



Federal Oil Pollution Prevention Regulations

Part I: Spill Prevention Control and Countermeasure Requirements

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Background

No facility wants to have an oil spill to a waterway. Not only is there the potential for harm to human health and the environment, but your business can be harmed. Production may be interrupted as the facility responds to the spill. Publicity following the spill can hurt your company's image. You may be fined thousands of dollars after the spill. Preventing oil spills by complying with oil spill prevention regulations is good for your business.

Oil Pollution Prevention Regulations

Federal oil spill prevention regulations have been in place for many years. The year after the Clean Water Act was passed in 1972, Spill Prevention Control and Countermeasure (SPCC) regulations were established at 40 CFR 112. In response to the Exxon Valdez oil spill, the Oil Pollution Act (OPA) was passed in 1990 to strengthen oil spill prevention and response. A variety of revisions to the SPCC regulations were proposed in 1991, 1993, and 1997, but never finalized until 2002.

According to the Environmental Protection Agency (EPA), the 2002 SPCC rule revisions clarified requirements by

changing wording from "should" to "shall" or "must." Some requirements became less stringent and some became more stringent. After two extensions of the deadline for compliance with the revised rules, the final deadline for modifying existing SPCC Plans to comply with the revised rule is February 17, 2006. The deadline for implementing modified plans is August 18, 2006. But remember, you are out of compliance now if you are required to have an SPCC Plan, but do not have one. The deadlines only apply to the new requirements in the revised rule. EPA is currently enforcing the old rules and the less stringent requirements of the revised rules. The more stringent requirements of the revised rules will not be enforced until after August 18, 2006.



When the 2002 SPCC rule revisions were passed, different sections of the rule were established for different types of oils. Subpart A of 40 CFR 112 contains general requirements that apply to all oils. Subpart B applies to petroleum oils while Subpart C applies to non-petroleum oils such as vegetable, animal, and fish oils. Currently, Subparts B and C have identical requirements. However, changes in the requirements for non-petroleum oils may be proposed by EPA in 2006. Although no specifics are yet available on these proposed changes, they are expected to address secondary containment and integrity testing requirements and may also address process equipment.

Oil Pollution Prevention Regulatory Applicability

The SPCC rules apply to a facility that is located such that an oil spill could reach a waterway and that has a total aboveground oil storage capacity greater than 1,320 gallons or a total underground oil storage capacity greater than 42,000 gallons. When evaluating whether these rules apply to your facility, be sure to base your evaluation on your oil storage capacity, not your actual oil storage. The majority of facilities are located such that an oil spill could reach a



waterway. Even if your facility is not adjacent to a major waterway, you likely have a stormwater drainage system that could carry a spill to a waterway. Man-made structures such as containment structures cannot be considered when evaluating whether a spill could reach a waterway.

EPA defines oil very broadly, stating that “*Oil means oil of any kind or in any form....*” The types of oil include petro-

AFIA Gives EPA Recommendations for Animal Fats/Vegetable Oils

The American Feed Industry Association (AFIA) recently forwarded several suggestions and crucial background information to officials of the Environmental Protection Agency (EPA) on animal fats and vegetable oils used in the feed industry relative to the agency’s consideration of Spill Prevention, Control and Countermeasure regulations (SPCC).

AFIA President Joel Newman presented the recommendations following a meeting that John Jones (Cargill Animal Nutrition), Andy Bishop (Kalmbach Feeds) and Newman had with David Evans, director of EPA’s Regulation and Policy Development Division. EPA is in the process of issuing regulations to comply with the Edible Oil Regulatory Reform Act by differentiating Animal Fats (AF) and Vegetable Oils (VO) from all other oils. AFIA pointed out that the latter products, as used by the feed industry, are non-toxic, biodegradable, and pose a significantly lower risk to the environment than petroleum oils. Therefore, they should not be regulated by the same standards.

Consequently, AFIA asked that several changes and/or exemptions be included in the June 2006 proposed rule. These included:

- Rack definition—the final definition should state clearly that AF/VO is exempted from the secondary containment for mobile tanks (acceptance would save the feed industry \$270 million per year)
- Storage Security—amend the fencing requirements to

AF/VO in the final rule to exempt these products

- Integrity testing—adjust the regulations for outside tank integrity testing requirement and replace it with a visual inspection program, already followed by the industry (a savings of \$45 million to the feed industry)
- Facility Response Plan—amendment of the three-tier designation of tank storage capacity to better fit the industry’s requirements.

