Chapter 6 Facility Diagram and Description

6.1 Introduction

Section 112.7(a)(3) of the SPCC rule requires that facility owners/operators include in the SPCC Plan a description of the facility, including a facility diagram that marks the location and contents of each fixed oil storage container and the storage area where mobile or portable containers are located. The facility diagram must also include all transfer stations and connecting pipes. The facility diagram is important because it is used for effective prevention, planning, management (for example, inspections), and response considerations. The diagram also will help the facility and emergency response personnel to plan for emergencies.

The rule also requires a description of the facility's oil storage containers, including their content and capacity. Providing information on a container-specific basis helps the owner or operator of the facility to prioritize inspections and maintenance of containers based on characteristics such as age, capacity, or location and helps to formulate contingency planning, if such planning is necessary. This information also helps inspectors to prioritize inspections of higher-risk containers at a facility and verify the facility capacity calculation. This chapter explains these requirements, provides guidelines on the necessary level of detail, discusses the discretion of the certifying PE or owner/operator in preparing the diagram, and includes several facility diagrams as examples.

Additionally, the SPCC Plan must also address discharge prevention measures; discharge or drainage controls; countermeasures for discharge discovery, response, and cleanup; methods of disposal of recovered materials; and specific contact information (see Section 112.7(a)(3) for more information on these requirements).

This chapter is organized as follows:

- ***Section 6.2*** outlines requirements for providing a general facility description that includes the physical layout, discharge prevention measures, drainage controls and countermeasures.
- ***Section 6.3*** describes the type of information that is necessary to enable a person to report a discharge to navigable waters or adjoining shorelines.
- ***Section 6.4*** describes the requirements for the facility diagram and specific types of containers.
- ***Section 6.5*** provides several examples of facility diagrams.
- ***Section 6.6*** describes the EPA inspector's role in reviewing facility diagrams.

6.2 General Facility Description

Section 112.7(a)(3) requires that the Plan include a description of the physical layout of the facility. This description may include information on the facility's location, type, size, geographic and topographic characteristics, and proximity to navigable waters, as well as other relevant information. This general facility description is supplemented with a more specific description of containers subject to the SPCC rule to complement what is illustrated on the facility diagram. This description must be included in the SPCC Plan regardless of whether similar information is available in the FRP or other facility plans. If the SPCC Plan does not follow the sequence of the rule, then a cross-reference is required.

6.2.1 Oil Types and Container Capacities

Section 112.7(a)(3)(i) requires that the Plan include the type of oil in each fixed container and its storage capacity. For mobile or portable containers, EPA provides flexibility in allowing the Plan preparer to either provide the type of oil and storage capacity for each container, or provide an estimate of the potential number of mobile or portable containers, the types of oil, and anticipated storage capacities.

The Plan preparer may identify an area on the facility diagram (e.g., a drum storage area) and include a separate description of the total number of containers, capacities, and contents in the Plan or reference facility inventories that can be updated by facility personnel. The Plan should include an estimate of the number of mobile or portable containers expected to be stored in an area and the capacity of each container. This estimate can be used to determine the applicability of the rule thresholds and provide a general description of the mobile/portable containers in the Plan (72 FR 58389, October 15, 2007). This estimate may be represented as a capacity range. For example, a facility with a 55-gallon drum inventory that fluctuates between 10 and 100 drums would represent a capacity range of 550 gallons to 5,500 gallons in the SPCC Plan.

6.2.2 Discharge Prevention Measures

The facility owner/operator must include in the SPCC Plan a discussion of discharge prevention measures including procedures for routine handling of products (loading, unloading, and facility transfers,

§112.7(a)(3)

... You must also address in your Plan:
(i) The type of oil in each fixed container and its storage capacity. For mobile or portable containers, either provide the type of oil and storage capacity for each container or provide an estimate of the potential number of mobile or portable containers, the types of oil, and anticipated storage capacities;

(ii) Discharge prevention measures including procedures for routine handling of products (loading, unloading, and facility transfers, etc.);

(iii) Discharge or drainage controls such as secondary containment around containers and other structures, equipment, and procedures for the control of a discharge;

(iv) Countermeasures for discharge discovery, response, and cleanup (both the facility's capability and those that might be required of a contractor);

(v) Methods of disposal of recovered materials in accordance with applicable legal requirements; and

(vi) Contact list and phone numbers for the facility response coordinator, National Response Center, cleanup contractors with whom you have an agreement for response, and all appropriate Federal, State, and local agencies who must be contacted in case of a discharge as described in §112.1(b).

Note: The above text is an excerpt of the SPCC rule. Refer to 40 CFR part 112 for the full text of the rule.

etc.). Including this information in the SPCC Plan will help to train new facility personnel on the discharge prevention measures to be employed at the facility and be useful for refresher training during annual discharge prevention briefings.

6.2.3 Drainage Controls

The Plan must also include a discussion of discharge or drainage controls such as secondary containment around containers and other structures, equipment, and procedures for the control of a discharge.

The general secondary containment provision of §112.7(c) requires that secondary containment and/or diversionary structures be appropriate to prevent a discharge to navigable waters or adjoining shorelines. The owner/operator should discuss the method, design, and capacity for secondary containment that he chooses to address the typical failure mode, and the most likely quantity of oil that would be discharged. The entire containment system, including walls and floor, must be capable of containing oil and must be constructed so that any discharge from a primary containment system, such as a tank, will not escape the containment system before cleanup occurs. The discussion should also include whether the secondary containment is either active or passive in design. If an active containment measure is employed, then the discussion should describe the equipment, procedures and personnel that will be necessary to effectively employ the active containment measure to prevent a discharge to navigable waters or adjoining shorelines.

Loading and unloading racks should have containment that flows to catchment basins or a treatment facility designed to handle discharges. Otherwise, the facility can include a quick drainage system for tank car or tank truck loading/unloading racks. Any containment system to address the loading/unloading rack must hold at least the maximum capacity of any single compartment of a tank car or tank truck loaded or unloaded at the facility.

Finally, the description for bulk storage containers should address whether the secondary containment is sized to contain the capacity of the largest single container within the containment system with sufficient freeboard for precipitation.

