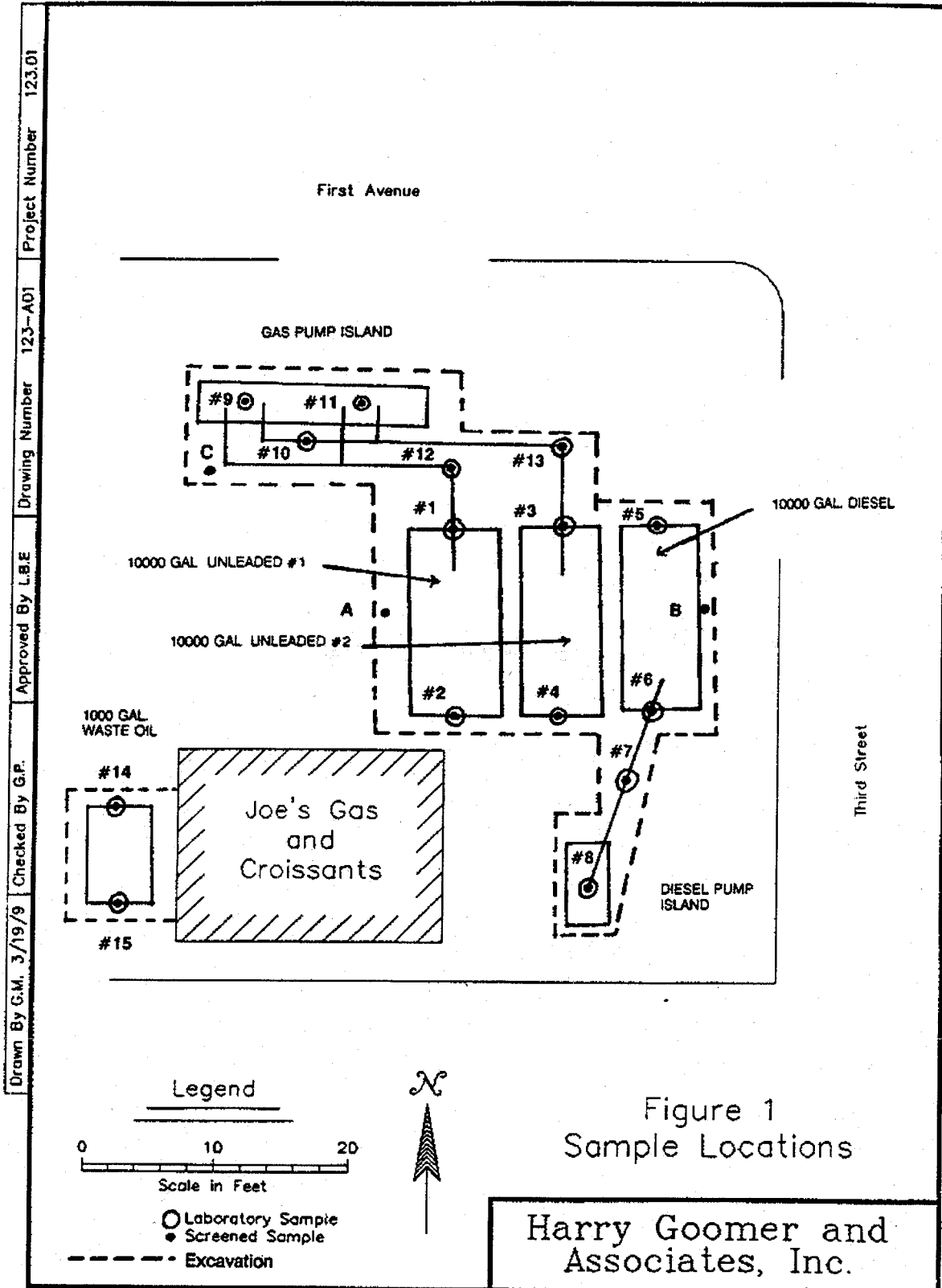
- piping run removed from gas station (1,000 gallon gas tank removed in 1985);
- 550 gallon gas tank removed from a marina (product sold to motorboats);
- 550 gallon gas tank removed from a resort (product sold to snowmobiles);
- 1,500 gallon gas tank emptied and used to store process water.

**Site Assessment Not Required:**

- 550 gallon tank removed from a resort (product never sold);
- 550 gallon gasoline tank removed from a hotel (product never sold).



Example of Site Layout Plan and Soil Sampling Locations



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## Example of Table of Sample Results

