

OIL/WATER SEPARATORS

5.1 Introduction

The wastewater treatment exemption in §112.1(d)(6) excludes from SPCC requirements facilities or parts of facilities that are used exclusively for wastewater treatment, as long as they are not used to meet other requirements of 40 CFR part 112. This chapter clarifies the applicability of this exemption to oil/water separators (including equipment, vessels, and containers that are not specifically called “oil/water separators” but perform oil/water separation, such as water clarifiers at wastewater treatment plants).

The intended use of an oil/water separator determines whether the separator is subject to the SPCC regulations and, if so, what provisions are applicable. As outlined in Table 5-1 below, oil/water separators may be used for several different purposes: to treat wastewater, to meet secondary containment requirements of 40 CFR part 112, or as part of the oil production process. Only oil/water separators used exclusively to treat wastewater and not used to satisfy any requirement of part 112 are exempt from all SPCC requirements. Oil/water separators used in oil production and to meet the secondary containment requirements of the rule are not exempt.

§112.1(d)

Except as provided in paragraph (f) of this section, this part does not apply to: ... (6) Any facility or part thereof used exclusively for wastewater treatment and not used to satisfy any requirement of this part. The production, recovery, or recycling of oil is not wastewater treatment for purposes of this paragraph.

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

Table 5-1. SPCC rule applicability for various uses of oil/water separators.

Wastewater Treatment	Secondary Containment	Oil Production
Separators are exempt from all SPCC requirements in accordance with §112.1(d)(6) and do not count toward facility storage capacity.	Separators that are used as part of a secondary containment system and are not intended for oil storage or use do not themselves require secondary containment, and do not count toward facility storage capacity. However, they are subject to the design specifications (e.g., capacity) for the secondary containment requirements with which they are designed to comply.	Separators that are bulk storage containers, subject to the provisions of §§112.9(c) or 112.11(b) and (d), are not exempt and count toward the facility storage capacity.

The remainder of this chapter is organized as follows:

- **Section 5.2** summarizes the provisions of the SPCC rule that apply to the three uses of oil/water separators identified above.
- **Section 5.3** discusses the use of an oil/water separator for wastewater treatment and the exemption for this use.
- **Section 5.4** addresses the use of an oil/water separator as secondary containment and the applicable SPCC requirements.
- **Section 5.5** discusses the use of an oil/water separator in oil production and the applicable SPCC requirements.
- **Section 5.6** describes required documentation for oil/water separators and the role of the EPA inspector in reviewing facilities with oil/water separators.

5.2 Overview of Provisions Applicable to Oil/Water Separators

Section 112.1(d)(6) addresses oil/water separators used for wastewater treatment. Facilities or equipment used exclusively for wastewater treatment, and which do not satisfy any requirements of the SPCC rule, are exempt from the SPCC rule requirements. These oil/water separators do not count toward facility storage capacity. Whether a wastewater treatment facility or part thereof is used exclusively for wastewater treatment or used to satisfy an SPCC requirement will often be a facility-specific determination based upon the activities carried out at the facility and upon its configuration.

Drainage systems that satisfy the secondary containment requirements of the SPCC rule may use oil/water separators to recover oil and return it to the facility (see Chapter 4 of this document for a description of secondary containment requirements). Examples of oil/water separators that are used to meet SPCC requirements include oil/water separators used to satisfy the secondary containment requirements of §§112.7(c), 112.7(h)(1), 112.8(c)(2), 112.8(c)(11), 112.12(c)(2), and/or 112.12(c)(11). Additionally, the drainage provisions in §§112.8(b) and 112.9(b) set forth design specifications for secondary containment at a facility. Oil/water separators may be used as part of a facility drainage system to meet the secondary containment requirements of the rule. Oil/water separators used to satisfy these rule requirements are subject to applicable secondary containment requirements, but they do not count toward storage capacity.

As stated in §112.1(d)(6), production, recovery, and recycling of oil are not considered wastewater treatment and, thus, are not eligible for the wastewater treatment exemption. For purposes of §112.1(d)(6), this means recovery and recycling of crude oil at facilities associated with, and downstream of, production facilities, such as saltwater disposal and injection

§112.9(c)(2)

Provide all tank battery, separation, and treating facility installations with a secondary means of containment for the entire capacity of the largest single container and sufficient freeboard to contain precipitation. You must safely confine drainage from undiked areas in a catchment basin or holding pond.

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

facilities. Section 112.9(c)(2) includes requirements for oil/water separators (e.g., gun barrels, heater-treaters) used at onshore oil production facilities. This provision specifically identifies the secondary containment and drainage requirements for all tank battery, separation, and treating facility installations, including oil/water separators. Examples of oil/water separators associated with oil production, separation, and treatment include free water knock-outs, two- and three-phase separators, and gun barrels.

Sections 112.11(b) and (d) include the applicable provisions for oil/water separators located at offshore oil production facilities.

Figure 5-1 helps determine the use of an oil/water separator at SPCC-regulated facilities and identifies the corresponding rule requirements or exemptions based upon each use.

