Spill Prevention, Control and Countermeasure Plan

April 2011

THERMAL TREATMENT REMEDIAL ACTION AT SOLVENTS RECOVERY SERVICES OF NEW ENGLAND (SRSNE) SUPERFUND SITE SOUTHINGTON, CONNECTICUT

Prepared for:

SRSNE Site Group

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1. Introduction (*§112.7 (a)(1) and §112.8(a)*)

This Spill Prevention, Control, and Countermeasure (SPCC) Plan was prepared in accordance with the U.S. Environmental Protection Agency's (USEPA) Oil Pollution Prevention Regulations (40 CFR Part 112) and Chemical Accident Prevention Provisions (40 CFR Part 68), to address the potential for spills from vehicle and equipment fuel tanks, and process equipment holding tanks that will be utilized during the remediation at the Solvents Recovery Services of New England (SRSNE) Site located in Southington, Connecticut through Thermal Conduction Heating (TCH), also called In Situ Thermal Desorption (ISTD).

During the remedy, we anticipate having two caustic supply tanks, both approximately 4,000 gallons of a caustic blend for the winter, consisting of 20% of a 45% potassium hydroxide (KOH) and 80% of a 50% sodium hydroxide (NaOH) on-site. The caustic solution during the warmer seasons will consist of a 25% caustic solution. Since the winter blend is the worse-case scenario, we'll use that from this point forward. We anticipate on having two transformers with a tank capacity of 800 gallons of transformer oil, each. Also there will be up to two 55-gallon drum sized containers for recovered Non-Aqueous Phase Liquid (NAPL), if present. This SPCC Plan was written to address fuel tanks on vehicles, equipment, and chemicals that will be used during construction, operation, and demobilization of the remedy. A description of each of the pieces of equipment, vehicle fuel tank capacity, and chemicals that TerraTherm will use for the ISTD remedy is described below.

During drilling operations, the driller's service truck will typically have a 100-gallon reserve diesel tank mounted on the bed of the vehicle. A crane may be required at several times during the project. The fuel tank on the crane will vary with the size of the crane, but the total fuel capacity should generally be less than 100 gallons contained in one or more saddle tanks. During construction and operations, a portable generator will be used on Site. The generator will be a larger standby emergency generator which will be required to provide standby power supply in the event of a power interruption for the ISTD remedy during operations. The emergency generator is anticipated to be approximately 250 kW capacity. The generator will have an integral fuel tank. It is expected that the tank capacity of the emergency generator will be less than 500 gallons of diesel fuel. An all-terrain forklift will be used during the construction and demobilization phases of the project and it is anticipated that the tank size of this equipment will be approximately 20-30 gallons of diesel fuel. Two transformers will be on site, having the tank capacity of approximately 800 gallons of transformer oil. Two polyethylene tanks with approximately 4,000 gallons of caustic blend will be on-site during operation. The individual capacity of some of these tanks exceeds the petroleum liquid storage limits specified in 40 CFR 112.1(d)(2)(ii), (i.e., 1,320-gallon capacity or greater for all containers, or 55-gallon capacity or greater for any individual container). Therefore, this SPCC plan is being prepared to address any concerns related to fuel and chemical storage at the Site.

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2. Compliance (*§112.7 (a)(2)*)

This SPCC plan complies with all applicable requirements listed in this part, except as provided in §112.6. This SPCC plan deviates from the requirements in paragraph (h) of this section because there will be no facility tank car and/or tank truck loading/unloading rack required on-site. This SPCC plan also deviates from the requirements of paragraph (i) since there will not be any field-constructed aboveground containers, all containers, tanks utilized on site will be constructed by manufactures following applicable federal specifications.

3. Facility Information (*§112.7 (a)(3)*)

3.1.1 Physical Layout (§112.7 (a)(3))

The SRSNE Site is located in the Town of Southington, Connecticut, in Hartford County, approximately 15 miles southwest of the City of Harford. It is located on Lazy Lane, just off Route 10 (Queen Street), and adjacent to the Quinnipiac River. The Site generally consists of the SRSNE Operations Area (4 acres), the Cinanci Property (10 acres), a railroad right-of-way, and those areas where the SRSNE-related plume in groundwater has come to be located, including Southington's Curtiss Street Well Field (the Town Well Field Property). The Town Well Field Property is a 28-acre parcel of undeveloped land containing two municipal drinking water wells (Production Wells No. 4 and No.6). The wells were closed in 1979 when they were found to contain volatile organic compounds (VOCs). The main focus of the facility operations will be located in the Overburden NAPL Areas at the SRSNE Site, as shown in Figure 3.1. The key contaminants for remediation include various metals, VOCs/NAPL, polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs) and organic compounds, including halogenated compounds. Due to the nature of the historical processes at the Site, other contaminants are present including trichloroethene (TCE) and vinyl chloride.

As described in the Remedial Action Work Plan for Pre-ISTR Preparation, the Site is located in an area of flat to rolling terrain with slope gradients averaging from approximately 1 to 8 percent. The immediate Site area and the adjacent upland areas generally slope to the east towards the Quinnipiac River. The typical land uses present in the watersheds that drain to the Site consist mainly of a mix of agricultural and residential development. From the current Natural Resources Conservation Service soil survey, soils in the area are predominantly Cheshire fine sandy loams and Ludlow silty loam with hydrologic soil group ratings of B and C, respectively. Surface runoff from a number of sources including a 36-acre watershed area west of the Site, a ditch along the railroad on the north side of Lazy Lane, the adjacent property on the west side of the Site, and the former Operations Area, is collected in a drainage channel located on the west side of the existing railroad right-of-way east of the former Operations Area (Figure 3.2). The channel drains south to an existing 24-inch steel culvert beneath the railroad to a ditch on the east side of the former railroad area. The ditch then drains to an existing 30-inch concrete culvert that runs below grade eastward to an outlet located approximately 150 feet from the Quinnipiac River.

The main focus of the Pre-ISTR construction is the grading activities in the former Operations Area that presently consists of a total of 2.9 acres with 1.4 acres of asphalt pavement and the remains of several concrete building foundations. The remaining 1.5 acres is mainly composed of woods, brush and vegetated areas that are generally located on the slopes around the perimeter of the Site. Additional construction will occur on the former railroad right-of-way and Cianci property to relocate existing drainage, remove impacted soils and provide the utility services for ISTR. The total area of disturbance for the pre-ISTR construction activities is estimated to be approximately 4.7 acres (Figure 3.3). No additional grading, topography, drainage changes will occur during the ISTR process. An air-entrained concrete cap will be covering the entire ISTR area.