**JOE'S GAS & CROISSANTS**  
 Laboratory & Field Screening Results

Soil Sample Number	Sample Location	Sample Depth (feet)	Soil Type	Moisture Content	Date Collected	Time Collected	Sample Odor?	Field Reading (i.u.)	Lab Results	Analysis Performed
A	West side of unlead. tank #1	13	SP-SAND	Moist	03/15/92	11:15 am	No	ND	N/A	N/A
B	East side of diesel tank	13	SP-SAND	Moist	03/15/92	11:45 am	No	ND	N/A	N/A
C	West side of gas pump island	13	SP-SAND	Moist	03/15/92	3:15 pm	No	ND	N/A	N/A
1	North end of unlead. tank #1	13	SP-SAND	Moist	03/15/92	1:10 pm	No	ND	<5	GRO
2	South end of unlead. tank #1	13	SP-SAND	Moist	03/15/92	1:20 pm	No	ND	<5	GRO
3	North end of unlead. tank #2	13	SP-SAND	Moist	03/15/92	1:30 pm	No	ND	<5	GRO
4	South end of unlead. tank #2	13	SP-SAND	Moist	03/15/92	1:40 pm	No	ND	<5	GRO
5	North end of diesel tank	13	SP-SAND	Moist	03/15/92	1:50 pm	No	ND	<10	DRO
6	South end of diesel tank	13	SP-SAND	Moist	03/15/92	2:00 pm	No	ND	<10	DRO
7	Diesel piping run	5	GC-TILL	Damp	03/15/92	3:05 pm	No	ND	<10	DRO
8	Diesel pump island	5	GC-TILL	Damp	03/15/92	3:15 pm	No	ND	<10	DRO
9	West end gas pump island	5	GC-TILL	Damp	03/15/92	3:25 pm	No	ND	<5	GRO
10	Gas piping run, by island	5	GC-TILL	Damp	03/15/92	3:55 pm	No	ND	<5	GRO
11	East end gas pump island	5	GC-TILL	Damp	03/15/92	4:05 pm	No	ND	<5	GRO
12	Elbow, gas piping run, tank #1	5	GC-TILL	Damp	03/15/92	4:10 pm	No	ND	<5	GRO
13	Elbow, gas piping run, tank #2	5	GC-TILL	Damp	03/15/92	4:20 pm	No	ND	<5	GRO
14	North end of waste oil tank	7	SP-SAND	Damp	03/16/92	9:45 am	No	ND	<10	TRPH
15	South end of waste oil tank	7	SP-SAND	Damp	03/16/92	9:55 am	No	ND	<10	TRPH

i.u. = instrument units as isobutylene

ppm = parts per million

ND = not detected

N/A = not analyzed

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**ATTACHMENT 3****RELEASE REPORTING QUESTIONS AND ANSWERS***Who is legally responsible for reporting releases?*

The person(s) in possession or control of the hazardous substance which was discharged or who caused the discharge of the hazardous substance. This is usually the owner/operator of the property on which the discharge occurred, however it can also be a generator, transporter or other person.

*Is it solely the owner or is the contractor legally responsible as well?*

The contractor is only responsible if he/she is in "possession/control" or "caused" the hazardous substance discharge.

*Can the owner tell the contractor "I will report the release, fill in the excavation"?*

Yes, the owner can tell the contractor to do so. However, if contaminated soil is used to fill in the excavation, the contractor has violated solid/hazardous waste disposal requirements and the contractor would then also have a responsibility to report a hazardous substance discharge under s. 292.11 (2), Wis. Stats.

*What would be the contractor's liability if the release went unreported?*

If clean fill was used to backfill the excavation, it depends upon the harm caused by the failure to report. It is possible that if a threat to public health or safety exists as a result of the failure to notify that the contractor would be liable to the third party who was injured (e.g. explosive vapors present and someone is injured in an explosion). If contaminated material was used to backfill the excavation, the contractor is as liable as the property owner for cleanup and may also be penalized for the failure to notify and illegal disposal.

*Can the contractor withhold the information on the basis of the client-consultant relationship?*

Under s. 292.11 (8), Wis. Stats., the DNR and its authorized representatives are able to access property and inspect any record relating to a hazardous substance for the purpose of ascertaining compliance with s. 292.11, Wis. Stats. It is likely that the DNR would be able to obtain the information under this authority.

*How can parties report releases to meet their legal obligations?*

Either by contacting DNR directly or by phoning DNR's designated 24-hour telephone number, (800) 943-0003. This number is answered by the Division of Emergency Government (DEG) and receives calls covering all "emergencies". However, the LUST program requests that releases be faxed to the appropriate regional office using the fax format and that the DEG number be used for emergency situations.

*Can parties report releases by telefax or federal express?*

Yes, as long as they comply with the "immediate" time frame. Often the phone number for the appropriate DNR staff person is busy and faxing the notification is a more timely method of release reporting.

*What information should be reported in a release notification?*

The following information is usually requested by the DNR. Reporters should provide additional information that they think is relevant.

1. Name, address and telephone number of the person reporting the discharge.
2. Name, address and telephone number of the responsible parties or the potentially responsible parties.
3. Date, time and duration of the discharge.
4. Location of the discharge, including the legal description (public lands survey system) if available.
5. Identity, physical state and quantity of the hazardous substance discharged.
6. Physical, chemical, hazardous and toxicological characteristics of the hazardous substance.
7. Cause of the discharge.
8. Emergency response or other response actions being taken.
9. Source, speed of movement and destination or probable destination of the discharged hazardous substance.
10. Distance and direction to the nearest inhabited buildings.
11. Impacts to the environment including air, land, and waters of the state and private wells.
12. Weather conditions existing at the scene, including wind direction and velocity.
13. Name, address and telephone number of environmental contractors (site assessment, investigation) involved.
14. Additional information deemed relevant by the reporter.