EPA was urged to apply these amendments to the rule by industry segment rather than on an individual company basis which would greatly minimize paperwork, the number of applications, and simplify the process. AFIA also urged that during the ongoing regulatory process, the proposed rule to address AF/VO be regulated under the Oil Pollution Act of 1990 and Clean Water Act and that the feed industry receive proper notice.

AFIA is working hard on this issue to make certain that the final regulation not only protects the environment but also is practical for implementation by its feed industry members.

By Rex Runyon, vice president, AFIA.



Joel Newman

leum, vegetable, animal, fish, and nut oils. Basically, anything that behaves like an oil by floating on water is considered to be an oil. This includes solids (like grease or butter) as well as liquids. This definition also includes oil mixed with something else (like oily wastewater or used, oily coolant). Example oils are:

- Hydraulic oil
- Lubricating oil
- Grease
- Used oil
- Diesel fuel
- Gasoline
- Mineral spirits
- Transformer oil
- Soybean oil
- Cottonseed oil
- Corn oil
- Butter
- Shortening
- Kitchen grease
- Products or materials containing these oils

The SPCC regulations cover all oil containers with a capacity of 55 gallons or greater whether the containers are inside or outside buildings. Containers include process vessels, oil-containing equipment, and storage containers. Examples of regulated oil containers are:



- Storage tanks
- Drums
- Totes
- Process vessels
- Generators with fuel tanks
- Oil-filled transformers
- Manufacturing equipment that has oil reservoirs with capacities of 55 gallons or more

Oil Is Oil, Be It Burned or Eaten, EPA Says

By Cindy Skrzycki

When Anne G. Giesecke, vice president of policy analysis and environmental activities for the American Bakers Association, thinks of edible oils and fats, she sees doughnuts swimming in vats of hot oil, safe inside a commercial bakery.

When regulators at the Environmental Protection Agency consider edible oils and fats, they think of dangerous spills that can clog waterways, gum up water treatment facilities, kill fish and birds, and cause fires.

How you get from the bakery to navigable waterways has been part of the argument that has been going on between EPA regulators and food industry lobbyists like Giesecke for several years. (Plus, there's some question of just what is a navigable waterway, but that's another story.)

The food industry maintains that its spills are nothing like what happens in the petroleum industry, which is covered by the same rules. The edible-oils people point out they don't have accidents like the Exxon Valdez Alaskan oil spill in 1989. The EPA maintains that there is serious spill potential for edible oils and fats that goes beyond a pat of butter here, a drop of milk there.

"There is a bit of a laugh factor with vegetable oils, but when you learn about the impact of the spill . . . there is strong scientific basis for regulating them," said David Evans, director of the regulation and policy development division of EPA's Office of Emergency and Remedial Response.

So in 2002, at the urging of Congress, the agency issued its Spill Prevention, Control and Countermeasure rule. Lawsuits challenging the rule and two extensions of the deadline followed. And now, owners of facilities that make, use, transport or otherwise have more than 1,320 gallons of edible oils and fats on their premises face a compliance deadline next February.

That means commercial bakeries, dairies, farmers and other companies that make or store oil or fat products would have to file updated plans to prevent and contain spills. They have to have a professional engineer check their plans, have a way to prevent a spill from spreading, and do "integrity testing" of containers—which might mean emptying tanks to check for leaks.

Since the rule flowed from EPA's authority under the Clean Water Act, the food industry will face the same regulatory requirements as the petroleum industry for prevention and cleanup. As it is now written, the section of the rule directed to edible oils includes mandates on how to handle offshore drilling spills.

"Do you need secondary containment for a doughnut fryer?" Giesecke asked. "Chances are, when you have doughnut fryer in a bakery and if it spills, it gets cleaned up and sent to animal feed and the sewer treatment plant."

SPCC Regulatory Exemptions

Containers with capacities less than 55 gallons are exempt from the SPCC rules and should not be included in your oil storage inventory or your SPCC Plan. Underground storage tanks (USTs) that are regulated by 40 CFR 280 or state UST programs authorized by this rule are exempt from the SPCC rules although you must show their location on the facility diagram in your SPCC Plan. Tanks where wastewater treatment occurs are exempt from the rules although oil storage containers in a wastewater treatment plant are covered. If you have oil-filled transformers that are owned and operated by a utility, they would be considered a separate “facility” under the SPCC rules. The utility is responsible for SPCC compliance for those transformers. However, you should contact the utility to be sure they are addressing the transformers and obtain a copy of their SPCC Plan, if available.