§112.11(b)

Use oil drainage collection equipment to prevent and control small oil discharges around pumps, glands, valves, flanges, expansion joints, hoses, drain lines, separators, treaters, tanks, and associated equipment. You must control and direct facility drains toward a central collection sump to prevent the facility from having a discharge as described in §112.1(b). Where drains and sumps are not practicable, you must remove oil contained in collection equipment as often as necessary to prevent overflow.

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

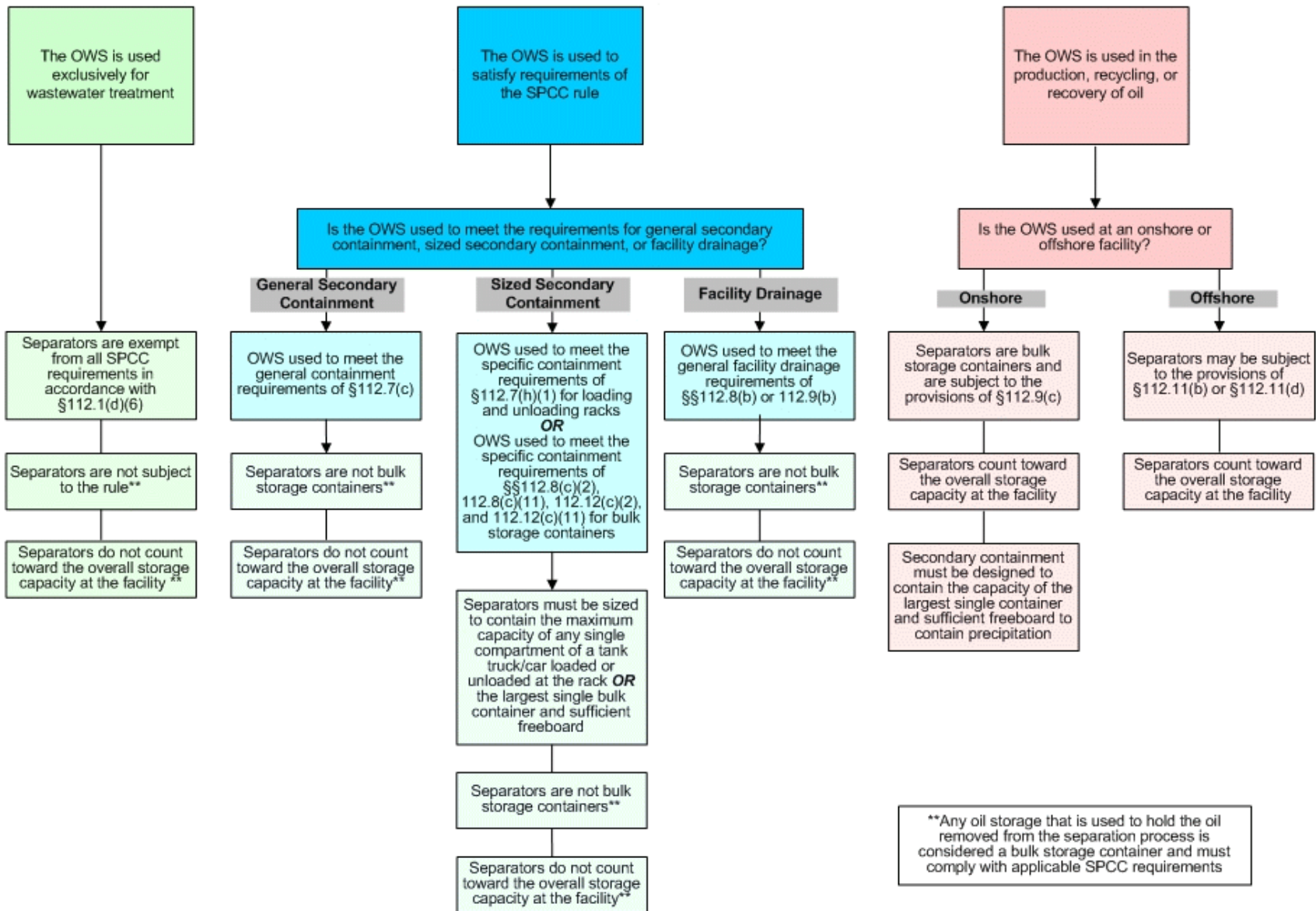
§112.11(d)

At facilities with areas where separators and treaters are equipped with dump valves which predominantly fail in the closed position and where pollution risk is high, specially equip the facility to prevent the discharge of oil. You must prevent the discharge of oil by:

- (1) Extending the flare line to a diked area if the separator is near shore;
- (2) Equipping the separator with a high liquid level sensor that will automatically shut in wells producing to the separator; or
- (3) Installing parallel redundant dump valves.

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

Figure 5-1. Applicable requirements for an oil/water separator.