TerraTherm will be working on an area of the Site, known as the Overburden NAPL Area, located in the southeastern portion of the “Site”. TerraTherm’s SPCC Plan applies to its work performing the thermal remediation remedy and is limited to the thermal treatment zone and the surrounding effluent treatment equipment and laydown area as shown in Figure 3.4. Figure 3.4 provides the reader with a general orientation to the site and the position of the equipment in relation to the work area. Attached Table 3.1 identifies and specifies the contents and volume of each tank.

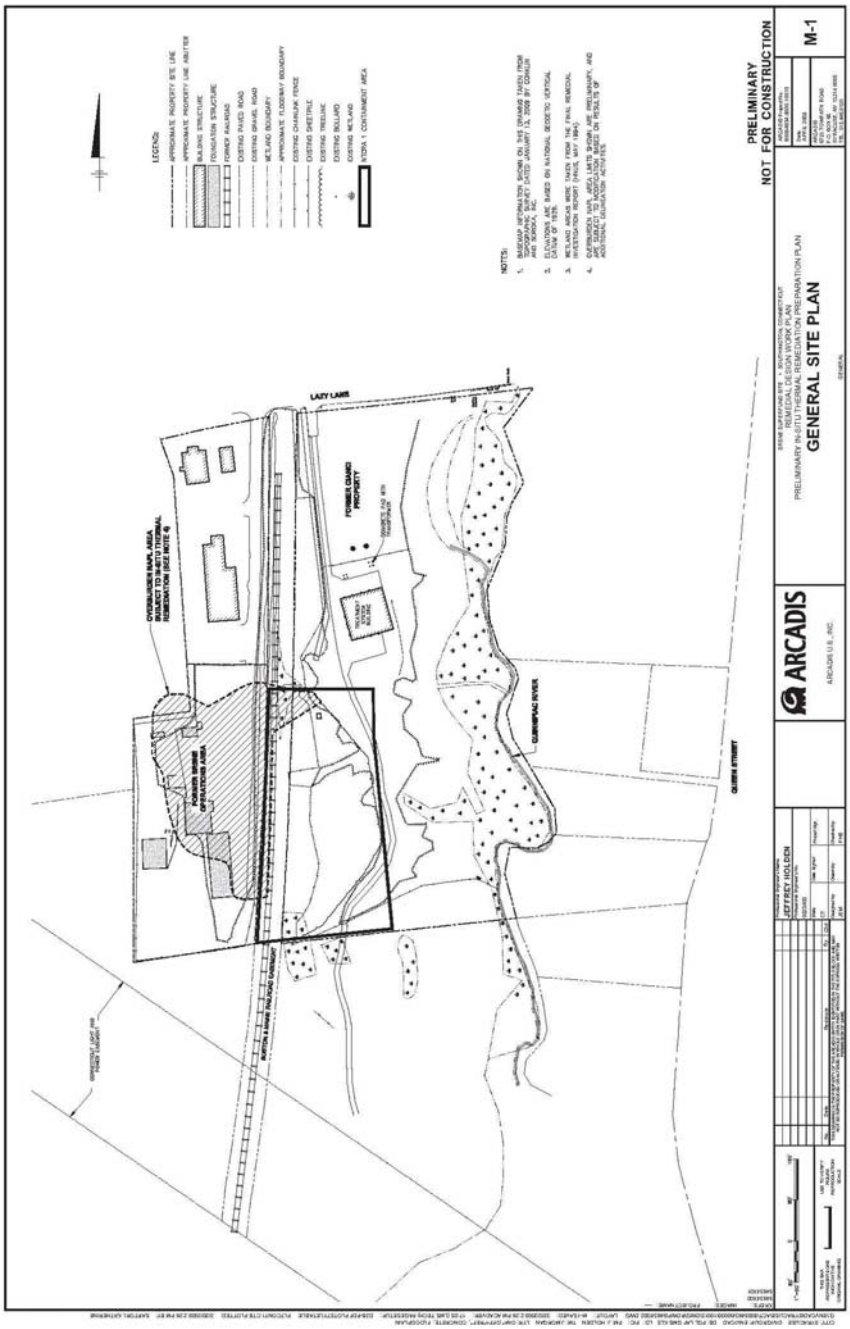

Figure 3.1. SRSNE and Location of Overburden NAPL Area
(Source: ARCADIS, PIPP Figures)