6.2.4 Countermeasures

Include in the SPCC Plan a discussion of the facility's countermeasures for discharge discovery, response, and cleanup (both the facility's capability and those that might be required of a contractor). These countermeasures may include procedures for responding to a discharge that is discovered before it reaches navigable waters or adjoining shorelines (active containment measures used as part of a secondary containment strategy) as well as additional procedures for responding after a discharge reaches navigable waters or adjoining shorelines (contingency planning).

6.2.5 Disposal Methods

The SPCC rule requires that the owner/operator of the facility discuss the methods to be used to dispose of recovered materials in the event of a discharge. By describing those methods in the Plan, the owner/operator

demonstrates that the facility has done the appropriate planning to be able to dispose of recovered materials, should a discharge occur.

Proper disposal of recovered materials helps prevent a discharge as described in §112.1(b) by ensuring that the materials are managed in an environmentally sound manner. Proper disposal also assists response efforts. If the owner or operator of a facility lacks adequate resources to dispose of recovered oil and oil-contaminated material during a response, it limits how much and how quickly oil and oil-contaminated material is recovered, thereby increasing the risk and damage to the environment.

6.2.6 Contact List

The SPCC Plan must include a contact list that includes phone numbers for the facility response coordinator, National Response Center, cleanup contractors with whom the owner/operator has an agreement for response, and all appropriate Federal, State, Tribal and local agencies who must be contacted in case of a discharge to navigable waters or adjoining shorelines.

A contact list is necessary for both preparedness and response purposes because it enables the facility personnel to begin mobilizing resources immediately upon the discovery of a discharge to navigable waters or adjoining shorelines. The information included in the contact list should be reviewed periodically to ensure that the information is current.

6.3 Notification Requirements

The SPCC rule identifies the type of information to include in the SPCC Plan that is necessary to enable a person to report a discharge to navigable waters or adjoining shorelines. The owner/operator of the facility should report discharges to the National Response Center (NRC) at 1-800-424-8802 or for those without "800" access 1-202-267-2675. The NRC is the federal government's centralized reporting center, which is staffed 24 hours per day by U.S. Coast Guard personnel (for more information see http://www.nrc.uscg.mil/). If reporting directly to NRC is not practicable, reports also can be made to the EPA regional office or the U.S. Coast Guard Marine Safety Office (MSO) in the area where the incident occurred.

The following information will be requested by the NRC:

- The exact address or location and phone number of the facility;

§112.7(a)(4)

Unless you have submitted a response plan under §112.20, provide information and procedures in your Plan to enable a person reporting a discharge as described in §112.1(b) to relate information on 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 as described in §112.1(b); 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.

Note: The above text is an excerpt of the SPCC rule. Refer to 40 CFR part 112 for the full text of the rule.

- The date and time of the discharge, the type of material discharged;
- Estimates of the total quantity discharged;
- Estimates of the quantity discharged to navigable waters or adjoining shorelines;
- 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 same requirements for spill reporting are part of the FRP rule under 40 CFR 112.20; therefore, if a facility has prepared and submitted an FRP to the EPA Regional Administrator, then the SPCC Plan does not need to include a section on notifications.

6.4 Preparing a Facility Diagram

6.4.1 Purpose

The facility diagram is an important component of an SPCC Plan. It is used for prevention, planning, inspections, management, and response considerations. In most cases, the owner or operator of the facility will work with the PE certifying the SPCC Plan to identify the information to include on the facility diagram. The rule requires that the diagram identify the location and contents of each fixed oil storage container and location of mobile and portable container storage areas (§112.7(a)(3)). Diagrams may help responders avoid certain hazards by informing them of the location and content of containers and of the response equipment. The facility diagram may also assist responders in determining the flow pathway of discharged oil and to take more effective measures to control the flow of oil to potentially avert damage to sensitive environmental areas; protect drinking

§112.7(a)(3)

Describe in your Plan the physical layout of the facility and include a facility diagram, which must mark the location and contents of each fixed oil storage container and the storage area where mobile and portable containers are located. The facility diagram must identify the location of and mark as "exempt" underground tanks that are otherwise exempted from the requirements of this part under §112.1(d)(4). The facility diagram must also include all transfer stations and connecting pipes, including intra-facility gathering lines that are otherwise exempted from the requirements of this part under §112.1(d)(11).

Note: The above text is an excerpt of the SPCC rule. Refer to 40 CFR part 112 for the full text of the rule.

water sources; and prevent discharges to other conduits, to a treatment facility, or to navigable waters or adjoining shorelines. Federal and state facility inspectors and facility personnel need to be aware of the location of all containers, piping, and transfer areas subject to the SPCC rule. The diagram may also be used to visually address other rule requirements such as discharge/drainage controls and the flow path of a discharge (§112.7(a)(3)(iii) and 112.7(b), respectively). Additionally, the diagram may be attached to a facility inspection checklist to identify areas, containers, or equipment subject to inspection.

6.4.2 Tier I Qualified Facility Exclusion

In 2008, EPA promulgated streamlined requirements for that exclude the requirement for a facility diagram. This subset of qualified facilities (i.e., those with no individual container greater than 5,000 U.S. gallons in capacity) is eligible to complete an SPCC Plan template that follows the format outlined in Appendix G of the SPCC rule. EPA determined that a facility diagram is not necessary because this type of facility is typically small and generally simple in configuration. A facility diagram is not needed to understand the facility layout and locate areas of potential discharge at such facilities.