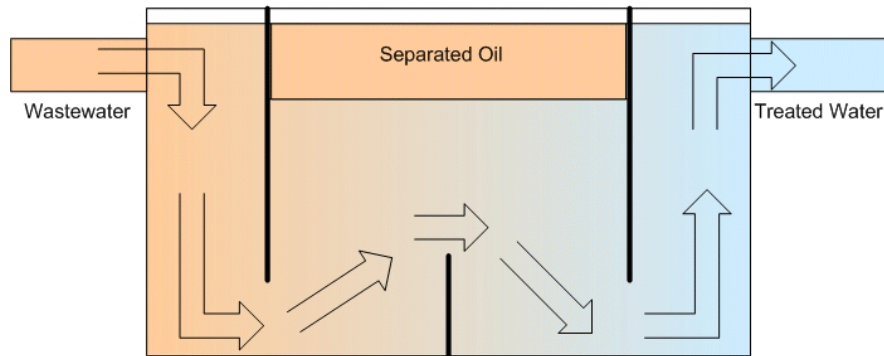


5.3 Oil/Water Separators Used in Wastewater Treatment

5.3.1 Description of Oil/Water Separator Use in Wastewater Treatment

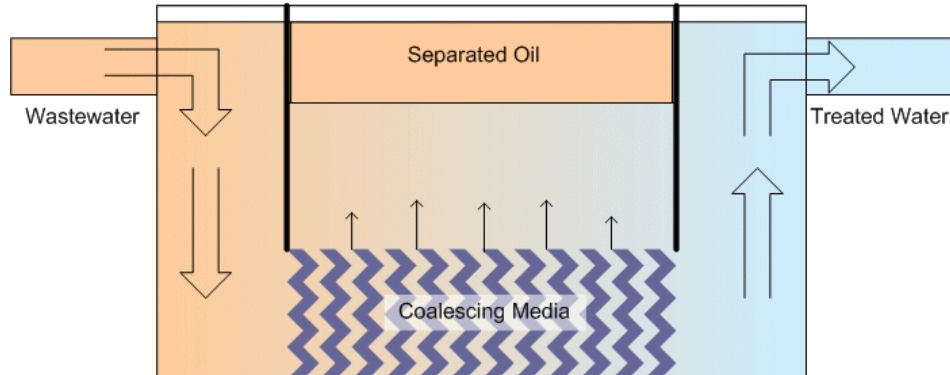
Oil/water separators used to pre-treat wastewater are usually of two kinds: standard gravity separators or enhanced gravity separators.¹ Standard gravity separators, as illustrated in Figure 5-2 (separator designs may vary), are liquid containment structures that provide sufficient hydraulic retention time to allow oil droplets to rise to the surface. The oil forms a separate layer that can then be removed by skimmers, pumps, or other methods. The wastewater outlet is located below the oil level so that water leaving the separator is free of the oil that accumulates at the top of the unit. The inlet is often fitted with diffusion baffles to reduce turbulent flow that might prevent effective separation of the oil and might re-suspend settled pollutants.

Figure 5-2. Standard gravity oil/water separator.



Enhanced gravity separators allow the separation of smaller oil droplets within confined spaces. These separators use a variety of coalescing media and small diameter cartridges that enhance laminar flow and separation of smaller oil droplets that accumulate on the separator surface for removal. Figure 5-3 shows coalescing plates in the middle compartment (separator designs may vary).

¹ Other types of separators include vortex separators, which combine gravity with centrifugal forces.

Figure 5-3. Enhanced gravity oil/water separator.

Oil/water separators are flow-through equipment in which wastewater enters the separator and treated water exits the separator on a continual basis. To be effective, the oil/water separator is sized appropriately in order for the unit to separate and contain the intended oil capacity, in addition to the flow-through wastewater quantity. Also, the design flow rate of the oil/water separator is carefully considered when specifying a wastewater treatment system, as a flow rate above the maximum rate of the separator will cause the discharge of accumulated oil and/or untreated wastewater. The specifications from oil/water separator manufacturers typically outline these and other design factors to consider, along with operation and maintenance requirements, to ensure that the oil/water separator is correctly constructed and operated for its intended use.

5.3.2 Applicability of the SPCC Rule to Oil/Water Separators Used for Wastewater Treatment

Section 112.1(d)(6) exempts “any facility or part thereof” that is used *exclusively* for wastewater treatment *and* is not used to meet any other requirement of the rule (excluding oil production, recovery, and recycling facilities). Certain components of wastewater treatment facilities, such as treatment systems at publicly owned treatment works (POTWs) and industrial wastewater treatment facilities treating oily wastewater, likely meet the two criteria for this exemption.

POTWs and other wastewater treatment facilities may have bulk storage containers and oil-filled equipment, as well as exempt oil/water separators. The capacity of the bulk storage containers and oil-filled equipment is counted to determine whether the facility is subject to the requirements of the SPCC rule. Only the oil/water separator capacity does not count toward the overall storage capacity of the facility. Thus, the presence of an oil/water separator at an otherwise regulated facility does not exempt the entire facility from the SPCC rule requirements. At wastewater treatment facilities, storage capacity to be counted includes bulk storage containers, hydraulic equipment associated with the treatment process, containers used to store oil that feed an emergency generator associated with wastewater treatment, and slop tanks or other containers used to store oil resulting from treatment. Any separate container used to store oil recovered by the

separation process or any other equipment or containers at a regulated facility that do not qualify for the wastewater treatment exemption are required to meet all applicable SPCC requirements (67 FR 47069).