## ATTACHMENT 4

## CONTRACTOR CERTIFICATION IN WISCONSIN

## I. Regulatory Overview

- A. In 1988, the federal government promulgated comprehensive UST regulations dealing with prevention, detection and cleanup of releases from USTs. Two state agencies implement these regulations in Wisconsin.
1. The Department of Industry, Labor, and Human Relations (DILHR) regulates the installation, operation, and closure requirements for underground and aboveground storage tank systems including:
    - a. Performance standards for new UST systems
    - b. Spill and overflow control requirements
    - c. Corrosion protection requirements
    - d. Limitations on acceptable repairs
    - e. Operations reporting and record keeping
    - f. Release detection and record keeping
    - g. UST closure and site assessment
  2. The Department of Natural Resources (DNR) is responsible for overseeing environmental cleanups when hazardous substances are released into the environment. The DNR administers rules pertaining to:
    - a. Reporting of suspected releases
    - b. Release investigation and confirmation
    - c. Reporting and cleanup of spills and overfills
    - d. Initial response to releases and abatement measures
    - e. Free product removal
    - f. Investigations for soil and groundwater cleanup
    - g. Corrective action plans to address contamination
    - h. Public notification of releases
- B. Wisconsin provides financial assistance for cleaning up tank leaks through PECFA, the Petroleum Environmental Cleanup Fund. This fund, administered by Department of Commerce, may reimburse owners or operators of leaking tanks for costs associated with cleanup. There are eligibility requirements for the reimbursement.

## II. Contractor Registration, Certification, and Qualifications

- A. Contractor Certification under ch. Comm 10, Wis. Admin. Code.
1. Comm 10 establishes contractor certification in the following categories:
    - a. underground tank installers
    - b. tank tightness testers
    - c. aboveground tank installers
    - d. tank remover/cleaners
    - e. tank site assessors
    - f. inspectors
    - g. tank liners
  2. Certification is only required when work is performed on a tank system covered by Comm 10. That means:
    - a. the **site assessor** must be certified only when Comm 10 requires a site assessment, i.e., for fleet and retail motor fuel tanks; farm and residential nonCommercial motor fuel tanks larger than 1100 gallons; and heating oil USTs larger than 4000 gallons.

- b. the **tank remover** and **cleaner** must be certified for all tanks covered by COMM 10's closure requirements. In essence, this means all tanks larger than 60 gallons where the product stored has a flashpoint of 200°F or less.
- 3. If contamination is discovered during the visual inspection, the scope of work changes to a response action under the NR 700 series. Since a site assessment is no longer required, the person conducting the response action **need not** be certified by DILHR. The tank remover and cleaner **still do** need to be certified.

Information on contractor certification must be requested in writing from:

Department of Commerce/Safety and Buildings Division  
 Attention: Luann Robb  
 P.O. Box 7969  
 Madison, WI 53707-7969  
 (608) 266-8980  
 FAX (608) 267-0592

B. Consultant Registration under ch. Comm 47, Wis. Admin. Code.

DILHR also requires that petroleum cleanup consultants register in order to for their work to be reimbursed by PECFA. Ms. Robb's list includes the registered PECFA consultants. Contact Carol Lochner at 608-266-3723 for a registration form.

C. Consultant Qualifications under ch. NR 712, Wis. Admin. Code.

There is no formal approval process for doing environmental cleanup work in Wisconsin. Consultants are required to have specific qualifications to do specific work as outlined in ch. NR 712, Wis. Admin. Code. Copies of the NR 700 series are available from the Department of Administration, Document Sales (see below). Additional information including copies of detailed technical guidance for environmental cleanups is available from the Emergency and Remedial Response Section, Public Information Requests at (608) 264-6009. A publication checklist and instructions for ordering publications is included elsewhere in this document.

The DNR maintains lists of environmental consultants in different categories (see publication checklist). All of this information is self-reported and the DNR makes no warranties regarding it's accuracy or the reliability of firms on these lists. The DNR also maintains data on environmental consultants who have indicated they wish to be considered for state projects. The list of consultants who have provided information is enclosed. The actual data is intended for department use and specialized reports are prepared on a site-specific basis. However, the data is public information and may be requested in its entirety in the form used by the department (computer disk). To get on the lists request the "Survey of Environmental Companies" and return it to the address on the publication checklist.

### III. Copies of Administrative Rules

A. The following rules relate to site assessment

1. Ch. Comm 10 \$10.00 (plus tax)
2. Ch. Comm 47 \$8.00 (plus tax)
3. Chs. NR 700-736 \$10.00 (plus tax)

B. The address for purchasing administrative rules is:

Department of Administration  
 Document Sales  
 P.O. Box 7840  
 Madison, WI 53707  
 (608) 266-3358  
 1-800-362-7253

**ATTACHMENT 5****PETROLEUM TANK AND SLUDGE MANAGEMENT FACTSHEET**

Many owners of underground storage tanks (USTs) are in the process of removing or upgrading their tanks to come into compliance with new Environmental Protection Agency (EPA) regulations. Tank owners are responsible for properly managing any waste and product that remains in tanks which are being upgraded or removed.

The Department of Industry, Labor and Human Relations (DILHR) regulates petroleum products. See "Management of Petroleum Products at Tank Closure" for product handling guidance. DILHR considers tank contents less than two inches above the water line or the tank bottom to be wastes. These wastes are regulated by the Department of Natural Resources (WDNR) as either sludge or wastewater.

Tank sludge is a solid waste regulated under ch. 144, Wis. Stats. Depending on the products stored in tanks it may also be a hazardous waste. The state has the authority to impose civil or criminal penalties against tank owners, tank excavators, tank transporters, and tank salvagers who improperly dispose of tank sludge. The tank owner is responsible for classifying tank waste and making sure it is properly handled and disposed of in compliance with the regulations. Wastewater is regulated by WDNR chs. 281 and 283, Wis. Stats.

An owner or operator who permits improper disposal may become ineligible for reimbursement under the state's Petroleum Storage Remedial Action Fund (PECFA).