The facility diagram exclusion applies only for Tier I qualified facilities. The owner or operator of a Tier II qualified facility is required to develop and certify an SPCC Plan that complies with all of the applicable requirements of section §112.7 and subparts B and C of the rule. For more information on qualified facilities see the discussion in *Chapter 1: Introduction, Sections 1.3.3 and 1.3.4*. Additional guidance is also available for qualified facility owners/operators at http://www.epa.gov/oem/content/spcc/spcc_qf.htm

6.4.3 Requirements for a Facility Diagram

The facility diagram is one of the general requirements for an SPCC Plan. Facility diagrams provided as part of an SPCC Plan illustrate a variety of information. The following items are required by §112.7(a)(3):

- Aboveground storage tanks (including location and contents);
- Underground storage tanks (including location and contents). This includes those that are subject to the SPCC rule or those that are exempt (see *Section 6.4.7*);
- Storage area(s) where mobile or portable containers are located (see *Section 6.4.6*);
- Transfer stations such as oil transfer areas including loading/unloading racks and loading/unloading areas;
- Oil-filled equipment such as hydraulic operating systems or manufacturing equipment (including location and contents);
- Oil-filled electrical transformers, circuit breakers, or other equipment (including location and contents);
- Connecting piping (if the scale of drawing permits, as discussed in *Section 6.4.9*);

- Oil pits or ponds (at oil production facilities);
- Oil production facility stock tanks, separation equipment and produced water containers;
- Any other bulk storage or oil-filled operational equipment at an oil production facility; and
- Flowlines and intra-facility gathering lines at a production facility (this includes those that are subject to the SPCC rule and exempt intra-facility gathering lines subject to the requirements of 49 CFR part 192 or 195 as described in §112.1(d)(11)).

Containers that have a capacity of less than 55 gallons, are permanently closed, or are otherwise exempt from the rule (with the exception of exempt underground tanks and exempt intra-facility gathering lines) are not required to be identified on the facility diagram.

In addition, EPA recommends (but does not require under the SPCC rule) that the following information be included on the facility diagram to maximize its utility for facility personnel, emergency responders, and inspectors:

- Aboveground storage tank capacities and/or tank identification numbers or letters;
- Secondary containment structures, including oil/water separators used for containment;
- Storm drain inlets and surface waters that could be affected by a discharge;
- Direction of flow in the event of a discharge (which can serve to address the SPCC requirement under §112.7(b));
- Legend that indicates scale and identifies symbols used in the diagram;
- Location of response kits or other equipment used to implement an active containment strategy:
- Location of firefighting equipment and pipe stands for foam application;
- Location of valves or drainage system control that could be used in the event of a discharge to contain oil on the site;
- The location of important piping appurtenances such as valves, checks or other piping-related equipment (to aid in facility response and inspection efforts);
- Compass direction indicating north; and
- Topographical information and area maps.

For purposes of emergency response, EPA recommends, but does not require, that an owner/operator mark on a facility diagram containers that store Clean Water Act (CWA) hazardous substances (listed in 40 CFR part 116, Designation of Hazardous Substances) and label the contents of these containers (67 FR 47097, July 17, 2002).

While recognizing that SPCC Plans and their associated diagrams are facility-specific and prepared within the discretion granted to the Plan preparer, the information provided in this chapter is meant to facilitate a common understanding of what EPA inspectors may expect to see in a facility diagram. The remainder of this section provides guidelines for the recommended level of detail, how specific containers and systems may be addressed and the use of various approaches to develop facility diagrams that meet the requirements of §112.7(a)(3).

6.4.4 Level of Detail

The facility diagram should provide sufficient detail for the facility personnel to undertake prevention activities, for EPA to perform an effective inspection, and for responders to take effective measures. As with other aspects of the SPCC Plan, the facility diagram is to be prepared in accordance with good engineering practice. Thus, the level of detail provided and the approach taken for preparing an adequate facility diagram is primarily at the discretion of the person certifying the SPCC Plan.

The scale and level of detail shown on a facility diagram may vary according to the needs and complexity of the facility (72 FR 58389, October 15, 2007). Owners or operators of a facility may represent complicated areas of piping or oil-filled equipment in a less detailed manner on the facility diagram in the SPCC Plan, as long as the information is contained in more detailed diagrams of the systems or is contained in some other form and such information is maintained elsewhere at the facility and this location is referenced in the SPCC Plan (73 FR 74247, December 5, 2008). For example, a facility owner or operator may indicate in the diagram an area where complicated oil-filled equipment (such as manufacturing equipment found in a refinery or other oil processing facility) is located and provide a table in the Plan describing the type(s) of equipment and contents of the oil storage containers.

The facility diagram must include all fixed and mobile/portable containers (including oil-filled equipment) that store 55 gallons or more of oil and identify the contents of these containers (§112.7(a)(3)). (The SPCC rule exempts containers with a capacity less than 55 gallons, and therefore they should not be included on the facility diagram.) The following sections provide information on identifying mobile or portable containers, completely buried storage tanks, and piping and manufacturing equipment on the facility diagram.

6.4.5 Fixed Storage Containers

In 2008, EPA amended the SPCC rule to clarify that the facility diagram must include the location of all containers located in a *fixed* position (i.e., those that do not move around the facility). In situations where diagrams become complicated due to the presence of multiple oil storage containers, it may be difficult to indicate the contents of the containers on the diagram itself. In order to simplify the diagram, the owner or operator may choose to include the contents of the containers separately in the SPCC Plan in an accompanying

table or key. See *Section 6.2.1* for more information on the requirement to describe the facility's oil storage containers, including contents and capacity

6.4.6 Mobile or Portable Containers

The owner/operator must mark the storage area of mobile or portable containers on the facility diagram (§112.7(a)(3)). Mobile or portable containers should be marked on the facility diagram in their out-of-service or designated storage area, primary storage areas, or areas where they are most frequently located (see 73 FR 74247, December 5, 2008). Thus, if containers are stored in one area and operated in another area, both "areas" would be identified on the facility diagram. However, since the rule requires the identification of a "storage area", these "areas" may be marked as general locations on the diagram rather than identify specific discrete locations for each mobile or portable container. Regardless of where mobile or portable containers are located at the facility, the owner/operator must comply with the specific secondary containment requirements for these containers as described in §§112.8(c)(11) and 112.12(c)(11). See *Chapter 4: Secondary Containment and Impracticability, Section 4.7.5* for a discussion of these requirements.

For mobile or portable containers (e.g., drums, IBCs and totes), the facility owner/operator may note the general contents of each container and provide more detailed content information separately (such as on a separate sheet, log, or electronic system). If the contents of a container change frequently, the contents may be recorded separately, or on the diagram. If the information is provided separately, the diagram should note that contents vary. See *Section 6.2.1* for more information on the requirement to describe the facility's oil storage containers, including contents and capacity.

