



Environmental Functional Area

Environmental Support and Programmatic Outreach Group

LLNL-TR-685477

391-D1A1 ABOVEGROUND TANK CLOSURE//REMOVAL PLAN

2016

Author

D. Griffin

**This work performed under the auspices of the U.S. Department of Energy by
Lawrence Livermore National Laboratory under Contract DE-AC52-07NA27344.**

Livermore-Pleasanton Fire Department

3560 Nevada St., Pleasanton, 94566
(925) 454-2362 Fax; (925) 454-2367

391-D1A1 ABOVEGROUND TANK CLOSURE//REMOVAL PLAN

General Information

- Name of Business: Lawrence Livermore National Laboratory (Livermore Site)
Site Address: 7000 East Avenue L-626; Livermore, CA 94551
Tank Owner/Operator Contact Person: Diane Griffin Phone: (925) 423-1547
EPA ID #: CA2890012584
- Property Owner: U. S. Department of Energy / NNSA
Owner Address: 7000 East Avenue
Livermore, CA 94551
- Tank Removal Contractor: LLNL Radioactive and Hazardous Waste Management (RHWM; Scope of Work is Attachment A)
Address: 7000 East Avenue, Livermore CA 94551
Phone: (925) 423-3324 License Type: Transportation and Disposal ID #: CA2890012584
- Required attachments:
 Plot Plan

TANK INFORMATION

- Tanks to be closed:

Tank No.	Tank Size (gallons)	Tank Contents (including both current and former, if different)	Materials of construction	Age of Tank
1	500	DIESEL	STEEL	26
2				
3				
4				
5				
6				

- Total number of aboveground tanks at this facility (prior to this closure): 80
- Length of underground piping being closed under this plan: 30 feet
- Have tanks or pipes leaked in the past, and/or has there been spillage during filling or dispensing activities?
 Yes. Describe: _____
 No
 Unknown

Management of Tanks

Before tanks are pumped out and inerted, all associated piping must be flushed out into the tanks. All accessible associated piping must then be removed. Piping must be disposed of as hazardous waste unless approved alternative method used. Inaccessible piping must be permanently plugged. It is the contractor's responsibility to bring a working combustible gas indicator on site to verify that the tank is inert. Tanks cannot be moved unless the LEL is < 20% and the O₂ is < 8 %. **The meter calibration must be confirmed in the fire inspector's presence.**

- A. Tanks to be managed as NON Hazardous Waste AND not reused:
A supplemental plan must be attached to this plan demonstrating how the requirements of California Code of Regulations Title 22, Chapter 32 Management of Tanks, Sections 67383.1 – 67383.5 will be satisfied.
- B. Tanks to be managed as Hazardous Waste:
Dry ice must be placed in the tank in an amount not less than 22.2 pounds per 1000 gallons of tank capacity. Other methods must be approved on a case by case basis by the Fire Department.
- C. Tanks to be re-used at another location:
Dry ice must be placed in the tank in an amount not less than 22.2 pounds per 1000 gallons of tank capacity. Other methods must be approved on a case by case basis by the Fire Department.

9. Methods to be used for rendering tank(s) inert:

- Cleaning (See attached supplemental information)
 Dry ice (22.2 pounds per 1000 gallons tank volume)
 Other _____

Sample Collection and Analysis

The area around the tank, fill area and dispensing area must be inspected with the Fire Department inspector and a determination made as to whether or not soil sampling will be required.

ADDITIONAL CONTRACTOR/CONSULTANT INFORMATION:

13. Product/Residual Sludge/Rinsate Transporter

Name: Clean Harbors Environmental Services, Inc. EPA ID#: MAD 039322250
Hauler License #: 3500 License Exp. Date: April 30, 2016
Address: 1040 Commercial Street, Suite 109
San Jose, CA 95112

14. Product/Residual Sludge/Rinsate Disposal Site

Name: Clean Harbors of San Jose, LLC EPA ID#: CAD059494310
Address: 1021 Berryessa Road
San Jose, CA 95133

16. Tank and Piping Disposal Site

Name: Clean Harbors Buttonwillow, LLC EPA ID#: CAD980675276
Address: 2500 West Lokern Road
Buttonwillow, CA 93206