**WASTEWATER HANDLING**

Wastewater may be generated from either removal of tank condensate or from tank washing. It must be disposed of legally. Some tank excavation services include wastewater disposal. In sewerred areas you may contact the municipal wastewater treatment plant for disposal approval. In unsewered areas you may contact a licensed septic disposal service to transport wastewater to a wastewater treatment plant. Septic haulers may not transport flammable liquids. Identify an acceptable method to dispose of wastewater prior to excavating tanks.

**SLUDGE HANDLING**

Tank sludge is solid waste. Tank owners are responsible for determining if it is also hazardous waste, and, if so, characterizing and managing it in accordance with all state and federal regulations. This is a technical procedure which should be handled by an experienced hazardous waste contractor. If there is a possibility that at any time the tank contents were not clean fuels additional analysis is required to identify residual wastes (PCB's, solvents, etc.). Complete analysis must be performed for waste oil tank sludges.

Tank sludge which has been classified as non-hazardous may be:

- a. Removed by a waste oil service for recycling.
- b. Disposed of in a licensed sanitary landfill with a clay liner if the sludge does not contain free liquids as determined by the paint filter test (EPA SW-846 methods, update II). Free liquids may be absorbed by adding clean absorbent materials such as sawdust or vermiculite.

Tank sludge which has been classified as hazardous must be:

- a. Transported to a licensed treatment, storage or disposal facility by a licensed hazardous waste transportation service.
- b. Manifested for transportation using a U.S. Environmental Protection Agency (EPA) identification (ID) number.

ID numbers can be obtained by completing an EPA notification form (8700-12, rev. 10-88). This form can be obtained from WDNR and must be submitted to:

US EPA Region V  
Attn: EPA I.D. Number  
P.O. Box A-3587  
Chicago, Illinois 60690

The EPA ID number should be requested six weeks prior to tank excavation. ID numbers cannot be obtained from WDNR.

Sludge may be held on site while laboratory analysis is being completed or it may be transported immediately by a licensed transporter. (Liquid tank sludge may be manifested as ignitable waste). Some tank excavation companies offer sludge analysis and disposal services.

Sludge which is being held on site should be handled as follows:

- a. Consult the laboratory prior to sampling to determine proper sampling procedures and sample containers.
- b. Carefully transfer the sludge from the tank to a metal drum. Seal the drum, affix the date and label it "Petroleum Tank Sludge."



- c. To avoid contaminating non-hazardous sludge with hazardous sludge from other tanks, do not mix sludges from different tanks. Each sample jar and each sludge drum must be identified by matching numbers or descriptions.
- d. Handle sludge with care! Anyone transferring sludge must have proper training and wear protective clothing and gloves.
- e. Avoid spills! Spilling sludge may contaminate an otherwise clean tank excavation site. You must immediately report any spill to WDNR and clean up the spill.
- f. Maintain the drums containing sludge in good condition and in a secure location while waiting for laboratory results. Report the location of sludge drums in the tank closure assessment report which you provide to DILHR and WDNR.

#### TANK HANDLING

1. Clean tanks on site. It is illegal to transport tanks containing residues of hazardous wastes without a variance or emergency waiver from WDNR District hazardous waste staff. Uncleaned tanks present an explosive risk to the public. Interstate carriers must obtain United States Department of Transportation approval to carry uncleaned tanks which have held hazardous materials.
2. Before removing sludge, cleaning tanks, and transporting tanks fill the tanks with inert gases or properly vent them as per DILHR requirements to remove explosive vapors. Occupational Health & Safety Administration (OSHA) confined space entry regulations apply.
3. Properly cleaned tanks may be recycled for scrap metal. WDNR does not regulate scrap metal recycling.

#### ADDITIONAL INFORMATION AVAILABLE

##### Tank Excavation Services:

Bureau of Petroleum Inspection & Fire Protection  
 Department of Commerce  
 201 E. Washington Avenue  
 Madison, WI 53702

##### Hazardous Waste Management Services:

Bureau of Solid & Hazardous Waste Management  
 Department of Natural Resources  
 P.O. Box 7921  
 Madison, WI 53707

##### Certified Laboratories:

Office of Technical Services  
 Department of Natural Resources  
 P.O. Box 7922  
 Madison, WI 53707

#### Additional FACTSHEETS Available from WDNR:

“What is Hazardous Waste?”  
 “Notification of Hazardous Waste Activity”  
 “EPA Identification Number”

WDNR factsheets and forms to obtain EPA identification numbers can also be obtained from WDNR Regional Offices.

This factsheet in a summary of regulations. It may not be used as a substitute for the statutes and codes administered by the Departments of Natural Resources; Industry, Labor & Human Relations; Transportation; or the federal government. Consult the regulations and statutes for specific information. Remember, a tank owner, tank excavator, tank transporter and tank salvager may all be liable for improper sludge transportation and disposal.

#### MANAGING PETROLEUM PRODUCTS DURING TANK CLOSURES\*

##### WHAT IS IT? WHO REGULATES IT?

*Product pumped to a maximum depth of 2” above the water level in the tank or 2” above the tank bottom whichever is higher. **Petroleum Inspection Program** (Department of Commerce)*

*Waste water, product-water interface, petroleum directly above product-water interface, sludge—anything below the 2” level. **Department of Natural Resources***

The Petroleum Inspection Program, under the authority of Chapter 168 of Wisconsin's Statutes and ILHR 48 of Wisconsin's Administrative Code, has established the following requirements for petroleum products removed from underground storage tanks (USTs) at time of closure:

#### PRODUCT MAY BE

- \* transferred only by a tank vehicle which complies with "Standards for Tank Vehicles for Flammable and Combustible Liquids,"
- \* returned to a terminal slop tank,
- \* returned to a refiner, or