Tip – Mobile or portable containers

While the SPCC rule does not specifically define "mobile" or "portable" containers, such containers may include 55-gallon drums, skid tanks, totes, Intermediate Bulk Containers (IBCs), and other small containers put into place and later moved. Mobile/portable maintenance tanks, and some oil refinery tank trucks and fueling trucks dedicated to a particular facility (such as a construction site, military base, or similar large facility) may also fall under this category.

(73 FR 74246-7, December 5, 2008)

6.4.7 Underground Storage Tanks

A facility diagram must include the location and contents of *all* containers addressed in the SPCC Plan (67 FR 47097 and §112.7(a)(3)). This requirement includes both exempt underground storage tanks (USTs) and USTs that are subject to SPCC requirements. Completely buried USTs and piping systems that are subject to all technical requirements of either 40 CFR part 280 or an approved state UST program under 40 CFR part 281 are exempt from SPCC requirements. However, USTs must be included in the facility diagram and marked "exempt" if the facility is otherwise subject to the SPCC rule. Similarly, the SPCC rule exempts USTs including below-grade vaulted tanks that supply emergency diesel generators at a nuclear power generation facility licensed by the Nuclear Regulatory Commission (see *Chapter 2: SPCC Rule Applicability, Section 2.8.4*). Such emergency generator tanks must be included in the facility diagram and marked "exempt" if the facility is otherwise subject to the SPCC rule. This information will help response personnel to easily identify dangers from fire, explosion, or physical impediments during response activities.

As discussed in *Chapter 2: SPCC Rule Applicability, Section 2.8.3*, a facility may have USTs that are subject to SPCC requirements because they are deferred from compliance with some or all of the technical requirements of 40 CFR part 280 (e.g., UST systems with field constructed tanks and airport hydrant fuel distribution systems). USTs that are subject to SPCC requirements must be marked on the facility diagram (§112.7(a)(3)). (See 56 FR 54612, October 22, 1991.)

6.4.8 Intra-facility Gathering Lines

The facility diagram must include all transfer stations (i.e., any location where oil is transferred) and connecting pipes, including intra-facility gathering lines that are otherwise exempted from SPCC requirements (§112.7(a)(3)). Although the SPCC rule exempts those intra-facility gathering lines that are subject to the regulatory requirements of 49 CFR part 192 or 195, their location must be identified and marked as "exempt" on the facility diagram (§112.1(d)(11)). This will assist facility, EPA, and emergency personnel to review the facility's SPCC Plan and identify hazards during a spill response activity.

6.4.9 Piping and Oil-filled Equipment

Oil-filled equipment (such as manufacturing equipment) and associated piping present at an SPCC-regulated facility may be difficult to represent on a facility diagram, due to their relative location, complexity, or design. Recognizing this, EPA allows flexibility in the way the facility diagram is drawn. An owner/operator may represent such systems in a less detailed manner on the facility diagram as long as more detailed drawings are maintained at the facility and referenced in the SPCC Plan. More detailed drawings may include blueprints, engineering diagrams, or diagrams developed to comply with other local, state, or federal requirements.

The scale and level of detail of the facility diagram may make it difficult to show small transfer lines or piping within containment structures. Schematic representations that provide a general overview of the piping service (e.g., supply/return) may provide sufficient information when combined with a description of the piping in the Plan. Alternatively, overlay diagrams showing different portions of the piping system may be used where the density and/or complexity of the piping system would make a single diagram difficult to read (73 FR 74248, December 5, 2008). Although the SPCC rule requires that piping be included on the facility diagram, it is not necessary to include appurtenances associated with the piping.

Figure 6-1 and *Figure 6-2* demonstrate simplified examples of oil-filled equipment and piping as shown in a complete facility diagram in *Figure 6-4*. Examples of ways that oil-filled manufacturing equipment may be represented include a box that identifies the equipment and its location, or a simplified process flow diagram. For areas of complicated piping, which often include different types, numbers, and lengths of pipes, the facility diagram may show a simplified box labeled "piping" or show a single line that identifies the service (e.g., supply/return), as long as more detailed diagrams are available at the facility (73 FR 74248, December 5, 2008).

Figure 6-1: Example of a facility diagram showing how manufacturing equipment could be represented. Note that more detailed diagrams would need to be available at the facility.

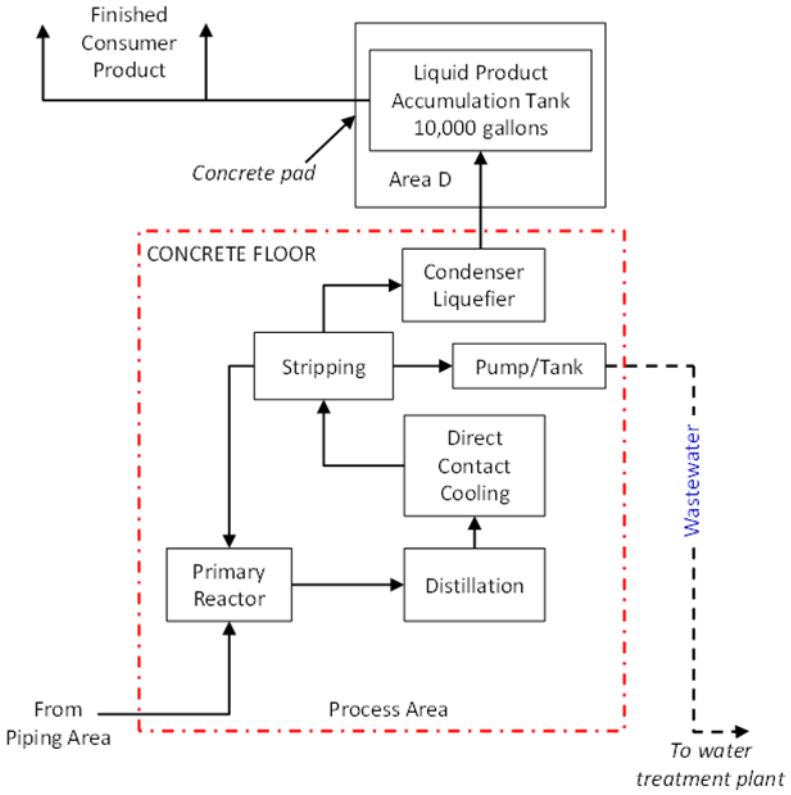
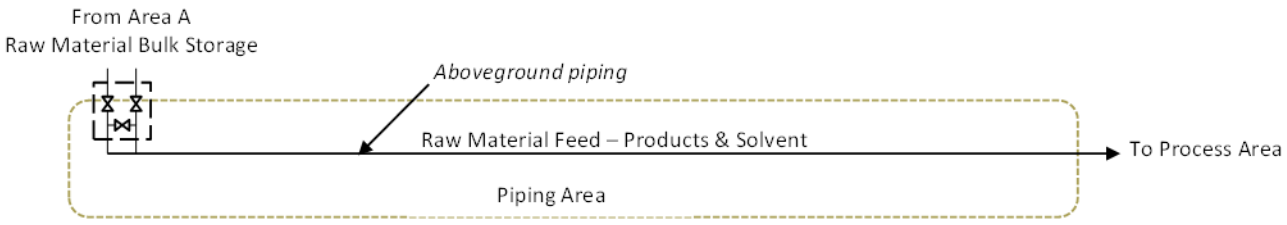