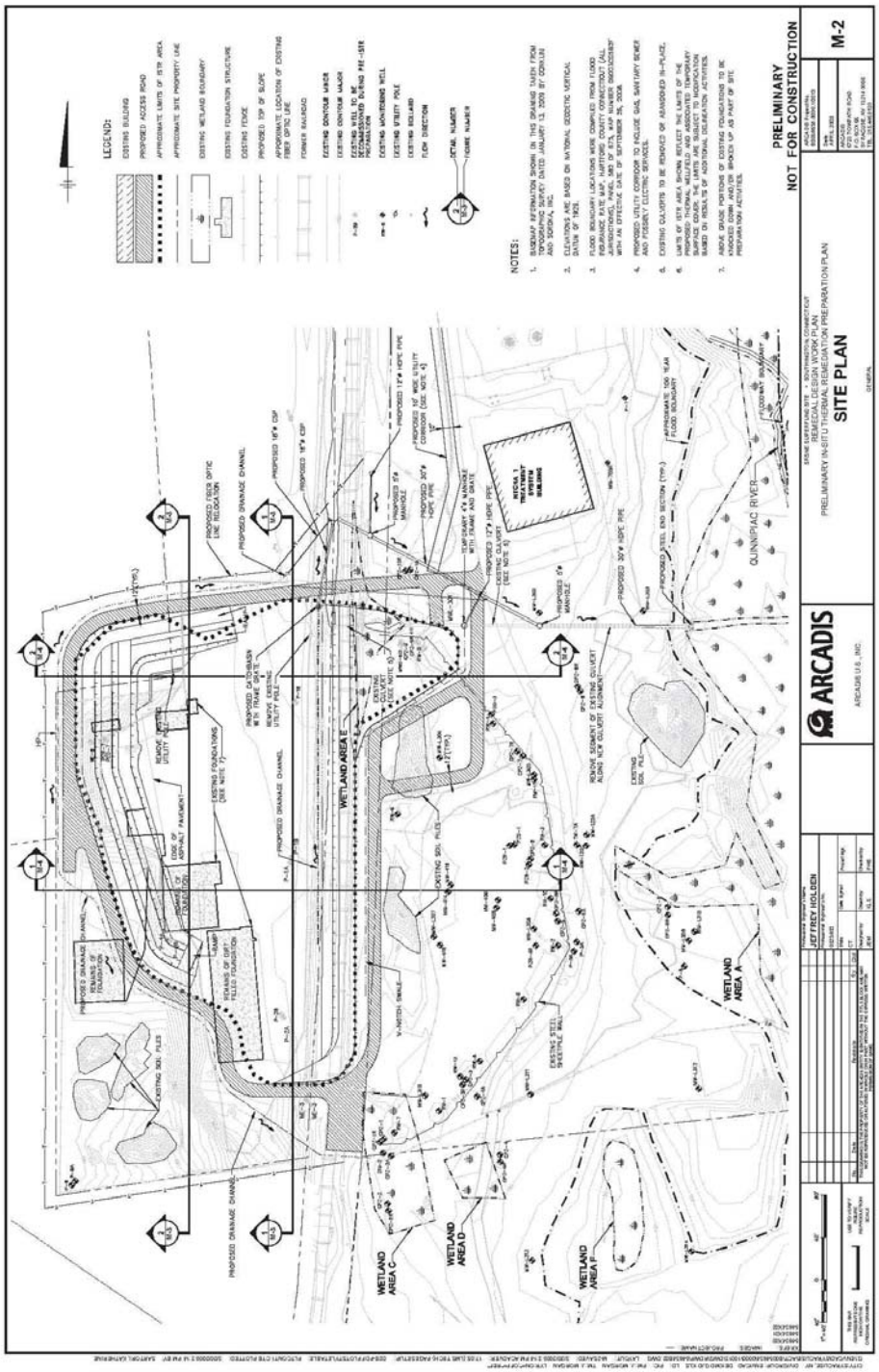

Figure 3.2. Remedial Design Work Plan, Pre-ISTR prep.
(Source: ARCADIS, PIPP Figures)

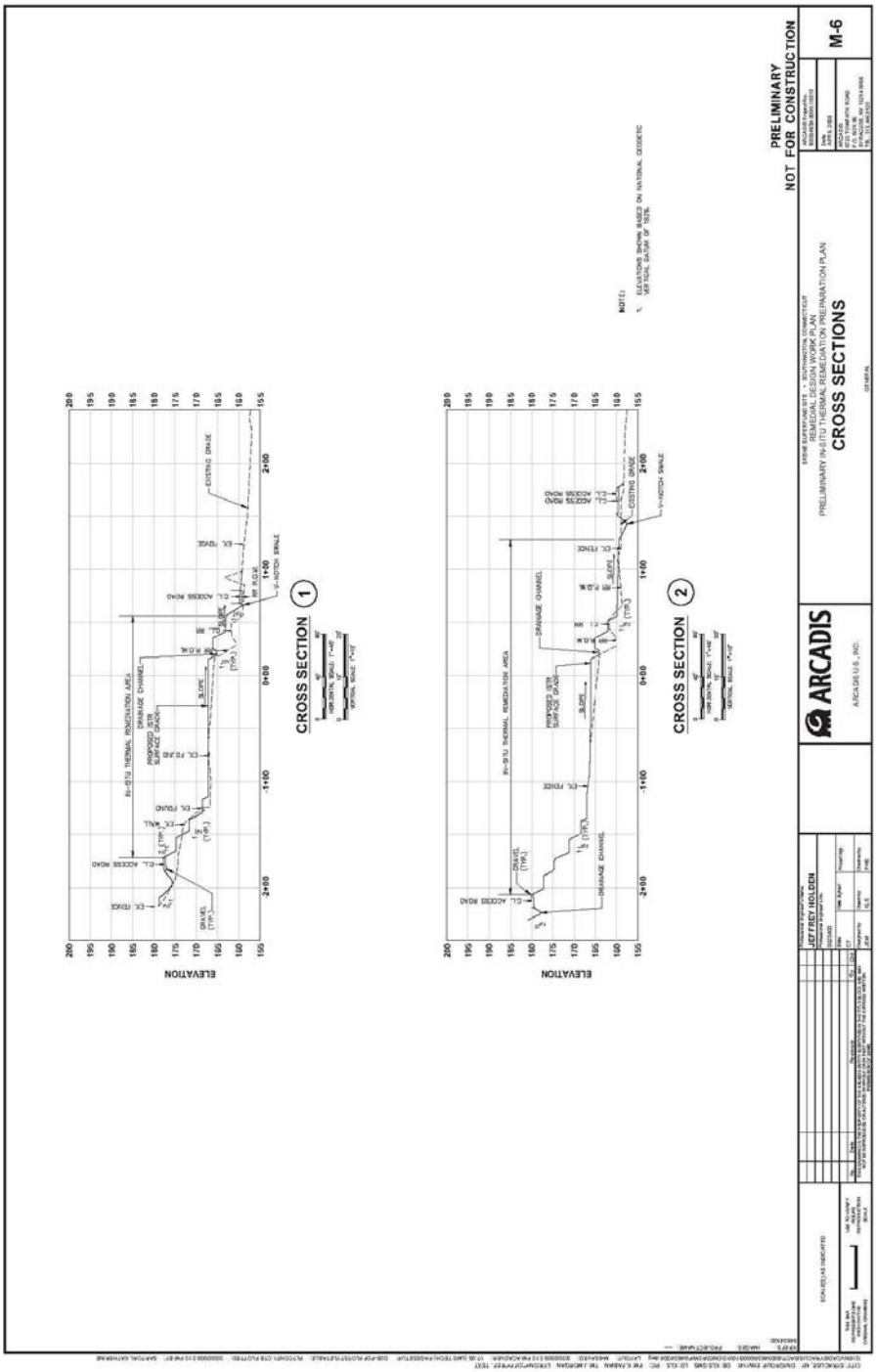

Figure 3.3. Site Cross Section
(Source: ARCADIS, PIPP Figures)