#### TO USE THE PRODUCT, FOLLOW THESE GUIDES.

- \* Gasoline may be transferred to another retail facility.
- \* Gasoline storage must meet the standards established in the Flammable and Combustible Liquids Code and the EPA rules.
- \* Gasoline may be treated as interface and blended with new gasoline at terminals or refineries at a blend rate not to exceed 1/2 of 1%.
- \* #1 oils must be downgraded to #2 fuel oil.
- \* Oils may be sold without blending for nonsensitive burner and heating use, but only to a qualified buyer/user established with the concurrence of the District Petroleum Inspection Office.
- \* Kerosene, #1 diesel, #2 diesel, #1 fuel oil, or #2 fuel oil may be blended with new #2 fuel oil up to a 50% rate and used or sold for heating purposes.
- \* Products heavier than #2 fuel oil may be blended with an equal or heavier stock at up to a 50% rate and used or sold for heating purposes.

When product quantities of 500 gallons or more are involved, contact a Dept. of Commerce District Petroleum Inspection Office. They may:

- a. sample and test the product to determine compliance with ILHR 48 and then provide directions for disposition,
- b. allow transfer of the product to another facility for use or sale, or
- c. classify the product as falling outside the scope of ILHR 48

\*Any product regulated by the Dept. of Industry, Labor, and Human Relations under UHR 48.

#### TRANSPORTING HAZARDOUS WASTE

#### TO TRANSPORT HAZARDOUS WASTE IN WISCONSIN YOU MUST:

\* obtain an I.D. Number from EPA using the Notification of Regulated Waste Activity Form 8700-12. To request a notification form contact a Department Hazardous Waste Specialist or call (608) 266-2111.

\* obtain a hazardous waste transportation service license from the Department. To request a transportation license application form contact a Department Hazardous Waste Specialist or call (608) 266-2111.

Persons transporting hazardous waste into or through Wisconsin who are based in another state should submit a license application and fee to the Department regional office where the transportation activity is concentrated or where the transporter enters Wisconsin.

The \$250 annual license fee covers the period from October 1 to September 30 and is required with your application. A \$150 late fee is assessed for late renewals.

\* Only accept hazardous waste accompanied by a manifest that is properly signed by the generator (unless the waste was generated by a very small quantity generator who is not required to, and does not, manifest its waste). The transporter must ensure that copies of a manifest meeting the requirements of ch. NR 620, Wis. Adm. Code:

- a) are signed by the generator,
- b) are signed and dated by the transporter when the waste is accepted from the generator,
- c) accompany the waste at all times,
- d) are signed and dated by another transportation service that also transports the waste or by the facility indicated on the manifest that receives the waste, and

e) are kept by the transporter for 3 years.

**NOTE:** A manifest should not be used for shipments of only nonhazardous waste, except for PCB waste.

If the transporter is unable to deliver the waste to the facility, alternate facility, or another transporter indicated on the manifest, the transporter must contact the generator for further directions. The transporter must then revise the manifest, obtain a second manifest, or return the waste to the generator.

\* properly package, label and mark the waste and placard the vehicle. Hazardous waste must be packaged according to the hazardous materials transportation requirements in 49 CFR Part 173. Hazardous waste must be labeled and marked and vehicles must be placarded according to the hazardous materials transportation requirements in 49 CFR Part 172.

\* first secure containerized waste in the vehicle to prevent movement.

\* properly train equipment operators. Each transportation service must have an employee training program for hazardous waste handling and equipment operators. Topics in the program must include the problems and potential hazards posed by the transportation and disposal of hazardous waste, and equipment inspection techniques. Training records must be kept for 3 years.

\* periodically inspect your equipment. Each transportation service must have an inspection program for hazardous waste handling and transportation equipment. The program must include a schedule for equipment inspection and a checklist of specific areas or items to inspect. Records of when the equipment was inspected, any problems observed and any maintenance must be kept for 3 years.

\* properly report and respond to hazardous waste discharges.

*This summary of hazardous waste transporter requirements is based on chapter NR 620, Wisconsin Administrative Code effective March 1, 1991. For more details, consult the code or contact the Department of Natural Resources Hazardous Waste Specialist for the county in which your site is located. Please note: requirements are slightly different for rail or water transport or when a transporter mixes wastes of different shipping descriptions.*

What should be done if a discharge of hazardous waste occurs during transportation?

1. Call the division of emergency government's 24-hour number: 800-943-0003.
2. Comply with the hazardous substance spill requirements in section 292.11, Wisconsin Statutes and ch. NR 706, Wis. Adm. Code.
3. Give notice as required by 49 CFR 171.15 to the National Response Center at (800) 424-8802.
4. Report in writing as required by 49 CFR 171.16 to the Director, Office of Hazardous Materials Regulations, Materials Transportation Bureau, U.S. DOT, Washington, D.C. 20590.
5. Remove, containerize, transport and dispose of spilled hazardous waste according to the hazardous waste management requirements in chs. NR 600 to 685, Wis. Adm. Code.

## TANK CLEANING

Wisconsin's hazardous waste management regulations require that storage tanks be adequately cleaned before they are transported or cut up for scrap.

### *Why Must Tanks Be Cleaned Properly?*

It is illegal to transport tanks containing residues (including petroleum residues) that are hazardous wastes. Improperly or inadequately cleaned tanks may pose a fire or explosion hazard through the production of vapors from sludge residues. Also, these residues may be hazardous due to their toxicity. Inadequate cleaning may prevent recycling of the tanks as scrap metal.