Figure 6-2: Example showing how a complex piping area could be represented in a facility diagram. Note that more detailed diagrams would need to be available at the facility.



6.4.10 Use of Diagrams Created for Other Programs or Uses

EPA does not require that a facility diagram be developed exclusively for the SPCC Plan. Some state and other federal regulations may require a diagram with similar or overlapping requirements. States may supplement the SPCC minimum requirements with more stringent requirements. A facility diagram prepared for a state or other federal plan (including the FRP requirements under §112.20) or for other purposes (e.g., as-built plans, construction permits, facility modifications, and other pollution prevention requirements) may be used in an SPCC Plan if it meets the requirements of the SPCC rule (e.g., it includes the contents of the containers, transfer areas, and piping) (73 FR 74247, December 5, 2008). Similarly, facilities with oil-filled electrical equipment may base their facility diagrams on existing electrical one-line diagrams, provided the drawings are appended as necessary to include all of the containers, transfer areas, piping, and other information as required to meet the requirements of §112.7(a)(3).

6.5 Facility Diagram Examples

This section includes example facility diagrams for three fictitious SPCC-regulated facilities. They illustrate how certain containers and equipment could be represented on a facility diagram. Preparation of a facility diagram is a site-specific effort, and the level of detail and/or approach taken to prepare it will vary based on what is needed to adequately describe the configuration for any given facility. The examples provided are not meant to indicate a specific amount of detail an EPA inspector will require for each SPCC-regulated facility. They merely illustrate the concepts discussed in this chapter.

Facility diagrams, like the other elements of an SPCC Plan, must be prepared in accordance with good engineering practice or in accordance with accepted and sound industry practices and standards. They must be reviewed by the PE (or owner/operator, in the case of a Tier II qualified facility) certifying the Plan (§112.3(d) or §112.6(b)). Section 112.7(a)(3) requires the facility diagram to show, at a minimum, the location and contents of fixed oil containers; mobile/portable container storage area locations; completely buried storage tanks, including those that may otherwise be exempt from the rule; and transfer stations (i.e., areas where oil is transferred) and connecting pipes, including exempt intra-facility gathering lines. The facility owner or operator may also include on the diagram additional structures and equipment, and may use the diagram to illustrate other elements that may be relevant to the SPCC Plan and to emergency response. For instance, a diagram may also show the discharge and drainage controls that are described in the SPCC Plan, the predicted flow path for discharged oil based on topography, areas on which to focus inspections, fire-fighting resources, spill response kits or other equipment necessary to implement an active containment measure and/or evacuation routes. The examples presented below are for a bulk storage and distribution facility, a manufacturing facility, and an oil production facility.

6.5.1 Example #1: Bulk Storage and Distribution Facility

Figure 6-3 illustrates a diagram for a bulk storage and distribution facility, which has a tank farm, a loading rack, an unloading area, and other oil containers and oil-filled equipment. This diagram corresponds to the model SPCC Plan for a bulk storage distribution facility that is provided in *Appendix D* of this guidance.

As required by §112.7(a)(3), this diagram includes all containers with an oil storage capacity of 55 gallons or greater. In addition to listing the contents directly on the diagram, the diagram provides a reference to a supplementary table that contains the volume and content of the storage tanks shown on the diagram (appended to the diagram as Table B-1). At the discretion of the Plan preparer who reviewed and certified the Plan, the example facility diagram also depicts secondary containment methods and includes a reference to calculations for secondary containment capacity provided in other parts of the SPCC Plan. Also, a separate log (Table B-2) identifies the contents of the drums in the storage warehouse and estimates the maximum number of containers.

Figure 6-3: Example facility diagram, including a loading rack and a separate loading area.