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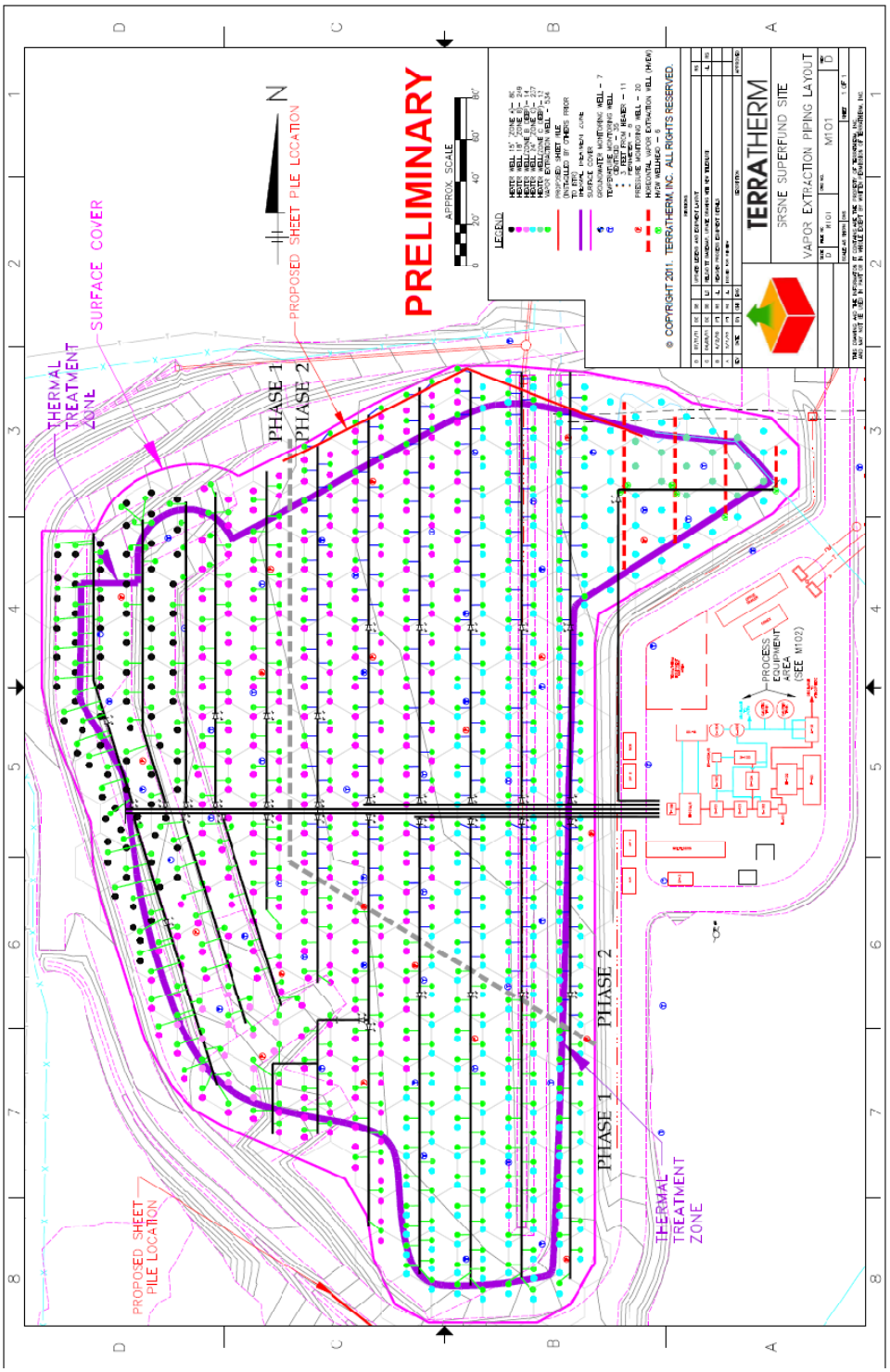

Figure 3.4. SRSNE Superfund Site Piping and Equipment Detail (M101)

3.2 Facility Storage (*§112.7 (a)(3)(i)*)

The following table describes the types of oil product and chemical storage that TerraTherm will use at SRSNE during construction, operation, and demobilization, including all equipment and vehicle fuel tanks at the ISTD thermal treatment zone. Additionally, recovered NAPL from the oil water separator and knock-out tank, both components of the treatment train, are listed below.

Table 3.1. Tank Size and Contents

Type of Equipment	Size of Fuel Tank	Type of Fuel/Chemical
Drill Rig	100 Gallons	Diesel Fuel
Crane	100 Gallons	Diesel Fuel
Emergency Generator	500 Gallons	Diesel Fuel
Caustic Tanks (polyethylene)	(2) 4,000 Gallons	20% of a 45% KOH, 80% of a 50% NaOH Caustic Blend
Transformers	(2) 800 Gallons	Transformer Oil
Recovered NAPL Storage Tank(s)	(1) 55 Gallon	Recovered NAPL

3.3 Discharge Prevention Measures (*§112.7 (a)(3)(ii) to (v); §112.7 (b)(1) and(2); §112.8 (c)(11)*)

Petroleum storage at the treatment area will consist of diesel fuel stored in the emergency generator's on-board fuel tank. Fuel tanks will be labeled as to their contents. The temporary generator has a double walled fuel tank. Minor drips and leaks from the emergency generator engine will be contained within the generator enclosure and will be cleaned up with absorbent pads or other absorbent media, to prevent a release to the environment. With the exception of periodic brief testing of the emergency generator and automatic transfer switch, the emergency generator will only operate if there is an interruption in grid power. If there is no interruption in grid power (or if the cumulative duration of any brief interruptions is less than approximately eight hours), there will be no need to refill the generator's on-board fuel tank. During filling operations, and if it is necessary to refill the generator fuel tank, the filling truck operator will continuously attend the fill hose during the fuel transfer operation. The fill hose will be grounded to prevent static discharge during the fuel transfer operation. A secondary containment will be placed underneath the nozzle connection to contain any driping. This will be the same during fueling of the drill rigs, if fueled on-site.

Mobile and treatment train equipment will be visually inspected prior to, and during use, for hydraulic oil and other leaks. The drum containing the recovered NAPL will also be labeled and inspected. If leaks are observed, the equipment will be shut down and repairs made at once. Due to the complexity of the hydraulic system, the drilling equipment may develop small hydraulic leaks (which will be located and repaired to the extent possible) during the course of work at the Site. Absorbent materials will be available in the form of a spill kit located near the operating equipment. All spills will be reported to the project manager and/or project engineer, regardless of the spill quantity.

Pipe threading equipment used on Site will also be set up and operated on plastic sheeting to prevent cutting oil from directly contacting the ground.

The caustic solution/blend will be stored in a plastic tank within a secondary containment system. Storage tank volume will depend on the estimated peak usage rate and the selected caustic vendor's available delivery schedule. At this time, it is expected that the caustic tank will be a 4,000 gallon tank to allow for up to two days storage volume at the peak calculated caustic demand.

Filling of the caustic tank, loading and unloading of any supplemental fuel tank(s) (if necessary), as well as transferring fuel from a supplemental fuel tank to the emergency generator's on-board fuel tank will be an attended manual operation and will be monitored at all times for leaks or spills. Drip pans and/or sorbent materials will be used at hose connections during loading/unloading and fuel transfer operations.

TerraTherm does not anticipate having bulk storage of gasoline or used oil on Site. Small quantities (five gallons or less) of gasoline may be required at the Site (e.g., fuel for small generator). Gasoline will be brought to the Site when needed in a safety can labeled "Gasoline – Flammable". In addition, small quantities of lubricating oil and/or grease may be periodically required for normal blower, compressor and other mechanical equipment preventative maintenance. If these materials are needed, they will be purchased in small container quantities (typically <5 gallons). If bulk storage is required, flammable liquids and other petroleum, oil, or lubricants will be stored in a flammable storage cabinet when not in use. The cabinet will be labeled as "FLAMMABLE" for storage of petroleum products and "No Smoking" signs will be posted at the flammable storage area. This will be located in an area to be determined if bulk storage of flammable liquids is required.