### *When Is A Tank Cleaned Adequately?*

It is difficult to clean a tank so completely that no product or sludge remains on the inside surfaces. The objective of cleaning tanks is to minimize the risk of explosion, fire, or toxic substance release.

There is no widely-accepted standard for determining if a tank has been adequately cleaned. However, adhering to the methods described in the publications API 2015 (American Petroleum Institute, 2101 L Street, NW, Washington, D.C. 20037) or NFPA 327 (National Fire Protection Association, Batterymarch Park, Quincy, MA 02269) will produce a tank that can be recycled as scrap.

When a tank has been properly cleaned, an inspector should be unable to remove additional sludge or scale by wiping the inside surface of the tank with a rag or squeegee.

It is important to realize that even if a tank passes this "wipe test" it may contain sufficient traces of product to generate hazardous vapors. Therefore, cleaned tanks must be properly inerted or vented according to the standard procedures described in API 2015 or NFPA 327 before they are transported, cut apart or stored.

The materials collected during cleaning (rinsate and sludge) may be hazardous wastes. The generator of the waste (generally the owner of the contents of the tank) is responsible for determining if these materials are hazardous wastes. If they are, they must be stored, transported, and disposed of according to hazardous waste regulations. Details of Wisconsin's hazardous waste regulations may be obtained from the DNR Hazardous Waste Management program.

*What Tank Cleaning Information Must Be Included In The Closure Assessment?*

The closure assessment must state:

- (1) the method used for inerting the tank;
- (2) the method used for cleaning the tank (e.g., steam, water jet, chemical);
- (3) who cleaned the tank;
- (4) the quantity of waste residue (sludge and rinsate) collected during cleaning;
- (5) how the waste residue was managed;
- (6) where the tank or tank fragments were taken for disposal and the manner of disposal.

—> Refer also to the factsheets "Petroleum Tank and Sludge Management" and "Management of Petroleum Products at Tank Closure"

## ATTACHMENT 6

### METHANOL FIELD PRESERVATION FOR GRO SAMPLES – QUESTIONS & ANSWERS

*What is the methanol field preservation and when is it required?*

Methanol field preservation involves placing soil samples in jars containing methanol or adding methanol to jars containing soil while at the sampling location. The methanol reduces volatilization and biodegradation of soil contaminants prior to lab analysis, thus giving more accurate sample results.

*Is the methanol preservation necessary?*

There is strong evidence that samples which are not preserved in the field underestimate the contamination present. Scientific data shows that losses of 30 percent or more are typical. This data is supported by field experience where screening, odor and staining of soils indicate that contamination was present but lab samples showed no detect.

*What is the procedure for preserving samples with methanol?*

For samples collected for site assessments (i.e. closure assessments for underground storage tanks), the DNR reCommends adding 25 gm of soil directly to a tared 60 ml jar containing 25 ml's of purge and trap grade methanol. It is not advisable to weigh out exactly 25 gm of soil for each sample because this is a ball park figure and any agitation causes unnecessary volatilization. Instead weigh out one 25 gm sample of site soil into an empty 60 ml jar, mark a fill line and use this jar as a model for collecting the actual samples. The maximum amount of soil that can be added to a 60 ml jar is 35 gm. If a 40 ml jar is used, the sampler should add a maximum of 20 gm of soil and 20 ml's of methanol.

For samples collected for LUST investigations the DNR reCommends adding the methanol to the soil because many samplers use field screening to identify samples for analysis and soil samples preserved in methanol are a hazardous waste unless analyzed by a laboratory. Collect 2 samples at each sample location, one for field screening and one for potential laboratory analysis. Place 25 grams of soil in an empty, tared 60 ml VOC vial for potential lab analysis (20 gm maximum for a 40 ml vial). Cap the vial and place on ice while conducting field screening of the other co-located sample. Collecting soils into an intermediate container and subsampling after screening has been done is not acceptable. After completing field analysis of all samples select the co-located laboratory samples that should be analyzed based on the field screening results.

There are three ways to add methanol to the soil. The first two involve the use of a glass syringe and non-coring syringe needle to transfer the methanol from a septa vial containing purge and trap grade methanol to the sample vial. Both require the sampler to use a fresh syringe needle for each sample to avoid cross contamination. The first method requires loosening the cap to relieve pressure buildup from the methanol addition. The second method is to use a smaller sample size and less methanol to overcome sample pressurization. All samples must maintain a 1:1 ratio of milliliters (ml) of methanol to grams. DNR reCommends using 10 gm soil and 10 ml of methanol but the laboratory analyzing the samples should approve the sample size. It is also possible to remove the cap and add the methanol directly to the jar. However, this method increases the potential for volatilization, cross contamination, and spillage. Add the methanol to samples within 2 hours of collection. Samples should be returned to an iced cooler immediately after preservation. Samples may be preserved by the laboratory only if they are received by the lab within 2 hours of collection.

*How can I dispose of soil samples that aren't sent in for analysis?*

Soil preserved in methanol is a hazardous waste. Soil samples are exempt from hazardous waste regulations if they are analyzed at a laboratory. Any samples that are not analyzed are hazardous waste and the generator is legally responsible for proper disposal. In general, do not collect and preserve excess samples, and if you collect and preserve a sample, have it analyzed.

*What can be done to insure personal safety while handling the methanol?*

Do not store the methanol in a hot place. On hot days carry the methanol samples in your sample cooler prior to sample collection. Beware of pressure buildup in heated sample jars containing methanol. Avoid inhaling the methanol vapors. Work quickly while filling sample jars to minimize your exposure to the methanol. Open only one methanol vial at a time. Do not handle methanol in an unventilated area. If you are preserving samples inside a vehicle in inclement weather, make sure to provide some ventilation.