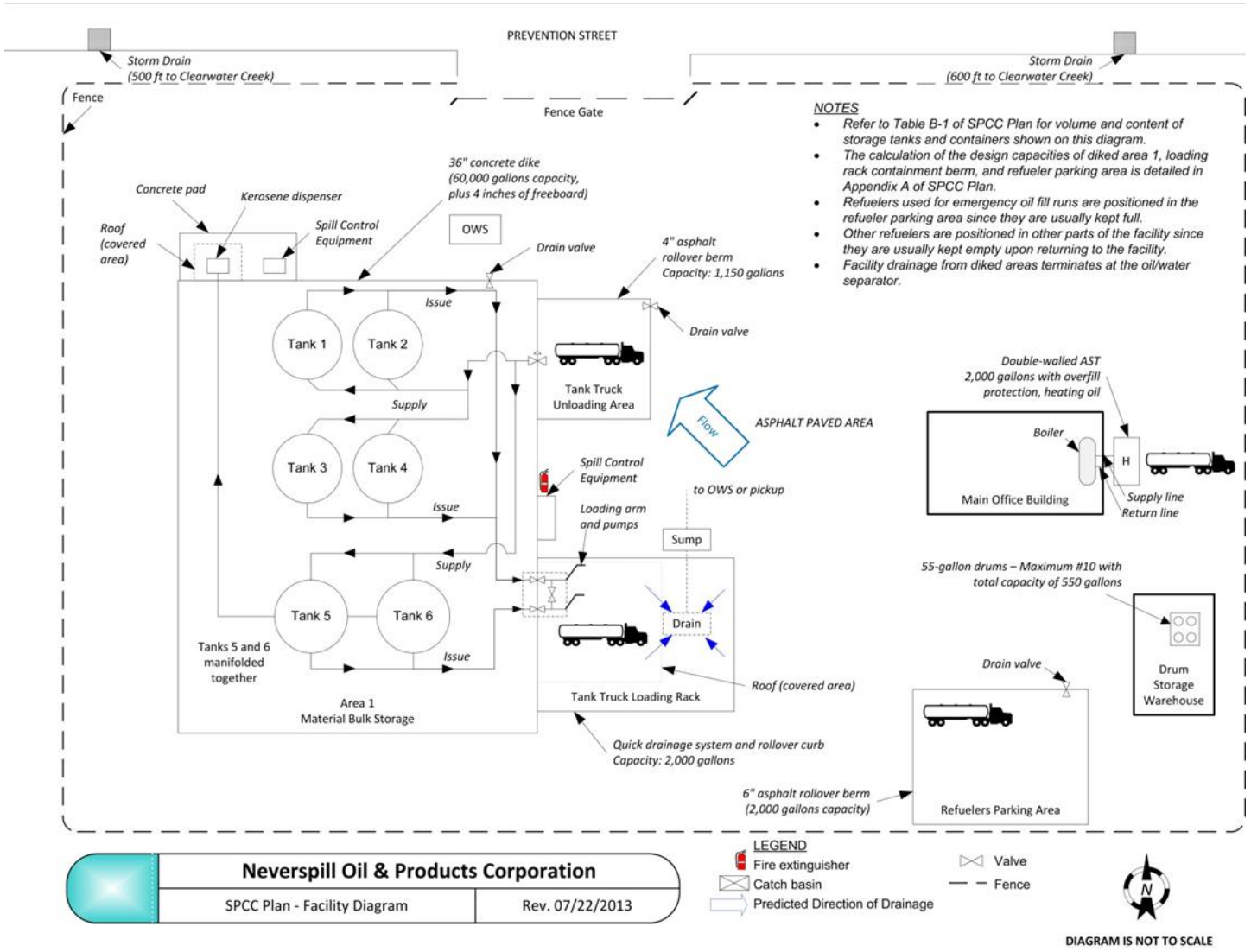


Table B-1: Volume and contents of containers identified on the facility diagram.

Tank/Container	Volume (gallons)	Contents
Area 1		
Tank 1	25,000	Product A – #2 fuel oil
Tank 2	25,000	Product A – #2 fuel oil
Tank 3	25,000	Product B – #6 fuel oil
Tank 4	25,000	Product B – #6 fuel oil
Tank 5	30,000	Product C – Kerosene
Tank 6	30,000	Product C – Kerosene
Main Office Building		
Tank H	2,000	Heating oil
Drum Storage Warehouse		
Up to 10 drums	55 (each)	Various oil products (lubricating oil, engine oil, used oil, etc.)

Rev. 07/22/13

Table B-2: Drum storage warehouse log (maintained at the facility as part of inventory).

Date	Number and Type of Container	Contents	Capacity	Location at facility

6.5.2 Example #2: Manufacturing Facility

Figure 6-4 illustrates a large manufacturing facility with a variety of containers and equipment, including piping, oil-filled equipment (i.e., manufacturing equipment and transformers), and completely buried storage tanks. As required by §112.7(a)(3), this diagram includes all containers with a storage capacity of 55 gallons or greater. In addition to listing the contents directly on the diagram, it includes a reference to a crosswalk that contains the volume and content of the storage containers shown on the diagram (appended to the diagram as Table B-3). While not an SPCC requirement, the diagram also marks the location of containers that store CWA hazardous substances and labels those containers. Additionally, the diagram notes the location and contents of completely buried storage tanks otherwise exempt from the SPCC rule because they meet all the technical requirements of 40 CFR part 280 or an approved state UST program under 40 CFR part 281 (in accordance with the requirements of §112.7(a)(3)).

This diagram also includes an example of how oil-filled manufacturing equipment and complex piping may be represented on a facility diagram, at the discretion of the owner/operator or PE. The diagram references the more detailed diagrams and plans of the piping and manufacturing equipment that are available separately at the facility.

Finally, while not required in the diagram, this example also includes a reference to the calculation of diked storage provided in other parts of the SPCC Plan and depicts wastewater treatment systems, secondary containment, and oil/water separators.

Figure 6-4: Example facility diagram, including oil-filled equipment, complex piping, and completely buried storage tanks.