Spill prevention measures at this Site will include:

1. Spill control equipment, materials, and at least a 20 lb Type ABC fire extinguisher will be located in the immediate vicinity (within 30 ft) of the fuel storage and transfer.
2. Warning signs will be provided in the fuel storage area as a reminder to stop engines, attach grounding and bonding protection, and to ensure no smoking.
3. Manual control of all refilling operations. The personnel performing the transfer will remain in contact with dispensing nozzles during the transfer to monitor the operation and check for any hose, valve, or pump leaks and overflows.
4. Personnel performing the transfer of fuel will be responsible for placing a secondary containment underneath the nozzle connection.
5. Grounding and bonding will be implemented for transfer of liquids with a flash point of less than 140° Fahrenheit (F) or whose flash point is unknown. Since certain diesel blends have a flash point below 140°F, grounding and bonding will be implemented for diesel fuel transfers.
6. Daily inspection of tanks for leaks, structural damage, corrosion, etc. during the remedy while running the temporary generator. Weekly visual inspections for the valves, piping and appurtenances and emergency generator system. A fuel storage area inspection form is included as Attachment B.
7. Operating hydraulic equipment will be inspected hourly for signs of leaks.

A copy of the inspection form will be signed by the Site Supervisor. Inspection forms will be kept on file for a minimum of three years.

The vacuum blowers, air compressor and other mechanical equipment will require normal periodic and preventative maintenance, including changing oil and lubrication. Given the minimal expected running time of the emergency generator, it is not expected that it will be necessary to change the lubricating oil in the generator during the course of this project. Although not anticipated at this time, unscheduled or emergency vehicle maintenance during drilling operations may generate used motor oil or hydraulic oil during the well installation phase of the project. If it becomes necessary to store or manage used oils on Site, TerraTherm will submit an amendment to this SPCC Plan and accumulated oils from the drilling operation will be properly containerized, labeled, and disposed off site in accordance with the amended plan.

3.4 Contact Information ((*§112.7* (a)(3)(vi*)*)

This section provides the name, address, phone, and contact information for the facility location and the owner.

Table 3.1. Contact Information

Facility Owner:	SRSNE Site Group
Facility Operator:	*de maximis, inc.*
Facility Contact:	Mr. Bruce Thompson, Program Manager (860) 298-0541
SRSNE On Site Contact:	John M Hunt, Project Manager Mobile: (617) 957-5961
TerraTherm On Site Contact:	To be Determined; Site Superintendent Kevin Crowder; Project Engineer (978) 833-7161 Phil Theriault; Field Operations Manager (307) 250-4449
TerraTherm Home Office Contact(s):	John LaChance; Program Manager Office: (978) 602-9317 Cell: (978) 855-1418 Robin Swift, Project Manager Office: (978) 602-9329 Cell: (978) 502-3539 Larry Conant, Project Engineer Cell: (978) 868-6014 Willey Leung, Electrical Engineer Cell: (978) 868-6015

National Response:	**1-800-424-8802**
Clean-Up Contractors:	Clean Harbors Environmental Services, Inc. 761 Middle Street, Bristol, CT 06010 860-583-8917 or 800-645-8265
Local Contacts:	Fire 911
	Police 911
	Ambulance 911
	Hospital: Bradley Memorial Hospital 81 Meriden Avenue Southington, CT (860) 276-5000
State Environmental Agency:	860-424-3000
USEPA – Region 1:	888-372-7341
Poison Control:	800-222-1222

4 Discharge Reporting (*§112.7* (a)(4*) and (5)*)

All employees who discover a spill are required to stop, contain, or recover the spill if it is practical, safe and within the individual's ability and training to do so and then notify the Site Safety Officer (SSO). The SSO will ensure the de maximis project manager and/or project engineer are notified promptly of the incident. Report the exact address or location and phone number of the facility; the date and time of the discharge, the type of material discharged; estimates of the total quantity discharged; estimates of the quantity discharged, the source of the discharge; a description of all affected media; the cause of the discharge; any damages or injuries caused by the discharge; actions being used to stop, remove, and mitigate the effects of the discharge; whether an evacuation may be needed; and, the names of individuals and/or organizations who have also been contacted. The de maximis project manager/project engineer will contact the Fire Department. The Fire Department responds to all spills to assess the situation and provide further details to the project manager/project engineer. TerraTherm field staff has basic spill containment training and will have a spill kit and tools on hand to perform initial containment activities until the Fire Department arrives.

4.1 Spill Response and Documentation (*§112.7* (a)*(5))*

Throughout the balance of the Site construction period, TerraTherm's SSO has been designated as the person responsible for spill reporting and inspection coordination. During the operation phase of the thermal treatment project, TerraTherm's Lead Operator will take over this responsibility. All employees, contractors, visitors or guests that identify an environmental, safety or health incident are required to immediately notify the SSO. An incident report will be submitted to de maximis within 24 hours of the spill and an investigation report will be submitted within 48 hours of the conclusion of the clean-up activities.

In the event of a spill, documentation of the nature and extent of the spill as well as the response activities will be reported as an incident in the daily report. Spill documentation will be logged on an Incident report. A copy of the incident report has been provided in Appendix C. At a minimum, the following information will be recorded:

1. Date & time of release;
2. Apparent cause of release;
3. Material released and approximate volume released;
4. Areal (and vertical if applicable) extent of release and sketch/description of impacted media;
5. Approximate volume of liquid product recovered;
6. Approximate quantity of impacted soil and/or water recovered;
7. Any damage or injuries caused by the discharge;
8. Field screening and/or analytical data (if collected);
9. Chains of Custody of analytical samples submitted to laboratory (if collected);
10. Disposition of all recovered material and waste products through the plant waste management system.

If clean up or disposition of the impacted media requires longer than 24 hours, a supplemental report will be submitted within 24 hours of the completion of clean up and disposal activities.

Spilled petroleum products will be contained and collected using earthen berms, plastic sheeting, sorbent booms and pads, granular absorbent (e.g., speedi-dry or similar), and wet/dry vacuum and/or portable pumps as needed. Spill cleanup materials will be stored in a spill kit adjacent to the office trailer. Sufficient quantities of spill response materials will be maintained on-site to allow TerraTherm to respond to potential spills. Petroleum contaminated material and soil will be disposed in accordance with local and applicable state requirements.