Oil/water separators used exclusively for wastewater treatment are flow-through separators and are not engaged in a static process in an isolated container. For example, a bulk storage container containing an oil and water mixture, and from which water is drawn from the bottom, does not constitute wastewater treatment.

Examples of oil/water separators that may be considered wastewater treatment and may be eligible for the exemption of §112.1(d)(6) include:

- Oil/water separators at a wastewater treatment facility;
- Oil/water separators at an active groundwater remediation site;
- Grease traps that intercept and congeal oil and grease from liquid waste; and
- Oil/water separators in landfill leachate collection systems.

Oil/water separators exempted from the SPCC rule may, however, be subject to other federal, state, and local regulations. In addition, a separate container storing oil removed from an exempt separator is considered a bulk storage container and is subject to the SPCC rule requirements.

Many of these exempted wastewater treatment oil/water separators are within wastewater treatment facilities or parts thereof subject to the National Pollutant Discharge Elimination System (NPDES) requirements under section 402 of the Clean Water Act (CWA). NPDES (or an approved state permit program) ensures review and approval of the facility's wastewater treatment plans and specifications, operation/maintenance manuals and procedures, and requires a Storm Water Pollution Prevention Plan, which may include a Best Management Practice (BMP) Plan.

BMPs are additional conditions that may supplement effluent limitations in NPDES permits. In addition, other affected facilities need a BMP Plan for storm water runoff control under an NPDES permit. Under §402(a)(1) of CWA, BMPs may be imposed when the Administrator determines that such conditions are necessary to carry out the provisions of the Act.²

Additionally, some facilities may be subject to pretreatment standards promulgated under §307(b) of CWA. Pretreatment standards apply to "indirect discharges" that go first to a POTW via a collection system before being discharged to navigable waters, and they concern pollutants that pass through POTWs untreated or interfere with the operation of POTWs. The General Pretreatment Regulations for Existing or New Sources of Pollution, found at 40 CFR part 403, prohibits an indirect discharger from introducing into a POTW a pollutant that passes through or interferes with treatment processes at the POTW, and also sets the framework for the

² See discussion of authority for NPDES and BMP provisions in the preamble to the 2002 revised SPCC rule, 67 FR 47068.

implementation of categorical pretreatment standards. Specifically, 40 CFR 403.5(b)(6) prohibits the introduction into a POTW of “petroleum, oil, nonbiodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or pass through.”

5.3.3 Wastewater Treatment Exemption Clarification for Dry Gas Production Facilities

As EPA stated in a *Federal Register* notice (69 FR 29728), produced water tanks at dry gas facilities are eligible for the wastewater treatment exemption. Gas facilities that do not produce condensate or crude oil (i.e., dry gas facilities) do not meet the description of “oil production, oil recovery, or oil recycling facilities.” Therefore, produced water tanks used exclusively for wastewater treatment at such facilities are eligible for the exemption. Tanks that are eligible for the exemption do not count toward storage capacity.

At 69 FR 29730, EPA stated that “...[in] verifying that a particular gas facility is not an ‘oil production, oil recovery, or oil recycling facility,’ the Agency plans to consider, as appropriate, evidence at the facility pertaining to the presence or absence of condensate or crude oil that can be drawn off the tanks, containers or other production equipment at the facility, as well as pertinent facility test data and reports (e.g., flow tests, daily gauge reports, royalty reports or other production reports required by state or federal regulatory bodies).”

5.4 Oil/Water Separators Used to Meet SPCC Secondary Containment Requirements

5.4.1 Description of Oil/Water Separators Used to Meet SPCC Secondary Containment Requirements

Oil/water separators can be used to meet the SPCC requirements for secondary containment in §§112.7(c), 112.7(h)(1), 112.8(c)(2), 112.8(c)(11), 112.12(c)(2), and/or 112.12(c)(11). Additionally, §§112.8(b), 112.9(b), and 112.12(b) set forth design specifications for drainage associated with secondary containment provisions at the facility. Properly designed, maintained, and operated oil/water separators may be used as part of a facility drainage system to meet the secondary containment requirements of the rule.

Standard gravity and enhanced gravity separators (Figures 5-2 and 5-3), or other types of oil/water separators (separator designs may vary), may be used to meet secondary containment requirements. In this application, the separators are expected to have oil and water present in the system when there is an oil discharge or oil-contaminated precipitation runoff within the drainage area. Generally, these separators should be monitored on a routine schedule and collected oil should be removed as appropriate in accordance with procedures in the SPCC Plan.

When designing oil/water separators to be used as secondary containment (see Chapter 4 for a discussion of secondary containment requirements), good engineering practice would normally indicate that a Professional Engineer (PE) would consider:

- The drainage area that flows to the separator;
- The corresponding anticipated flow rate of the drainage system to the separator; and
- The appropriate capacity of the oil/water separator for oil and for wastewater.