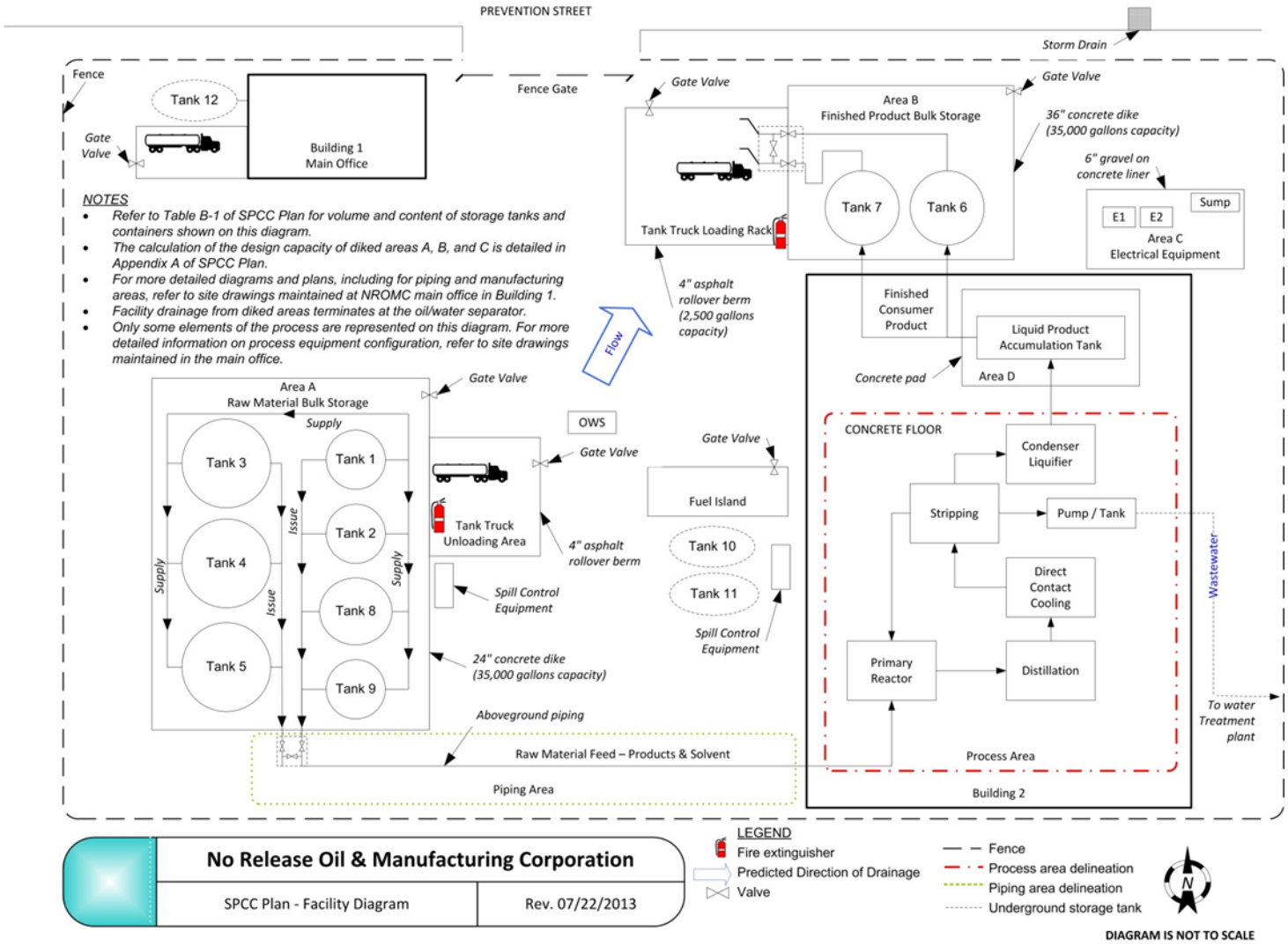


Table B-3: Volume and contents of containers identified on the facility diagram.

Tank/Container	Volume (gallons)	Contents
Area A – Raw Material Bulk Storage		
Tank 1	4,000	Product A – #2 fuel oil
Tank 2	4,000	Product A – #2 fuel oil
Tank 3	20,000	Product B – #6 fuel oil
Tank 4	20,000	Product B – #6 fuel oil
Tank 5	20,000	Product B – #6 fuel oil
Tank 8	6,000	Product C – Kerosene
Tank 9	4,000	Solvent – Toluene
Area B – Finished Product Bulk Storage		
Tank 6	20,000	Product D – proprietary oil
Tank 7	20,000	Product D – proprietary oil
Area C – Electrical Equipment		
Transformer E1	235	Silicon-based dielectric fluid
Transformer E2	235	Silicon-based dielectric fluid
Area D		
Liquid Product Accumulation Tank	10,000	Product D – proprietary oil
Process Area		
Primary Reactor	500	intermediate oil product
Distillation	500	intermediate oil product
Direct Contact Cooling	500	intermediate oil product
Stripping	500	intermediate oil product
Pump/Tank	300	intermediate oil product
Condenser Liquefier	500	intermediate oil product
Underground Storage Tanks		
Tank 10 (otherwise exempt from SPCC requirements)	8,000	gasoline
Tank 11 (otherwise exempt from SPCC requirements)	8,000	gasoline
Tank 12	2,000	heating oil

Rev. 07/22/13

6.5.3 Example #3: Oil Production Facility

Figure 6-5 illustrates a small oil production facility with two extraction wells and a production tank battery. As required by §112.7(a)(3), this diagram includes all containers with a storage capacity of 55 gallons or

greater and transfer areas. Because the facility has a relatively large footprint, the direction of flow is best displayed on a separate figure that shows the general location of the site relative to receiving water bodies ().

Figure 6-5: Example facility diagram for an oil production facility.