*What is a dry-weight sample and how many do I have to collect?*

A dry weight sample is simply a jar filled with dirt that is required by the lab to calculate the percent moisture of the soil at the sampling location. Dry weight samples should be tightly sealed to prevent loss of soil moisture but, since they are not analyzed for contaminants, they do not require special preservation. You need to collect a dry-weight sample for each sampling location at the site.

*How can I avoid cross-contamination?*

Site assessors should not handle petroleum products prior to sample collection. Wash your hands after filling your car with gas. Under no circumstances should methanol sample jars be stored with gasoline (e.g. with a gas can in the trunk of a car). Tank removers doubling as site assessors should wear coveralls during tank removal and take them off before sampling. Vehicle exhaust and ambient gasoline vapors are another potential source of cross contamination. Quickly open, fill, and reseal methanol sample jars. Low concentrations of ambient vapors can be monitored with a PID. Contamination from other samples and sample breakage are other potential sources. Put each sample in a separate freezer bag.

*What are the consequences of spilling methanol?*

If methanol is spilled from vials before or after sample collection the lab results will be skewed and incorrect. When a small amount of methanol is spilled during the sampling process it is necessary to resample using a fresh vial. If methanol is spilled during shipping to the laboratory the DNR will ask for resampling.

*Will rain water entering the sample jar affect the results?*

It may. Do not allow rain water to enter a sample jar. Suspend sampling if it is raining hard.

*How should I ship the jars to the lab?*

Methanol must be shipped in accordance with the attached shipping instructions. To pack the jars in an absorbent material and still keep them on ice, place the jars in an insulated cooler with ice or other coolant and then place the cooler in a slightly larger cardboard box. Fill the space between the cooler and the box with the absorbent material (e.g. vermiculite).

*Is there a shelf-life for unused methanol jars?*

The shelf-life may be specified by the lab providing the jars and could be 15-30 days.

*What companies provide jars containing methanol and other equipment?*

Tared sample jars containing methanol should be obtained from the laboratory that will perform the analysis. A list of Commercial labs certified for VOC analysis is available from the DNR at the address shown in the references.

#### SHIPPING METHANOL

The Wisconsin Department of Natural Resources' "Modified GRO Method for Determining Gasoline Range Organics" requires laboratories and samplers to ship sample vials with small amounts, (25 mls), of methanol for in field preservation of samples.

Methanol is considered a hazardous material by the U.S. Department of Transportation. Methanol shipments must follow Title 49 of the Code of Federal Regulations (49 CFR). However, methanol shipped in small amounts qualifies for a small quantity exemption (section 173.4).

Title 49 CFR is a lengthy document. The following is a summary of the requirements for shipping samples. Consultants and Laboratories should refer to the code for a complete review of the requirements.

- 1) Maximum volume per vial is 30 mls.
- 2) A vial must not be full (of methanol).
- 3) Vials must be securely packed with cushioning and surrounded by an absorbent material such as vermiculite.
- 4) Packaging must be strong enough to hold up to the intended use, (see specifications in 173.4 6i).
- 5) The maximum package weight is 65 pounds.
- 6) The package must be marked with the following statement:

"This package conforms to conditions and limitations specified in 49 CFR 173.4"

Refer to section 173.4 of Title 49 CFR for detailed information on these requirements. In addition, it would be prudent to mark these packages with the words "THIS SIDE UP" and arrows in case the vials are improperly sealed.

If the methanol has leaked from the vials in transport to the lab the Department will ask for resampling.

State of Wisconsin  
Department of Natural Resources

CHAIN OF CUSTODY RECORD  
LUST PROGRAM  
Form 4400-151 Rev 4-93



Note: Use of this form is voluntary but is requested by the Department pursuant to ch. NR 149, NR 500-540, NR 158 and NR 419, Wis. Adm. Code. Personally identifiable information will be used for no other purpose.

Sample Collector(s)	Title/Work Station/Company	Telephone Number (include area code)
Property Owner	Property Address	Telephone Number (include area code)

I hereby certify that I received, properly handled, and disposed of these samples as noted below:

Relinquished By (Signature)	Date/Time	Received By (Signature)	<p>Sample Condition on Receipt by Laboratory <b>LABORATORY USE ONLY</b></p> <p>Temperature of temperature blank: _____</p> <p>If samples were received on ice and there was ice remaining, you may report the temperature as "received on ice." If all of the ice was melted, the temperature of the melt may be substituted for a temperature blank.</p>
Relinquished By (Signature)	Date/Time	Received By (Signature)	
Relinquished By (Signature)	Date/Time	Received for Laboratory By (Signature)	

Field ID Number <sup>1</sup>	Date Collected	Time Collected	Sample Type <sup>2</sup>	Device <sup>3</sup>	Preserv. Type	Field Screening	Description	Analysis Type	Lab ID Number	No./Type of Containers	Cracked/Broken	Improperly Sealed	Good Condition	Other Comments

<sup>1</sup> Sample description must clearly correlate the sample ID to the sampling location shown on a map.  
<sup>2</sup> Specify groundwater, surface water, soil, leachate, sludge, etc.  
<sup>3</sup> Type of sampling device; split spoon, hand auger, metal spatula, soil syringe, etc.