4.2 Potential Spill Predictions, Volumes, Rates and Control (*§112.7 (b)*)

There are a number of potential modes of equipment failure (such as tank overflow, rupture, or leakage) described in the table below. None of these events are anticipated to occur. However additional preventative measures (as described elsewhere in this Plan) have been implemented to minimize the possibility that spills may occur. Filling of fuel tanks and fuel transfer will be manual operations. Table 4.2 describes potential spill discharge rates and directions.

As described in Section 3.1, the immediate Site area and the adjacent upland areas generally slope to the east towards the Quinnipiac. Surface runoff from a number of sources including a 36-acre watershed area west of the Site, a ditch along the railroad on the north side of Lazy Lane, the adjacent property on the west side of the Site, and the former Operations Area, is collected in a drainage channel located on the west side of the existing railroad right-of-way east of the former Operations Area. The channel drains south to an existing 24-inch steel culvert beneath the railroad to a ditch on the east side of the former railroad area. The ditch then drains to an existing 30-inch concrete culvert that runs below grade eastward to an outlet located approximately 150 feet from the Quinnipiac River. During pre-ISTR activities, the existing 24-inch and 30-inch diameter reinforced concrete pipe culverts that drain from the west side of the railroad right-of-way to Quinnipiac River will be removed because their orientation passes through the planned overburden ISTR zone and because the current reinforced concrete pipe is susceptible to groundwater infiltration. The culverts will be replaced with 340 linear feet (LF) of 30-inch diameter fusion welded high-density polyethylene (HDPE) PE 3408 pipe that will be placed partly along a new alignment to the north of the present culvert locations.

Table 4.2. Potential Spill Discharge Rates and Directions

Potential Source	Total Quantity of Petroleum, Oil or Lubricants	Direction of Discharge	Predicted Rate of Flow
Spill during fuel transfer (filling forklift or generator fuel tank if necessary)	Function of safety device on bulk tanker	Small spills or leaks will pond locally at the equipment. Larger spills in the equipment area are expected to flow generally toward the thermal treatment surface cover. Based on local surface grading spilled liquids will likely pool around the solvent recovery unit structure. Very large spills could impact the Quinnipiac River, approx. 150 ft to the east.	Pump rate of 85 gpm
Leak or rupture of tank	Function of size of vehicle/ equipment tank		<1 gpm to max of 50 gpm (instantaneous tank rupture)
Gasoline	<5 gal		<0.5 gpm
Oil/Grease	<1 gal		<0.5 gpm
Spill during caustic deliveries or injections	Function of system failure		Delivery pump rate of 50-85 gpm

5 Containment, Diversionary Structures, and Equipment (*§112.7* (c)*(1) and §112.8 (b)(3)*)

A spill kit containing sorbent materials and shovels will be kept on-site so that in the event of a spill they can be used for containment. The top of the wellfield will be covered with an air entrained concrete layer.

Tanks and containers used for the thermal treatment remedy will be labeled as to their contents (e.g., DIESEL). A drip pan and/or sorbent materials will be used during the transfer of diesel fuel from a fuel delivery truck to the generator tank (if required) to mitigate the potential of drips and spills to the ground.

Appropriate containment and/or diversionary structures or equipment to prevent discharged diesel from reaching a navigable watercourse will be provided. One or more of the following preventive systems or its equivalent will be used as a minimum:

- Integral secondary containment (i.e., double walled construction) for bulk tanks;
- Auxiliary secondary containment for bulk tanks (e.g., secondary containment berms);
- Daily monitoring of all connections;
- Monitoring during product transfers;
- Drip pans and/or sorbent materials at fuel transfer locations;
- Spill kit and fire extinguisher in thermal treatment area.

6 Bulk Storage Containers (*§112.7* (d)*; §112.8 (c)(2), (3), (10))*

A secondary containment pad with a surrounding berm approximately six inches high, lined with 30 mil polyethylene, non-woven geotextile fabric, will be constructed around the caustic tanks and the transformers, to contain minor drips or spills and prevent them from flowing towards the Quinnipiac River. Any accumulation of liquids in the containment pad will be removed promptly. Larger leaks or spills may require an active response by TerraTherm and Fire Department personnel utilizing a combination of berms, ditches, dikes and absorbent materials to collect and contain such a spill.

Additional secondary containments will be constructed around the knockout pot and the oil/water separator. Any accumulation of liquids pooling in the secondary containment will be visually inspected. Surface oil and/or sheen will be removed with absorbent materials. The remaining liquid will be manually pumped from the berm. In the event that a sheen is observed on the accumulated fluids, the liquid will be treated through the treatment system prior to discharge to the sewer system, or be disposed of off-site at an appropriately licensed facility. Larger leaks or spills will be handled as described above.

7 Inspection, Testing, and Records (*§112.7* (e)*; §112.8 (c)(1),(6), (8) and (9); §112.8 (d)(3)(4))*

At this time, it is anticipated that TerraTherm will have two 4,000 gallon plastic tanks for caustic onsite during thermal treatment operations. The plastic caustic storage tank will be newly purchased for this Site or rented from the caustic vendor and will have separate secondary containment; capable of retaining at least 110% of the tank's volume. All containers will be constructed by the manufacture with a material that is compatible with the material stored in it, and suitable for the conditions of the storage, such as pressure and temperature. All tanks will be inspected for serviceability or damage prior to being placed in service or filled. Visual inspections will be performed and documented. The inspection documentation will be signed by the SSO and will be kept with the SPCC plan for three years. A copy of the inspection document has been provided in Attachment B.

If additional bulk storage tanks become necessary, the storage tanks will be constructed of sturdy materials, compatible with the stored liquid and will be placed in secondary containment capable of retaining at least 110% capacity of the tank(s).

All aboveground valves, piping, and appurtenances will be regularly inspected, and the inspections will be documented. The inspection will assess the general condition of items. The piping material selected for this treatment system was selected to minimize abrasion, corrosion, and allows for expansion and contraction. There will be no buried piping.

Although 40 CFR 112.8(c)6 requires additional testing beyond visual inspection for leaks in tanks, the short-term duration of this project does not allow for a schedule of routine testing to be implemented.

As per 40 CFR 112.8(c)8 and 9 requirements, each tank will be equipped with high liquid level alarms with audible or visual signals at a constantly attended operation or surveillance station and a high liquid level pump cutoff device set to stop flow at a predetermined container content level. In addition, the oil/water separator and the DNAPL tank will have level controls and high level alarms. All the level sensing devices will be checked daily, as seen on the check list in Attachment A. In addition, the effluent treatment facilities will be observed frequently enough to detect possible system upsets that could cause a discharge, as listed in Attachment B.