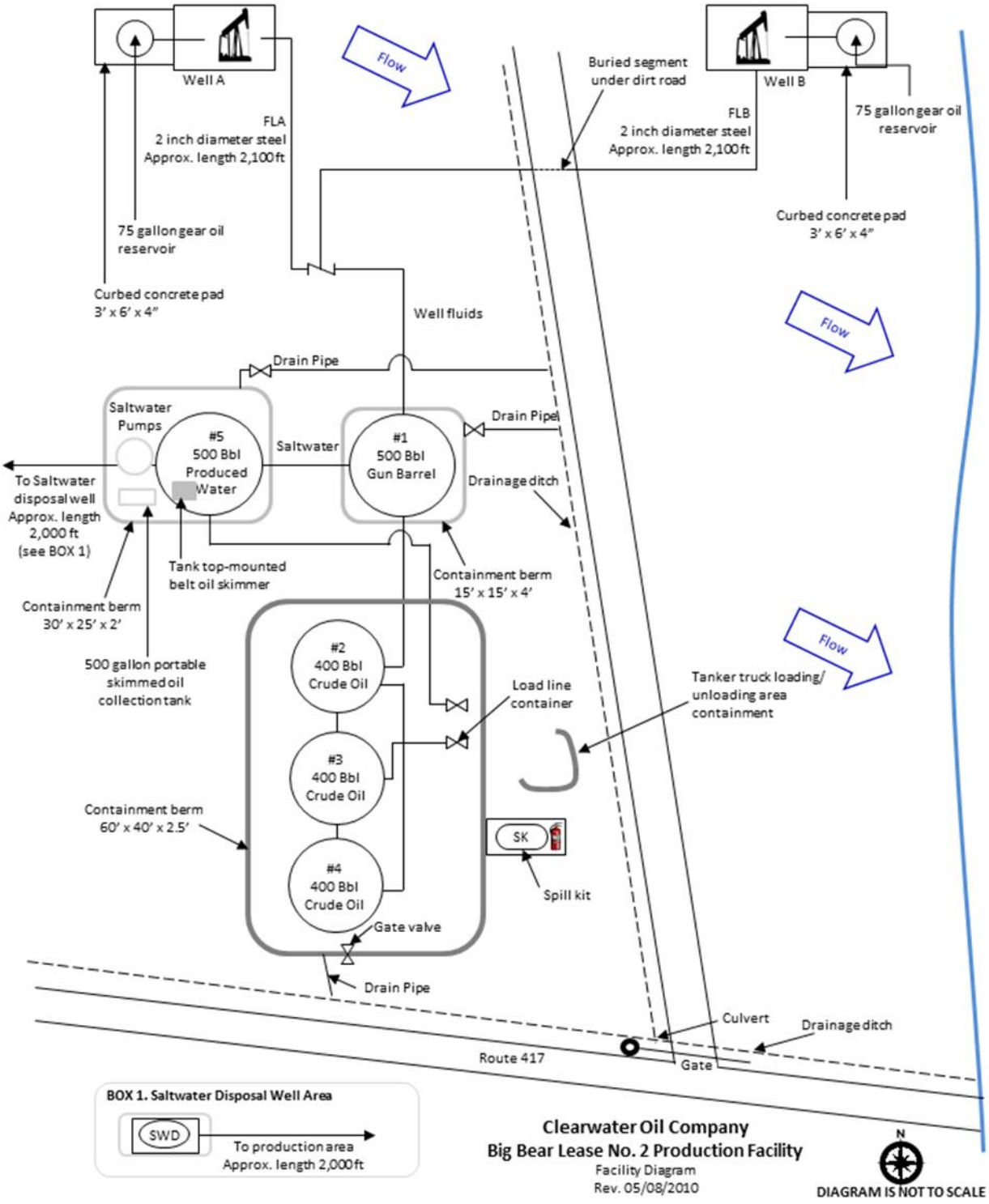
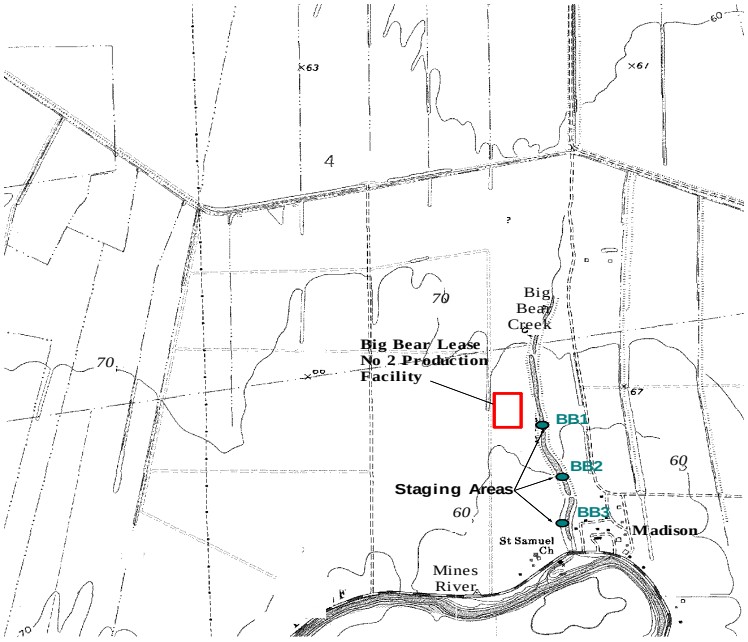


Figure 6-6: Example general facility location diagram for an oil production facility.



6.6 Review of a Facility Diagram

6.6.1 Documentation by Owner/Operator

The person certifying the SPCC Plan attests familiarity with the requirements of 40 CFR part 112; that the Plan has been prepared in accordance with good engineering practice (or for a Tier II qualified facility, in accordance with accepted and sound industry practices and standards); follows the requirements of 40 CFR part 112; and that the Plan is adequate for the facility. Thus, if an SPCC Plan is certified, and the facility diagram is consistent with the rule requirements, it will most likely be considered acceptable by regional EPA inspectors. However, if the facility design has changed and is no longer accurately represented on the diagram, the supporting drawings for a simplified diagram are not available at the facility, or the diagram appears to be

inadequate for the facility, appropriate follow-up action may be warranted. This action may include a request for more information or a Plan amendment in accordance with §112.4(d).

Additionally, changes to the facility diagram are considered administrative in nature and do not require PE certification. (72 FR 58389, October 15, 2007) The same is true for a Tier II qualified facility: the owner or operator does not need to certify changes to a facility diagram in accordance with §112.6(b)(2) because these changes are not considered technical amendments.

6.6.2 Role of the EPA Inspector

As part of the EPA inspection, the inspector will verify that the diagram accurately represents the facility layout and provides sufficient detail as outlined in §112.7(a)(3), and use it as a guide for the containers and piping inspected during the site visit.

The EPA inspector should verify that the diagram included in the Plan includes:

- Location and contents of each fixed container (except those below the *de minimis* container size of 55 gallons as described in *Section 6.4.3*, above).
- Location of storage areas (which may also include operational or staging areas) for mobile or portable containers.
- Completely buried tanks, including those that are otherwise exempt from the SPCC rule by §112.1(d)(4).
- All transfer stations (i.e., areas where oil is transferred) and connecting pipes including intra-facility gathering lines that are otherwise exempt from the SPCC rule by §112.1(d)(11).

Although EPA stated in both the preamble of the 2002 SPCC rule (67 FR 47097, July 17, 2002) and in §112.7(a)(3) that all facility transfer stations and connecting pipes that handle oil must be included in the diagram, the rule allows flexibility on the method of depicting concentrated areas of piping and oil-filled manufacturing equipment on the facility diagram. These areas may be represented in a more simplified manner, as long as more detailed diagrams (such as blueprints, engineering diagrams, or process charts) are available at the facility and referenced in the SPCC Plan. The EPA inspector may ask to review more detailed diagrams of piping and oil-filled manufacturing equipment if further information is needed during a site inspection