16. **Tank & Piping Disposal/Reuse Site**

Name: N/A EPA ID#: _____
Address : _____

17. **Sample Collector (if applicable)**

Name: N/A EPA ID#: _____
Address : _____

18. **Laboratory (if applicable)**

Name: N/A EPA ID#: _____
Address : _____

Questions for the Fire Department can be addressed to Paul Smith (925-454-2339, psmith@lpfire.org), John Rigter (925-454-2333, jrigter@lpfire.org), Isaac Mendel (925-454-2334, imendel@lpfire.org), Danielle Stefani (925-454-2338, dstefani@lpfire.org)

Attachment 1: Supplemental Cleaning Plan

The 500 gallon diesel tank that feeds fuel to the B391 emergency generator is no longer in use. The generator is being replaced, and the new generator has a belly tank. Therefore, this tank system is being closed. The tank system was permanently closed according to Spill Prevention, Controls, and Countermeasures (SPCC) regulations on March 1, 2016. All associated piping was drained and removed in February, 2016, with the exception of approximately 20 feet of underground piping that was deemed inaccessible. The tank sits on a hillside (see Attachment 2), and it was determined that it would be safer to move the tank to a flat paved surface at the bottom of the hill than to clean the tank in place. The tank will be inerted with dry ice prior to mobilization. A rigging plan was completed to ensure the safe movement of the tank. Portable secondary containment will be deployed in the mobilization area and will remain in place during all cleaning and closure activities.

Process and Safety Documentation/References – This work will conform with *NFPA 326, Standard for the Safeguarding of Tanks and containers for Entry, Cleaning, and Repair* and 22CCR §67383.1-67383.5.

LLNL Safety Documentation/References – IWS 15235.05 Liquid Waste Pump-outs, Recirculations, Transfers, and Pressure Washing; RH5120-036 All American Diesel Pressure Washer OJT, r6, February 2013.

Work/Environmental Assumptions – Tank liquid and residues will be removed prior to cleaning. There will be NO TANK ENTRY (NO Confined Space). Petroleum Hydrocarbon exposure is not expected to exceed the permissible exposure limit (PEL).

Work Process:

Establish Work Zone –

- Barricade work area
- Position Equipment
- Verify condition/installation of secondary containment

Move Tank –

- Ensure portable secondary containment in place at cleaning location
- Inert tank with dry ice prior to relocation
- Work in accordance with rigging plan

Tank Cleaning –

- Conduct tailgate safety meeting
- Verify atmospheric condition of the tank
- Pressure washing will be completed using a Self-Contained Hot Water Washer with the following specifications:

All American Hot Pressure Washer Model: PH5035K

GPM 12.0 GPM

Operating Pressure 50 PSI

Operating Temperature: 80 degrees F

- Cleaning solution will be made up of Trisodium phosphate (TSP); 1 cup/10 gallons of water, 8 lbs/100 gallons of water. Tank will be cleaned using a standard three foot gun/wand combination with a variable 3 foot extension for a total of 5 feet. The high-pressure tip is a stainless steel rotating rinsing nozzle with a spray angle of 360 degrees. The rotating head is driven by the flow of the rinsing liquid through multiple round spray orifices.