8 Personnel, Training, and Discharge Prevention Procedures (*§112.7* (f)*)*

8.1 Training (*§112.7* (f)(1)*)*

The Site operating personnel will be trained in the requirements and procedures of this Plan to respond effectively to emergencies by familiarizing themselves with site-specific emergency procedures, emergency equipment, and emergency communication systems. TerraTherm's operations personnel who may handle, sample, or contact fuel and/or hazardous materials are familiar with and have undergone basic, on-the-job spill control training.

8.2 Personnel (*§112.7* (f)(2)*)*

Refer to section 3.4.

8.3 Briefings (*§112.7* (f)(3)*)*

TerraTherm personnel will receive specific training on this SPCC Plan prior to the start of operations, and again within one year, if project activities continue. Site specific safety training, which includes Spill Awareness, will be conducted prior to the start of operations. Pollution controls, standard operating procedures and spill prevention and control procedures will be reviewed during the site-specific training session. A copy of the SPCC plan will also be present onsite at all times. In addition, daily safety meetings will be conducted, which will cover in detail the daily activities and what hazards are associated with them; spill prevention and control procedures will be reviewed during these meetings.

9 Security (*§112.7* (g) and *§112.8* (d)(5))

Access to the SRSNE is limited to authorized visitors, and follows a standard set of procedures. The entire perimeter of the work area is secured with a chain link fence. A 24-hour surveillance system, ample lighting throughout the site will deter potential vandalism and quickly identify potential leaks. Local police departments are also available, if their assistance is needed.

Posted at each of the entrances to the project site are signs with the legend:
"DANGER—UNAUTHORIZED PERSONNEL KEEP OUT."

The legends will be written in English and be legible from a distance of at least 25 feet. Warning signs pertaining to entry by unauthorized personnel will also be also posted along the project site perimeter fence.

10 Applicable State Standards (*§112.7* (j))

This SPCC plan is designed only to meet the requirements of 40 CFR 112. The State of Connecticut does not have additional requirements, therefore this plan was written in accordance with federal regulations. It is not intended that all other potential regulatory requirements are addressed by this Plan. Other federal requirements may be applicable to storage of fuel and lubricants on project Sites. Other requirements may include, but are not limited to, water discharge requirements under the Clean Water Act, Chemical Inventory Reporting under SARA, etc. In addition, state and local government may impose additional requirements for these activities

11. Qualified Oil-filled Operational Equipment (*§112.7* (k))

Oil-filled operational equipment means equipment that includes an oil storage container (or multiple containers) in which the oil is present solely to support the function of the apparatus or the device. Oil-filled operational equipment is not considered a bulk storage container, and does not include oil-filled manufacturing equipment (flow-through process). Examples of oil-filled operational equipment include, but are not limited to, hydraulic systems, lubricating systems (*e.g.* , those for pumps, compressors and other rotating equipment, including pump jack lubrication systems), gear boxes, machining coolant systems, heat transfer systems, transformers, circuit breakers, electrical switches, and other systems containing oil solely to enable the operation of the device. As mentioned in Section 5, personnel will conduct and provide:

- Daily monitoring of all connections;
- Monitoring during product transfers;
- Drip pans and/or sorbent materials at fuel transfer locations;
- Spill kit and fire extinguisher in thermal treatment area.

12 Meet the general requirements for §112.7 (*§112.8* (a))

This SPCC Plan was prepared in accordance with the U.S. Environmental Protection Agency's (USEPA) Oil Pollution Prevention Regulations (40 CFR Part 112) and Chemical Accident Prevention Provisions (40 CFR Part 68), to address the potential for spills from vehicle and equipment fuel tanks, and process equipment holding tanks that will be utilized during the remediation at the SRSNE Site located in Southington.

13 SPCC Plan Amendments

This SPCC Plan will be amended if or when one of the following occurs:

- The facility changes in its design, construction, operation, maintenance or other circumstances in such a way that increases the potential for an oil spill.

- The plan fails in an emergency.
- The list of Site and local emergency numbers changes.
- The list of emergency equipment substantially changes.
- The proposed fuel storage equipment varies significantly from what is proposed in this Plan.

Regulations require that at a minimum, at least once every five years, there be a review, evaluation, and recertification of all technical amendments by a Registered Professional Engineer (PE). Changes will be implemented no later than six months after any Plan amendments. This is not necessary for this plan as the expected duration of fuel storage at the SRSNE thermal treatment project is less than one year.

Management Approval

The foregoing plan has full management approval, and will be implemented as described herein.

Manager's Printed name: _____

Manager's Signature: _____

Title: _____

Date: _____

Attachment A: Checklist and Log Forms

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Safety Systems Checklist

Item Description	Problems/ Corrective Actions	Completed By	Date
Site-Specific Training Completed			
HASP Available in Office			
Health and Safety Monitoring Complete			
Appropriate PPE Stocked			
Decon Station In Place and Decon Materials Provided			
Treatment Area Clear & Organized			
Warning Signs Posted (electrical, flammable, exclusion zone, etc.)			
Fire Extinguishers Installed & Inspection Tags Current			
Electrical Cables and Wiring Covered/Protected @ Traffic Areas			
Evacuation Routes Posted			
Emergency Shutdown Procedures Posted			
Emergency Contacts Posted			
First Aid & Spill Kits in Place			

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Vapor Collection System Checklist

Item Description	Problems/ Corrective Actions	Completed By	Date
Process Drains Closed			
Connecting Pipes Inspected			
PLC and PID Controllers Ready. Verify program version and Confirm that it is the latest.			
Check motor rotation			
Check Wiring and Polarity to Thermocouples			
Leak Check Vapor and Condensate Piping			
Install Flow Meters, Transmitters & Verify Function			
Wire Process System Instruments to PLC and PID Controllers – Confirm Communication			
Check Blower Control Function from VFD			
Confirm Valves in Pre-Start Position; Fresh Air Inlet Valves Open – Complete Valve Checklist			
Confirm Well Field Manifold Block Valve Fails Closed			
Complete Packaged Equipment Vendor's Pre-Start Checklists			

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Process System Checklist

Item Description	Problems/ Corrective Actions	Completed By	Date
Check Equipment Power & Control Connections			
Media Beds Filled & Covers Secured			
Verify LNAPL/DNAPL Separator is filled and pumps primed; Verify Liquid media beds filled and air bled out			
Verify Air Stripper sump & tray seal pots filled with water & pumps primed			
Verify scrubber media installed, sump filled with water & pumps primed			
Process Drains Closed			
Connecting Pipes Inspected			
Check Motor Rotation			
Confirm Valves in Pre-Start Position –Complete Valve Checklist			
Prime caustic injection pumps & verify caustic feed			