SPCC Regulatory Requirements

Preparation of an SPCC Plan

If you must comply with the SPCC regulations, you will need to prepare an SPCC Plan. The plan must include an inventory of your oil storage, a facility diagram showing the oil storage and management locations, and describe how you comply with the SPCC regulatory requirements. The plan must be certified by a licensed professional engineer (PE) and

kept onsite. The plan must be updated within six months of facility changes that would impact the facility’s oil spill potential. A PE must certify these changes. If you modify the plan to address changes that do not impact your facility’s oil spill potential, e.g., personnel or contact number changes, the revised plan does not need to be certified by a PE. You must review your SPCC Plan at least every five years, even if there have been no facility changes.

Secondary Containment

All potential sources of oil spills must have secondary containment that would prevent a spill from reaching a waterway. The most stringent secondary containment requirements apply to bulk storage containers (see next section). Process vessels, oil-containing equipment, and oil-filled electrical equipment are not classified as bulk storage containers, but must still have secondary containment. This containment could be provided by the building where the containers are located if the building is big enough and there are no doors, drains, or other openings nearby that would permit a spill to leave the building. Other types of acceptable containment include a spill containment pond or other structure that receives drainage from the area where the containers are located and a drainage trench that would carry a spill to another containment structure used for other tanks or loading containment. The SPCC Plan must discuss how spill containment is provided for

“We have talked to them [EPA officials] until we are blue in the face,” said Robert L. Garfield, senior vice president of the American Frozen Food Institute, which is part of an industry coalition still fighting the rule. “Integrity testing would cost a lot of money.”

He said anything more than visual inspection of food storage tanks would be overkill because animal fats and vegetable oils are stored in stainless steel tanks that don’t corrode and must be sterile.

The edible-oil people want the EPA to separate them from the petroleum industry.

The dairy people, meanwhile, want an exception to the rule that says milk and cheese, oleaginous mixtures, will be subject to EPA enforcement. “I’m sorry. You can have a cheese fire, but you won’t have a river of liquid cheese that will endanger the environment,” said Clay Detlefsen, counsel for the International Dairy Foods Association.

That’s not to say edible-oil spills don’t occur. Evans said that on average, 45 spills of edible oils and fats reach navigable waters annually. He thinks such spills are underreported. The EPA says on its Web site that non-petroleum oils have physical properties similar to those of petroleum: They create slicks on surface water and form emulsions and sludge that can “be dangerous or even deadly to wildlife.”

For example, 3 million pounds of butter melted in a fire last December in New Ulm, Minnesota. Evans said several hundred gallons reached a local river and formed an oil slick. (This episode even made the Prairie Home Companion public radio show, which theorized that a lactose-intolerant hate group started the blaze.)

Evans also cited a 2002 soybean oil spill in a harbor in Charleston, South Carolina, and a 1999 canola spill into Vancouver Harbor in British Columbia that killed 2,000 birds.

The industry acknowledges that spills occur, but nothing like the 20,000 a year reported by the petroleum industry. Also, the food industry says its oils are biodegradable, not toxic, and that its containment record is exemplary.

In 1995, the industry thought it made progress in its long dispute with the EPA with passage of a law that directed federal agencies to consider the chemical, physical and biological differences between edible oils and other oils when making regulatory decisions.

David C. Ailor, director of regulatory affairs for the National Oilseed Processors Association, said the EPA paid no attention to the 1995 law when it issued its 2002 rule. “The 2002 rule is a carbon copy of what they did with petroleum oils,” said Ailor.

Evans said some help is on the way. The agency has two proposals planned that will offer guidance to EPA inspectors and some flexibility for companies, especially those with smaller facilities, Evans said. Next July, the agency expects to propose a rule to differentiate vegetable oil and animal fat facilities from other oils.

But those subject to the rules have a hard time believing that the EPA will pull the fat out of the fire. They note that talks about changes have gone on for years.

“This stuff makes us roll our eyes,” Ailor said. “They have done zero for us, and we don’t have much comfort in guidance.”