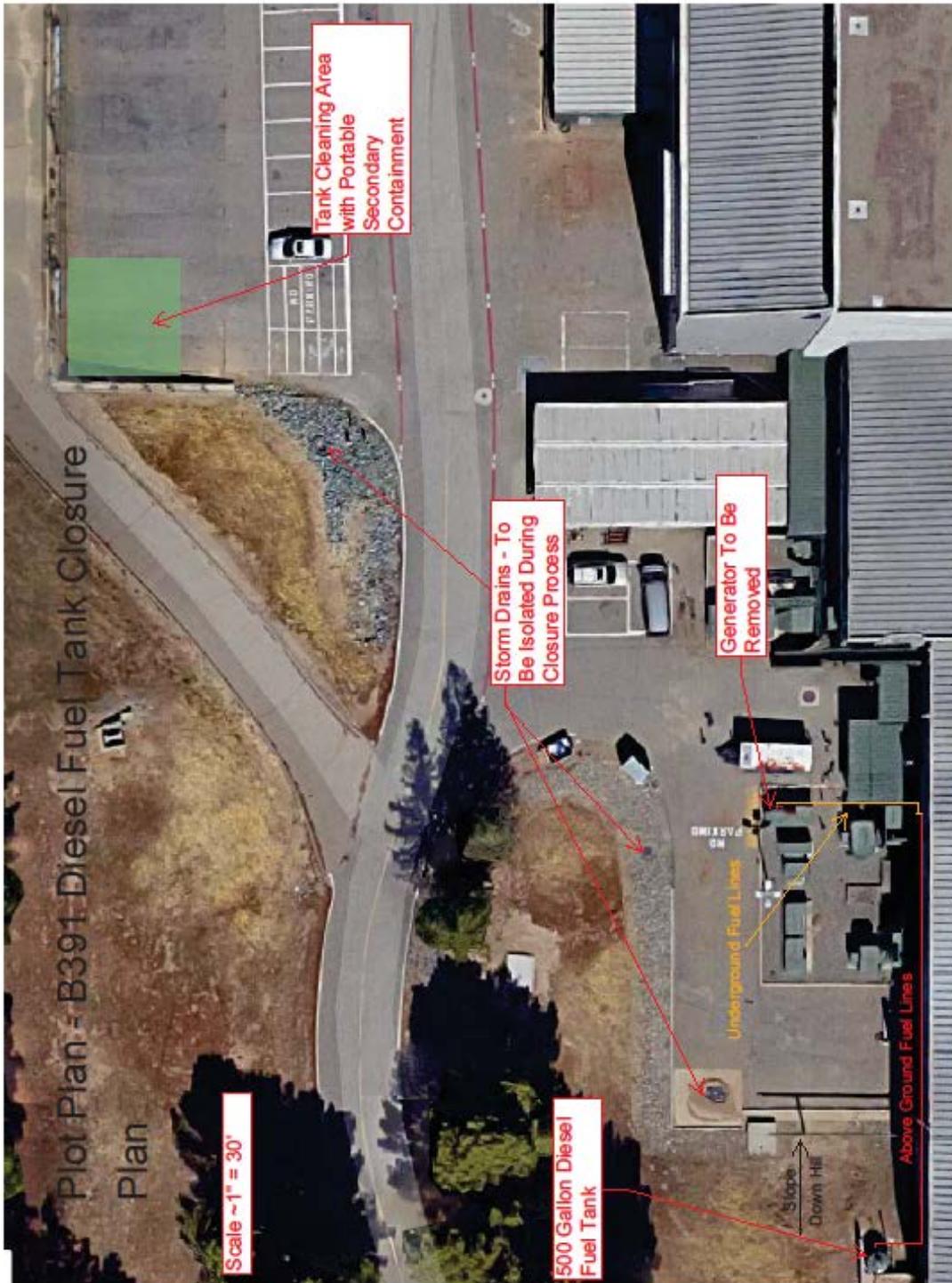
Waste water collection – Waste water will be removed from the tank using a 1000 gallon capacity diesel vacuum tanker. A standard two inch braided High Density Polypropylene (HDPP) hose will be inserted through a 4” opening at the top of the tank. Waste will be managed as California Hazardous through LLNL Waste Management.

Tank Inspection – The tank will be inspected to ensure it is visually free of product, sludge, scale, rinsate, and debris. The inspection will be conducted using cameras, extensions and lights as necessary through existing ports in the tank exterior. The inspection will be conducted by an LLNL Certified Industrial Hygienist and certified by completing a Hazardous Waste Tank Closure Certification.

Waste tracking – Product residual, rinsate, piping, and the tank itself will be disposed of as detailed above. Manifests and other shipping papers will be retained as part of the closure record.

Tank Dispensation – The tank is expected to be sold and re-used after it is certified clean. After cleaning, the tank will be transported to LLNL Donation, Utilization, and Sales (DUS) for re-sale. The tank will be inerted with dry ice prior to transport as a conservative measure. After it is moved to DUS, it will be held for two weeks prior to selling. After the two week period, the lower explosive limit (LEL) will be re-checked one additional time to ensure no product or vapors were released during transport. At this point, the tank will be available for sale.

