40 CFR Part 112, Oil Pollution Prevention, requires an oil facility to have a Spill Prevention Control and Countermeasures Plan (SPCC) to prevent discharges of oil into navigable waters. The definition of “oil” is oil of any kind or in any form, including but not limited to petroleum, fuel oil, sludge, oil refuse and oil mixed with wastes.

As part of the SPCC plan, all bulk oil storage requires secondary containment and catchment for any tank truck loading and unloading operations. These requirements can be met in a variety of ways. Some examples of ways to meet these requirements are described below. Please note that this document is just a discussion of SPCC and there may be additional health, safety, and environmental regulatory requirements for a particular storage site.

**Secondary Containment:**
Using double-walled containers, spill pallets, berms, dikes, curbing, sumps, or standpipes can provide secondary containment. The secondary containment system should hold: 100% of the largest container, or 10% of the total volume of all the containers in the system, whichever is larger.

Depending on the needs of the facility, these items can be designed and constructed for the specific site or purchased ready-made. If a ready-made containment system is selected, the product specifications should be reviewed carefully. Not all ready-made containment systems may meet all the health, safety, and environmental regulatory requirements.

- **Spill pallets** for drum storage can be purchased from safety supply companies. An access ramp may also be needed to facilitate use of the spill pallet. Check with the occupants to determine if this is an acceptable means of containment. (The AC shop does not support the use of spill pallets. They prefer that a permanent berm be constructed.)
- **Portable berms** can also be purchased from safety supply companies. Some of these have soft sides that can be collapsed when moving drums in and out of the containment area.
- **Double walled tanks** are available for aboveground storage tanks (ASTs) and underground storage tanks (USTs). These tanks are particularly useful in areas where space is a consideration since the containment system is no bigger than the tank.
- **Designed secondary containment** can be made for specific site conditions. If feasible, this is often preferred for new facilities since a designed system can be more ‘user friendly.’ Some examples include:
  - **Berms** can be constructed for a drum storage area. The user may want part or all of the berm to be a ‘speed bump’ so that a drum cart can be used to move drums in and out of the containment area. This type of system is used at the Transportation garage.
  - **Standpipes** or other means could be used to block any drains to prevent a potential release. Unused drains could be plugged.
  - **Sumps** can be used to provide secondary containment. The storage area should be clearly designated and slope/drain to the sump. The sump can be covered with a grate to allow drums to be easily rolled over it during deliveries. This type of system is utilized for the storage areas at Lay Auto Lab.
If a storage area is inside or outside, there will also be some special considerations for the site:

- **Outdoor containment systems** can accumulate precipitation. The containment system must be designed with sufficient freeboard to allow for precipitation. After a storm event, the accumulated water must be inspected to determine if there is any sheen or other signs of contamination, before the water can be drained. If there is any contamination, then the water must be pumped out for special disposal. To avoid precipitation accumulation and drainage issues, the containment system can be covered. There are a variety of containment sheds available on the market for drums for this purpose. Double wall tanks do not have these concerns since the second wall prevents rainwater from entering the containment.

- **Indoor storage** areas should be checked for floor drains. A room may be considered secondary containment if there are no floor drains and no other potential pathway for a spill to spread outside of the room. If there are drains, it may be possible to block the drains in order to provide containment.

**Catchment for Tank Truck Loading and Unloading:**

During tank truck loading and unloading operations, sufficient catchment is required to contain the largest compartment of the tanker truck. The size of the largest compartment in the tanker truck, area geography, size of the storage tank, frequency of loading and unloading oil, availability of site personnel, and location of the storm drains are all parameters that determine the site-specific catchment design. Catchment has a ‘looser’ definition than secondary containment. This is based on the assumption that the spill will be quickly cleaned up since personnel are on site and would immediately notice a spill.

Catchment can be obtained using a portable system or fixed engineering controls. Many existing locations use portable systems for catchment. If a new loading/unloading facility is being constructed or if there are renovations at an existing facility, then fixed engineering controls should be installed at that time.

**Portable Systems:** These systems can be obtained from safety supply companies. Options include:

- **Blocking drains** by using two methods to provide catchment. This can be accomplished using spill mats, drain plugs, dikes, impermeable sheeting, hard covers, and other methods. The surface area is then considered as the catchment. This is a simple way to provide catchment but can be labor intensive, depending on the number of drains in the area. The frequency of deliveries and availability of site personnel should also be considerations in the selection of this method. The site must also be able to be temporarily blocked from use during spill cleanups.

- **Portable berms** can also be used for catchment. These systems may be needed on unpaved surfaces where spill mats and dikes would not properly seal with the surface around the drains. A disadvantage of these systems is that depending on the catchment volume needed, the berm could weigh over 200 pounds. Additional personnel would be needed to install the catchment system.

**Fixed Engineering Controls:**

- **Spill tanks** can be designed and constructed for catchment. A drain in the area would be connected to the tank to receive the oil in the event of a release. During loading and unloading, the drain would be opened and then closed after the transfer is complete. These systems can be installed in areas where space is a constraint. Any spills would need to be promptly reported. One disadvantage to this method of catchment is that the tanks tend to accumulate precipitation or groundwater, despite the drain being closed. If any liquid is discovered in the spill tank, it must be emptied within 10 days or the tank would be considered a regulated UST and require registration. A vacuum truck contractor would be needed to empty out the tank and handle the waste disposal. Over the long term this additional expense could become an important consideration.

- **Surface Catchment Areas** can be designed and constructed for catchment by use of berms, grading, or diversions. A drain or gap in a berm would be required for drainage. When loading
and unloading occurred, the drain or gap would be plugged and then unplugged after the transfer is complete. The system would need to be designed to withstand the traffic load in the area. A disadvantage to this method is that the system needs a large area to act as catchment. This would not be recommended in an area were access cannot be blocked during a spill cleanup. For example, this was not appropriate for the valet parking lot at the Hospital (Helipad tank) but may be appropriate in a maintenance area.

- **Sumps** or a catch basin can be designed and constructed for catchment. The sump can be covered with a grate to allow the delivery vehicle to drive over it. The sump should have a drain which is normally open to allow for draining storm runoff. The drain would be closed (valve, plug, etc.) during loading/unloading operations to provide catchment.

A site should also review its operations to determine if steps can be taken to reduce their catchment requirements. For example, if a small tank is used with infrequent deliveries then drum storage could be substituted. Catchment would not be required since there would be no tanker truck loading or unloading. The site personnel could also specify the maximum compartment size of the tanker truck used at their site and potentially reduce the required catchment volume.

If you have any questions, please contact OSEH Environmental Protection & Permitting at 763-6973.

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