Many oil/water separators used for secondary containment are installed in areas where they may receive considerable flow from precipitation. If the flow rate exceeds the maximum design rate of the separator, the separator may discharge accumulated oil and/or untreated wastewater; therefore, it may be an inappropriate choice for secondary containment and may result in a discharge to navigable waters and adjoining shorelines. The specifications from the oil/water separator manufacturer outline these and other design factors as important items to consider when specifying the use of a given oil/water separator for a given application. Additionally, the manufacturer specifies the maintenance requirements for these separators that would ensure proper operation of these devices.

When oil/water separators are used to meet SPCC requirements they must be properly operated and maintained to ensure that the unit will perform correctly and as intended under the potential discharge scenarios it is aimed to address (e.g., §§112.7(c), 112.8(c)(2), and 112.12(c)(2)). The required oil/water separator capacity should always be available (i.e., oil should not continually accumulate in the separator over a period of time such that the required storage capacity would not be available if an oil release were to occur within the drainage area). The use of oil/water separators as a method of containment may be risky as they have limited drainage controls to prevent a discharge of oil and rely heavily on proper maintenance.

5.4.2 Applicability of the SPCC Rule to Oil/Water Separators Used to Meet Specific SPCC Secondary Containment Requirements

Section 112.7(c) requires “appropriate containment and/or diversionary structures or equipment to prevent a discharge as described in §112.1(b).” An oil/water separator may be used to satisfy this requirement for onshore or offshore facilities. This separator must be constructed to contain oil and prevent an escape of oil from the system prior to cleanup in order to comply with the secondary containment provision for which it is intended (§112.7(c)). A description explaining how an oil/water separator complies with secondary containment provisions, and how it is operated and maintained, should be included in the SPCC Plan. BMPs or O&M manuals which detail operation and maintenance procedures for oil/water separators used specifically for secondary containment may be referenced in the SPCC Plan and maintained separately.

Section 112.7(h)(1) requires “a quick drainage system” for areas where a tank car or tank truck loading or unloading rack is present. An oil/water separator may be used as part of a quick drainage system to meet this requirement. This containment system must hold at least the maximum capacity of any single compartment of a tank car or tank truck loaded or unloaded at the facility (§112.7(h)(1)).

Sections 112.8(b), 112.9(b), and 112.12(b) set forth design specifications for drainage systems associated with secondary containment at onshore facilities. Environmentally equivalent

measures can be used to satisfy these requirements (see Chapter 3 for a discussion of the environmental equivalence provision). In order to comply with secondary containment requirements, facilities might use ponds, lagoons, or catchment basins as part of the design criteria for facility drainage systems. However, an oil/water separator might serve as an environmentally equivalent measure to the ponds, lagoons, or catchment basins required by §§112.8(b)(3) and 112.12(b)(3). In this instance, EPA recommends that the oil/water separator be designed to handle the flow rate and volume of oil and water expected to be generated by facility operations. When certifying a facility's SPCC Plan, the PE must verify that the oil/water separator is adequately designed, maintained, and operated to provide environmentally equivalent protection (in accordance with §112.7(a)(2)) under the potential discharge scenarios it is aimed to address, in order to comply with the corresponding secondary containment provision.

Sections 112.8(c)(2), 112.8(c)(11), 112.12(c)(2), and 112.12(c)(11) require that all bulk storage containers be provided with secondary containment for "the entire capacity of the largest single container and sufficient freeboard to contain precipitation." An oil/water separator may be used for this purpose, but it *must be appropriately sized* to meet the requirements of the rule provision for which it is intended to comply. The oil/water separator must be capable of handling both the oil and precipitation that come into the separator from the general drainage area, and from any accidental discharge from the largest bulk storage container located within the drainage area for which the separator provides secondary containment (§112.8(c)(2), 112.8(c)(11), 112.12(c)(2), and 112.12(c)(11)). Good engineering practice would suggest that the use of oil/water separators for the specific secondary containment provisions be on a very limited basis and typically with smaller capacity container storage areas (e.g., drum storage area). For more information on specific secondary containment requirements for bulk storage containers, see Chapter 4 of this document.

The capacity of an oil/water separator used to meet secondary containment requirements does not count toward a facility's overall storage capacity. Any volume of oil that would flow into the oil/water separator would come from another source within the drainage area that is already generally counted in the facility storage capacity determination. Containers used to store recovered oil after oil/water separation, however, represent additional oil storage and count toward a facility's total storage capacity. These include slop tanks or other containers used to store waste oil.

The SPCC rule does not require redundant secondary containment around oil/water separators used for secondary containment (i.e., tertiary containment is not required).