Attachment 2: Plot Plan



Attachment 3: Project Schedule (Subject to Change)



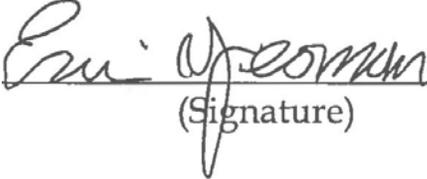
Attachment 4: Operator Statement Contents Certification

CERTIFICATION STATEMENT FOR TANK CONTENTS

I certify under penalty of law, that to the best of my knowledge and belief, the contents of the tank 391-D1A1 contained diesel fuel used to power the emergency generator 391GDE01. No other material was stored in this tank, and the tank exclusively held diesel for its entire use at LLNL.

This certification statement shall be submitted to the Certified Unified Program Agency (Livermore Pleasanton Fire Department) as part of the information presented in the Closure Plan for the tank system.

Eric Yeoman
(Print Name)



(Signature)

3/9/16
(Date)

Attachment 5: Hazardous Waste Tank Closure Certification

UNIFIED PROGRAM CONSOLIDATED FORM HAZARDOUS WASTE HAZARDOUS WASTE TANK CLOSURE CERTIFICATION							
							Page <input type="text"/> of <input type="text"/>
I. FACILITY IDENTIFICATION							
BUSINESS NAME (Same as FACILITY NAME or DBA - Doing Business As) ³				FACILITY ID# <input type="text"/>			
TANK OWNER NAME 740.							
TANK OWNER ADDRESS 741.							
TANK OWNER CITY 742.			STATE 743.		ZIP CODE 744.		
II. TANK CLOSURE INFORMATION							
TANK INTERIOR ATMOSPHERE READINGS	Tank ID # (Attach additional copies of this page for more than three tanks)	Concentration of Flammable Vapor			Concentration of Oxygen		
		Top	Center	Bottom	Top	Center	Bottom
1	745.	746a.	746b.	746c.	747a.	747b.	747c.
2	748.	749a.	749b.	749c.	750a.	750b.	750c.
3	751.	752a.	752b.	752c.	753a.	753b.	753c.
III. CERTIFICATION							
On examination of the tank, I certify the tank is visually free from product, sludge, scale (thin, flaky residual of tank contents), rinseate and debris. I further certify that the information provided herein is true and accurate to the best of my knowledge.							
SIGNATURE OF CERTIFIER				STATUS OR AFFILIATION OF CERTIFYING PERSON 760.			
NAME OF CERTIFIER (Print) 754.				Certifier is a representative of the CUPA, authorized agency, or LIA: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
TITLE OF CERTIFIER 755.				Name of CUPA, authorized agency, or LIA: 761.			
ADDRESS 756.				N/A 762.			
CITY 757.				If certifier is other than CUPA / LIA check appropriate box below:			
PHONE 758.				<input type="checkbox"/> a. Certified Industrial Hygienist (CIH)			
DATE ^{759.} CERTIFICATION TIME				<input type="checkbox"/> b. Certified Safety Professional (CSP)			
				<input type="checkbox"/> c. Certified Marine Chemist (CMC)			
				<input type="checkbox"/> d. Registered Environmental Health Specialist (REHS)			
				<input type="checkbox"/> e. Professional Engineer (PE)			
				<input type="checkbox"/> f. Class II Registered Environmental Assessor			
				<input type="checkbox"/> g. Contractors' State License Board licensed contractor (with hazardous substance removal certification)			
TANK PREVIOUSLY HELD FLAMMABLE OR COMBUSTIBLE MATERIALS 763.							
(If yes, the tank interior atmosphere shall be re-checked with a combustible gas indicator prior to work being conducted on the tank.) <input type="checkbox"/> Yes <input type="checkbox"/> No							
CERTIFIER'S TANK MANAGEMENT INSTRUCTIONS FOR SCRAP DEALER, DISPOSAL FACILITY, ETC. 764.							
A copy of this certificate shall accompany the tank to the recycling/disposal facility and be provided to the agency overseeing tank closure (i.e. CUPA or other authorized local agency), the owner and/or operator of the tank system, and the tank removal contractor.							



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