DEPARTMENT USE/OPTIONAL FOR SOIL SAMPLERS		DEPARTMENT USE ONLY	
Disposition of unused portion of sample		Split samples: Offered? <input type="checkbox"/> Yes <input type="checkbox"/> No (Check one)	
Laboratory should: <input type="checkbox"/> Dispose	<input type="checkbox"/> Retain for ___ days	Accepted? <input type="checkbox"/> Yes <input type="checkbox"/> No (Check one)	
<input type="checkbox"/> Return	<input type="checkbox"/> Other	Accepted By: _____	
		Signature	

State of Wisconsin  
Department of Natural Resources

STANDARD DATA REPORTING FORM  
LUST PROGRAM  
Form 4400-152 Rev. 4-93



Include all relevant results. Relevant results include: 1) Tentatively identified compounds; 2) Unidentified but detected peaks; 3) Detects in trip or laboratory blanks; 4) One set of replicate spikes (accuracy and precision) or one matrix spike (recovery) with every batch of 20 samples; 5) Lab Certification number.

Wisconsin Lab Certification Number

Note: Use of this form is voluntary but is requested by the Department for analyzing data pursuant to ch. NR 149, NR 500-540, NR 158 and NR 419, Wis. Adm. Code. Personally identifiable information will be used for no other purpose.

Sample ID <sup>1</sup>		Method <sup>2</sup> Used	Specific Parameter	Result <sup>3</sup>	Detection <sup>4</sup> Limit	Date Collected	Date Extracted	Date Analyzed	pH <sup>5</sup>	Flag <sup>6</sup> Data
Field	Lab									

<sup>1</sup> Sample ID must clearly correlate to sampling location and chain of custody.

<sup>2</sup> EPA number if applicable

<sup>3</sup> Results should be reported as ug/l for waters and mg/kg for soils on a dry weight basis.

<sup>4</sup> This is the lab's detection limit determined as specified in NR 149. Units should be the same as for sample results.

<sup>5</sup> For water samples tested for GRO, DRO, VOCs, PVOCs, and metals. Make a check mark in this column if sample vials containing acid for preservation were supplied by the lab. If pH paper was used to determine pH, specify the range of the paper.

<sup>6</sup> If data is questionable for any reason, this column should be checked (examples are missed holding times or out of control QC samples).

Filled Out By



## ATTACHMENT 7

## GEOGRAPHIC REFERENCING USING THE PUBLIC LANDS SURVEY SYSTEM

The public lands survey system (PLS) is a system of land surveying established by the United States Government in the 19th century. It is one of the most Common systems of geo-referencing in use in Wisconsin and is the easiest system to learn for the purpose of providing the legal description of the site location for underground storage tank site assessments.

The parts of the reference system from largest to smallest are the township, range, section, quarter section, and quarter-quarter section. A **township** is a 6-mile by 6-mile square of land. The land area of Wisconsin, which is approximately 325 miles long and 300 miles wide, contains over 400 townships. Townships are identified using the PLS reference system, which is similar to a Cartesian coordinate system. In the PLS system, the "x-axis" (east-west) is the **town base** line and the "y-axis" (north-south) is the fourth principal **meridian**. Any township in Wisconsin can be identified using an ordered pair consisting of a township number and a range number. Township numbers are not unique to a particular township. For example, 50 different townships can have the same township number. Only the combination of a township number and range number uniquely identifies a township.

Townships north of the town base line are followed by an N and townships south of it are followed by an S. Since all townships in Wisconsin are north of the town base line, all Wisconsin township numbers are followed by an N. Townships east of the fourth principal are followed by an E and townships west of it are followed by a W. For example, T1N R2W designates the township in Grant county occupied by the southwesternmost corner of Wisconsin. T34N R30E designates the township in Door county occupied by the northeastern tip of Washington Island. Note that, although the town base line runs east-west, township numbers change in the north-south direction. Similarly, although the fourth principal meridian runs north-south, the range numbers change in the east-west direction.

Sections are 1-mile by 1-mile squares of land. Each township contains 36 sections. The sections are numbered in a standard zig-zag order, which was used by field crews conducting traverses. The sections are further divided into quarters and quarter-quarters (i.e. sixteenths). The four quarters are referenced using the four comers of the compass: northeast (NE), southeast (SE), southwest (SW), and northwest (NW). The 16 quarter-quarters are referenced by first identifying the quarter within which it lies and then referencing the four comers of the compass again. For example, X in the figure is in the NW quarter-quarter of the SE quarter of section 21. 0 in the figure is in the SE quarterquarter of the NW quarter.

It is possible to further subdivide quarter-quarters into quarter-quarter-quarters following the same pattern. The length of a quarter-quarter-quarter is 1/16 of a mile or 330 feet. In summary, the legal description of X is NW 1/4, SE 1/4, Section 21, T25N, R17E

The legal description of a particular site can be determined by locating the site on a USGS topographic map or a plat book. USGS maps can be purchased from the USGS as well as from the Wisconsin Geologic and Natural History Survey (WGNHS) in Madison. Plat books can be purchased from Rockford Map Publishers and are available for viewing at most libraries and town halls.

**NOTE: It is not necessary to provide detailed metes and bounds to satisfy the legal description requirement (e.g. PTNE 1/4 SEC 7 T7N R20E COM EI/4 COR NO 44°E 832.68 FT THE BGN NO 44°E 505 FIP N89 23°W 189.86 FT S61 01°W 210 FT S51 33°W 150 FT S28 58°E 387.81 etc.,etc.,etc.) However, such descriptions do provide all or part of the necessary information (shown in bold).**