5.5 Oil/Water Separators Used in Oil Production

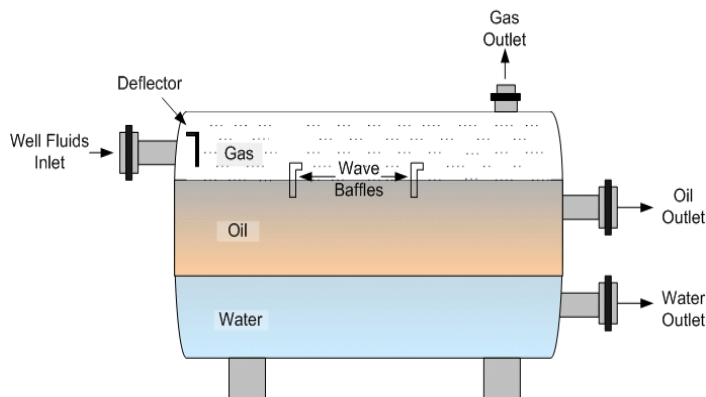
5.5.1 Description of Oil/Water Separators Used in Oil Production

Oil production oil/water separators are used at both onshore and offshore facilities. Separators and other separation equipment, such as heater-treaters and gun barrels, are used during oil production to separate the well stream into individual well fluids after they are extracted from the production well. Different processes and equipment may be used to separate the mixture

into oil/emulsion, water, and gas fractions. All such equipment is considered a bulk storage container needing specific secondary containment. For purposes of this guidance, this chapter focuses on those pieces of equipment that separate water from oil and the equipment through which these fluids flow.

There is quite a variety of production equipment used to separate and treat produced fluids. Some are operated under low pressure conditions, while others are operated at high pressure. A process called “free-water knockout,” illustrated in Figure 5-4, is generally used to separate large volumes of water from oil and gas generated from the well. Gun barrels, also called wash tanks, are generally found in older or marginal fields and are used to provide quiet retention time for the water to settle out of the produced well fluids (see Figure 5-5). A two-phase separator separates the well fluids into a liquid (oil, emulsion,³ or water) and a gas. The liquid exits the bottom of the separator and the gas exits the top, as shown in Figure 5-6. Three-phase separators separate well fluids into oil/emulsion, gas, and water. Gas exits from the top, oil/emulsion from the middle, and water from the bottom of this type of vertical three-phase separator (Figure 5-7). Three-phase separators are generally used when there is free water in the well fluids. If there is little or no free water, a two-phase separator might be used instead. Another type of equipment used to separate produced fluids, especially fluid emulsions, is termed a “heater-treater.” Heater-treaters use heat, electricity, and/or chemicals to reduce the emulsion viscosity and to separate out free oil, water, and gas in oil production. The designs of oil/water separators may differ from the examples provided.

Figure 5-4. Low pressure free-water knockout.



³ An emulsion is a colloidal suspension of a liquid within another liquid. In this case, small droplets of oil are dispersed through water.

Figure 5-5. Gun barrel oil/water separator.

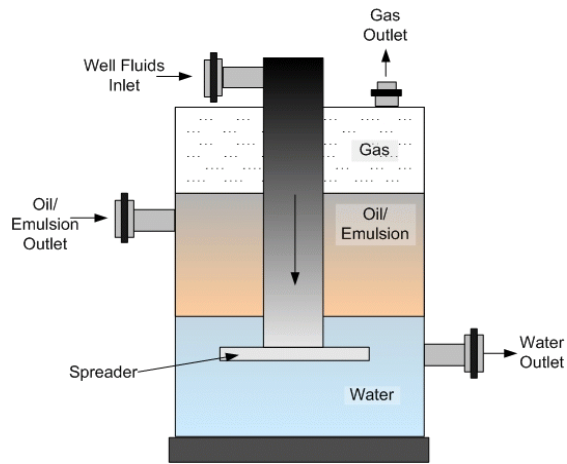


Figure 5-6. Two-phase oil/water separator.

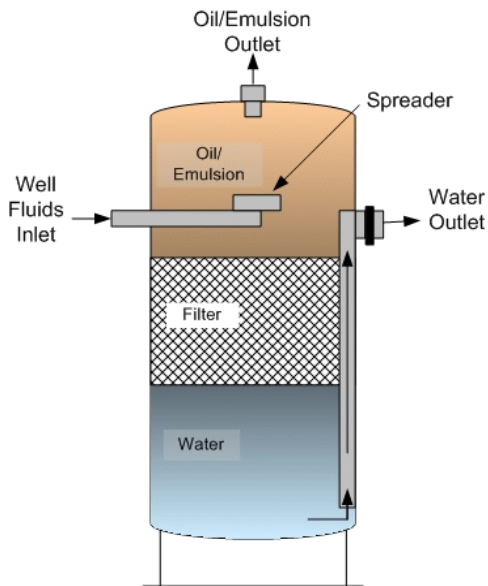
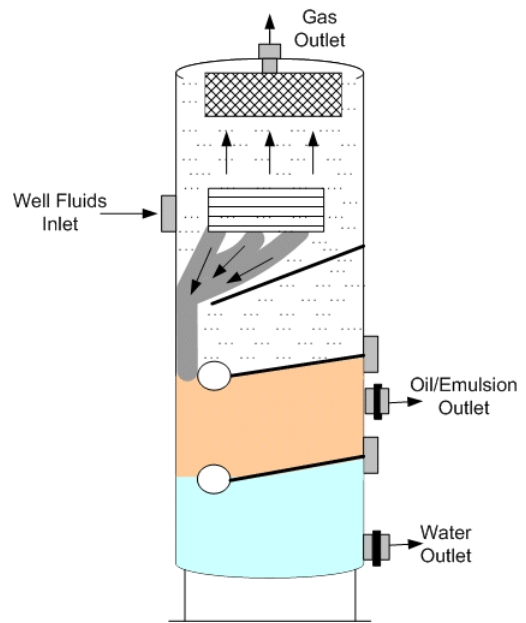


Figure 5-7. Three-phase oil/water separator.