Control, Alarm, and Interlock Checklist

Item Description	Problems/ Corrective Actions	Completed By	Date
TIT-101 TAH Vapor Cooler			
LSHH-101 1st separator level			
FQIT-101 1st separator flow			
LSL-103 caustic supply level			
TIT-102 TAH			
LSHH-201-LAH 2nd separator level			
FIT-201 2nd separator flow			
TSH-201 Duct Heater			
TIC-203 Duct Heater outlet			
FQIT-201 2nd Separator condensate			
PSL-301 Oxidizer Fuel Gas			
ZSL-301 Oxidizer Fuel Shutoff			
PSH-301 Oxidizer Fuel Gas			
EAL-301 Oxidizer Burner			
PIC-301 Oxidizer Pressure			
PSL-302 Combustion Blower Discharge			
TIC-301 TAH Oxidizer discharge			
TIC-302 TAH Oxidizer discharge			

Item Description	Problems/ Corrective Actions	Completed By	Date
PS-401 PSAL Quench			
FIT-402 FAL Quench			
TIC-402 TAH Quench			
LSL-402 Reserve Water			
LIC-401 LL-L-H-HH Sump			
TIT-401 TAH Recirc.			
FS-401 H Recirc.			
GIC-401 L-H Sump			
FQIT-401 Blowdown			
FIC-401 L-H Blowdown			
LSL-401 LAL LS-403 LAL Caustic			
TIT-501 –LL-L-H Cooling Tower			
FAL-501 Cooling Tower			
FIQ-501 Gas			
FQIT-503 Water			
PSL-501 L Compressor			
PSH-501 Compressor			
TIT-601 H OWS inlet			
LSLL-601/LSL-601/LSH601/LSHH601 3rd Separator			
LSLL-602/LSL-602/LSH602/LSHH602 AS			

Item Description	Problems/ Corrective Actions	Completed By	Date
TIT-602 H AS Discharge			
FIT-602 AS Discharge			
LSLL-603/LSL-603/LSH703/LSHH603 OWS Discharge			
LSH-604 LNAPL			
LSH-605 DNAPL			
FQIT-601 OWS Discharge			
TIT-601 Discharge			

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Monthly Maintenance Checklist Page 1 of 2

Item Description	Problems/ Corrective Actions	Completed By	Date
On rotating equipment, where provided, clean grease fittings and lubricate bearings and fittings. Replace dust caps or covers to prevent water or dust contamination of lubricant.			
On rotating equipment, where provided, inspect oil reservoirs and fill to appropriate level.			
Inspect pump seals for leaks.			
Drain blowers and fans where casing drains are provided.			
Inspect valve stems and bonnets for leaks. Tighten or adjust where appropriate.			
Isolate, drain, open, clean, and replace strainer elements.			
Inspect and install or replace plugs, caps, or blinds on terminal valves.			
Inspect wellfield manifold piping for leaks. Tighten/fix if needed.			
Inspect instruments to ensure all plugs, caps, covers, or doors are firmly in place or closed to prevent water or dust intrusion.			
Inspect and test eye wash station, fire extinguishers, emergency alarms, and other safety or emergency equipment, where appropriate.			

Monthly Maintenance Checklist Page 2 of 2

Item Description	Problems/ Corrective Actions	Completed By	Date
Put standby main blower into operation in place of currently operating blower. Check and grease bearings prior to starting blower.			
Work action on valves.			
Follow Packaged Equipment Vendor Maintenance Requirements.			
Open and Visually Inspect LNAPL/DNAPL Separator			

Item Description	Problems/ Corrective Actions	Completed By	Date
Put standby main blower into operation in place of currently operating blower. Check and grease bearings prior to starting blower.			
Work action on valves.			
Follow Packaged Equipment Vendor Maintenance Requirements.			
Open and Visually Inspect LNAPL/DNAPL Separator			

Attachment B: Fuel Storage Area Inspection Form

Fuel Storage Area Inspection Form		
Project Site Name: **SRSNE**		
Fuel Storage Area Location:		
Name of Inspector/Date:		
Requirement	Assessment	Action Complete?
1. Spill Prevention, Control, and Countermeasure (SPCC) Plan developed and retained within the project/site boundaries.		☐ Yes ☐ No ☐ None Required
2. Tanks show no sign of damage or leakage and are labeled.		☐ Yes ☐ No ☐ None Required
3. Spill control materials are located on the project site.		☐ Yes ☐ No ☐ None Required
4. Piping, connectors/valves are tight (e.g., no observed leaks).		☐ Yes ☐ No ☐ None Required
5. Project personnel are in continuous attendance during loading/unloading.		☐ Yes ☐ No ☐ None Required
6. Tanks are properly bonded and grounded during loading/unloading.		☐ Yes ☐ No ☐ None Required
7. Containers used to store oil-soaked materials are closed and in good condition (e.g., no rusting, leaking).		☐ Yes ☐ No ☐ None Required
8. Containers are labeled with date and content.		☐ Yes ☐ No ☐ None Required
9. Fire extinguishers are located near the storage area.		☐ Yes ☐ No ☐ None Required
10. Storage areas are inspected weekly.		☐ Yes ☐ No ☐ None Required
11. No visual staining outside of storage area.		☐ Yes ☐ No ☐ None Required
12. Signs are posted (e.g., placards on tanks, no smoking signs).		☐ Yes ☐ No ☐ None Required

Site Supervisor _____ Date _____

Attachment C: Incident Report Form

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Incident Report # IR-_____

TerraTherm Incident Report Form

Background

Date of Incident: _____ **Time of Incident:** _____ AM / PM

Type of Incident (Check One): ☐ Near Miss ☐ First Aid ☐ Medical Treatment ☐ Property Damage ☐ Accident ☐ Other

If Hospitalized, Name of Institution: _____ **Transported By:** _____

If transported by ambulance, list company name; if transported by individual, list individual's name.

Name of Person Injured: _____ **Injured Part of Body:** _____

Type of Injury (Check One):

☐ Strain/Sprain ☐ Bruising ☐ Burn/Scald ☐ Foreign Body
☐ Fracture ☐ Scratch/Abrasion ☐ Dislocation ☐ Chemical Reaction
☐ Laceration/Cut ☐ Amputation ☐ Internal ☐ Other (Specify): _____

The Incident

Description

Describe the events leading up to the incident. Identify any equipment/materials involved.

Causes

Identify any possible causes of the incident (e.g., malfunction of equipment, misuse of materials).

Prevention

What action has or will be taken to prevent a recurrence?

Investigation

Report Completed By: _____ **Date:** _____
Print Name Signature

Witness(es) to Accident:

_____ **Date:** _____
Print Name Signature

_____ **Date:** _____
Print Name Signature

ALL INCIDENTS MUST BE REPORTED IMMEDIATELY TO COMPANY SAFETY MANAGER
THIS FORM MUST BE FORWARDED TO FITCHBURG OFFICE NO LATER THAN 24 HOURS AFTER THE INCIDENT