In separators used for oil production, the momentum of the fluid flow is absorbed at the inlet, thereby reducing the fluid viscosity and allowing oil, gas, and water to separate out of solution. Gas then rises and flows out at the top of the separator, while oil and water fall to the lower portion of the vessel and coalesce in separate areas. With the appropriate settling time, the more dense free water settles beneath the less dense oil. Liquid levels are maintained by float-actuated control valves or dump valves. As the different pre-set liquid levels are reached, dump valves discharge water and oil from the separator to appropriate storage areas:

- Water is discharged from the bottom of the separator to a water tank;
- Oil is discharged out at a higher level to a oil storage tank; and
- Gas flows continuously out at the top of the separator to sales, a meter run, a flare, or a recovery system.

5.5.2 Applicability of the SPCC Rule to Oil/Water Separators Used in Oil Production

The SPCC rule's wastewater treatment exemption specifically states that the production of oil is not wastewater treatment for the purposes of §112.1(d)(6). The focus of the separation process in oil production is on removing water from oil, as opposed to removing oil from water.

Additionally, as stated in the preamble to the 2002 revised SPCC rule, production facilities generally lack NPDES or state-equivalent permits or prevention requirements, and thus lack the protections that such permits provide. Furthermore, Underground Injection Control (UIC) permits do not have prevention requirements for production facilities. Production facilities are normally unmanned and therefore lack constant human oversight and inspection. Produced water generated in the production process normally contains saline water as a contaminant in the oil, which in addition to the toxicity of the oil might aggravate environmental conditions in the case of a discharge (67 FR 47068). In some areas of the United States, produced water is fresh and may be discharged under a NPDES permit for beneficial use (e.g., irrigation, water for livestock).

The goal of an oil production, oil recovery, or oil recycling facility is to maximize the production or recovery of oil, while eliminating impurities in the oil, including water, whereas the goal of a wastewater treatment facility is to purify water. Neither an oil production facility nor an oil recovery or recycling facility treats water; instead, it treats oil. For purposes of the wastewater treatment exemption, produced water is not considered wastewater, and treatment of produced water is not considered wastewater treatment. Therefore, a facility that stores, treats, or otherwise uses produced water remains subject to the rule. At oil drilling, oil production, oil recycling, or oil recovery facilities, treatment units subject to the rule include open oil pits or ponds associated with oil production operations, oil/water separators (e.g., gun barrels), and heater-treater units. Open oil pits or ponds function as another form of bulk storage container and are not used for wastewater treatment (67 FR 47068,9). Although the ratio of water to oil can be relatively high, the quantity of oil involved can be still be substantial and pose a threat of a discharge to navigable waters and adjoining shorelines.

Oil/water separators used in the production of oil (e.g., heater-treaters and gun barrels) and other separation and treatment facility installations, are subject to the specific secondary containment requirements for oil production facility bulk storage containers in §112.9(c)(2). Therefore, oil/water separators used in oil production are considered bulk storage containers and are subject to the applicable SPCC requirements under §112.9(c):

- Oil/water separators used in onshore oil production are subject to the provisions of §112.9(c). For example, oil/water separators used in onshore oil production must have secondary containment designed to contain the capacity of the largest single container and sufficient freeboard to contain precipitation (§112.9(c)(2)). If specific secondary containment is determined to be impracticable for the equipment, the SPCC Plan must document the reason for impracticability and comply with the additional regulatory requirements in §112.7(d).
- Oil/water separators used in offshore oil production are subject to the provisions of §112.11(b) and (d) to prevent a discharge of oil. However, if other provisions of the rule (except secondary containment) can be met through alternative methods that provide environmental equivalence for this equipment, then the Plan must include a description in accordance with §112.7(a)(2).
- Vessels and equipment, such as glycol dehydrators and inline heaters, that treat only gas and that do not separate, treat, or contain oil, are not subject to the SPCC rule.

Oil/water separators used in oil production count toward the total storage capacity of the facility and must be considered when determining if a facility is regulated by the SPCC rule in accordance with §112.1(b) and (d)(2) and the definition of storage capacity in §112.2. In determining applicability of any container for calculating the total facility storage capacity, the preamble to the 2002 rule states:

The keys to the definition are the availability of the container for drilling, producing, gathering, storing, processing, refining, transferring, distributing, using, or consuming oil, and whether it is available for one of those uses or whether it is permanently closed. Containers available for one of the above described uses count towards storage capacity, those not used for these activities do not. Types of containers counted as storage capacity would include some flow-through separators, tanks used for “emergency” storage, transformers, and other oil-filled equipment. (67 FR 47081)

5.6 Documentation Requirements and the Role of the EPA Inspector

5.6.1 Documentation by Owner/Operator

Oil/water separators used exclusively for wastewater treatment are exempt from all SPCC requirements, and no documentation is required for this equipment in the SPCC Plan.

For oil/water separators used to meet SPCC secondary containment requirements, the SPCC Plan should discuss the separator design capacity, configuration, maintenance, operation, and other elements of the drainage systems that ensure proper functioning and containment of the oil as required by §112.7(a)(3)(iii). Examples of elements that this discussion should include are:

- The presence and configuration of valves to prevent the accidental release of oil;
- Routine visual inspection of the oil/water separator, its contents, and discharges of effluent;
- Preventive maintenance of facility equipment affecting discharge, including the removal of settled pollutants and collected oil;
- A drainage area that flows to the oil/water separator and corresponding anticipated flow rate of the drainage system to the separator;
- Appropriate capacity of the oil/water separator for oil and for wastewater;
- Provisions for adequate separate storage capacity (based on the containment sizing required by the rule) to contain oil recovered in the oil/water separator; and
- Documentation associated with the maintenance and inspection of oil/water separators.

A separate bulk storage container used to store oil following separation in any oil/water separator (i.e., wastewater treatment, secondary containment, or oil production) is subject to all applicable requirements of 40 CFR part 112, including §§112.8(c) or 112.9(c), as appropriate.

For oil/water separators used in oil production, the oil/water separators are considered bulk storage containers to be included in the SPCC Plan. The location of these containers must be indicated on the facility diagram and discussed in the general requirements in accordance with §112.7(a)(3). For more information on facility diagrams, refer to Chapter 6 of this document. The facility owner/operator may determine that the sized secondary containment required for these oil/water separators is impracticable, pursuant to §112.7(d). If impracticability is determined for sized secondary containment, the SPCC Plan must clearly explain why secondary containment is not practicable and provide an oil spill contingency plan following the provisions of 40 CFR part 109. In addition, such facilities must conduct integrity and leak testing of bulk containers and associated valves and piping, and provide a written commitment of manpower, equipment, and materials to respond to oil discharges (§112.7(d)). For more information on impracticability, refer to Chapter 4 of this document.

5.6.2 Role of the EPA Inspector

As with other aspects of the SPCC Plan, the certifying PE will review the use of and applicable requirements for oil/water separators at a facility and ensure that they are consistent with good engineering practice.

The EPA inspector will verify that any oil/water separators at a facility that are not addressed in the SPCC Plan are in fact used exclusively for wastewater treatment and not to meet any requirement of part 112. This review considers the intended and actual use of the separator. The EPA inspector should consider the intended use of the separator at the facility (e.g., wastewater treatment, secondary containment, oil production, recovery, or recycling), any flow diagrams illustrating the use of the separator, and the design specifications of the unit in evaluating the proper application of the wastewater exemption. The EPA inspector may also consider the flow-through capacity of the separator, the emulsion of oil present within the separator, and the design specifications of the unit in evaluating the use of the oil/water separator.

For oil/water separators used to meet SPCC secondary containment requirements, the EPA inspector will verify that the Plan includes, for each oil/water separator used as secondary containment, a discussion of the separator design capacity, configuration, maintenance, and operation, as well as other elements of the drainage systems that ensure proper functioning and containment of the oil in accordance with §112.7(a)(3)(iii). Inspectors should note the risk associated with this form of containment and should evaluate the design, maintenance, operation, and efficacy of oil/water separator systems used for containment very carefully. Generally, these separators should be monitored on a routine schedule, and collected oil should be removed as appropriate and in accordance with the drainage procedures in the Plan.

Oil/water separators used in the production of oil (e.g., heater-treaters and gun barrels) and other separation and treatment facility installations, are subject to the specific secondary containment requirements for oil production facility bulk storage containers in §112.9(c)(2). The SPCC Plan must address this equipment and include the storage capacity of the equipment in the storage capacity calculations (§112.1(b) and (d)(2) and the definition of storage capacity in §112.2.) If sized secondary containment is determined to be impracticable for the equipment, the SPCC Plan must document the reason for impracticability and comply with the additional regulatory requirements in §112.7(d).

By certifying the SPCC Plan, a PE attests that the Plan has been prepared in accordance with good engineering practice and with the requirements of 40 CFR part 112, and that the Plan is adequate for the facility. Thus, if the wastewater treatment exemption is certified by the PE or if other oil/water separator uses are properly documented, they most likely will be considered acceptable by EPA inspectors. However, if the documented uses of the oil/water separators do not meet the standards of common sense, appear to be incorrect, deviate from the use described in the Plan, are not maintained or operated in accordance with the Plan, or simply do not operate correctly, further follow-up action may be warranted. This may include a request for more information or a Plan amendment in accordance with §112.4(d).