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other potential sources of oil spills such as oil piping and loading/unloading areas.

Bulk Storage Tanks

Bulk storage tanks are used for storage only; no treatment occurs in the tank and they are not part of processing equipment. The SPCC rules include specific requirements applicable to bulk storage tanks, as follows.

Secondary Containment

All bulk storage tanks must have secondary containment sufficiently impervious to contain a spill until it can be cleaned up. This may be an earthen structure as long as there is evidence to demonstrate that it can contain an oil spill. If rainwater quickly seeps out of an earthen containment structure, it would not contain an oil spill.

Double-walled tanks can be used to provide secondary containment as long as they were constructed to meet Underwriters Laboratory (UL) specifications and have interstitial monitoring to detect leaks between the two walls.

The secondary containment structure must be sized to hold the entire capacity of the largest tank in the containment structure with sufficient freeboard for precipitation from the 25-year, 24-hour rain event. Rainwater which accumulates in the containment structure must be manually removed after

visually checking for a sheen or other evidence of a spill. Unless this rainwater is drained to a wastewater treatment facility, the drainage must be documented. If there is evidence of a spill, the accumulated material cannot be drained with stormwater and must be properly handled to avoid discharge to a waterway.

Overfill Protection

Bulk storage tanks must have some means of preventing overfilling. This could be a sight gauge, liquid level sensor, high level alarm, or other means of measuring the oil in the tank. Manual measurement is allowed. If liquid level sensors are used, they must be checked regularly to be sure they are working properly.

Bulk Loading and Unloading

The SPCC regulations require containment of the largest compartment of a vehicle used for bulk loading/unloading of oils. This containment could consist of a concrete pad with drive-across curbing that is large enough to accommodate the entire vehicle and contain a spill. A manual drain valve on the pad could be normally left open and closed whenever a vehicle is on the pad. Another common type of containment is a pad with a drainage trench that would quickly drain a spill to the adjacent tank containment structure.

Piping

The location of oil piping must be shown on the facility diagram in the SPCC Plan and must have some form of secondary containment. This containment can be provided by an existing tank containment structure. If the area where the piping is present drains to a spill containment pond or other structure that could contain a spill, that could also provide adequate secondary containment. If piping is located inside a building and away from doors, drains, or other building exits, the building itself could provide containment. Double-walled piping could be used to provide containment or a tray under the piping could slope towards the tank containment structure so that any spills from the piping would drain back to the tank containment structure. If piping containment is not provided, regular integrity testing of the piping through pressure testing or other acceptable industry standards can be used to prevent spills.

Additional Resources

Additional information is available from EPA's website: www.epa.gov/oilspill. A guidance document for EPA SPCC inspectors is scheduled to be published in October 2006 and will be posted on this website.

Stanley Consultants can also provide assistance with SPCC and FRP compliance. You can contact: Rebecca Lance Svatos, P.E., Stanley Consultants, Inc., 319-626-3990 or svatosbecky@stanleygroup.com.

Security

Security is required by the SPCC regulations to prevent oil spills through vandalism. All oil storage areas should be fenced or otherwise secured to be sure that only facility personnel have access to the oil. Chain link fencing around the entire facility and/or the oil storage tanks is preferred. If the facility is not completely fenced, security guards or other measures may be used to secure the oil storage and handling areas. Lighting sufficient to detect spills at night and deter vandals is required at all oil storage locations. Master flow and drain valves and starter controls must be closed and locked when not in use.

Visual Inspection

Visual inspection of oil storage and handling areas must be conducted regularly to identify spills and conditions that could lead to spills. These visual inspections should include storage tanks, containment structures, loading/unloading areas, and oil piping. Although the rules do not specify inspection frequency, monthly or quarterly visual inspections are typical. The SPCC Plan must include written inspection procedures, the inspections must be documented, and the completed forms kept for at least three years. Any leaks, spills, or problems identified must be promptly corrected and should be documented.

Integrity Testing

In addition to visual inspections, the rules now require integrity testing (internal and external) for bulk storage tanks. This integrity testing must be done according to industry standards such as American Petroleum Institute (API) 653 or Steel Tank Institute (STI) SP001. Integrity testing must be conducted by an inspector certified according to the standard to be used. API 653 requires external in-service tank inspections every five years. Internal inspections require the tank to be taken out of service, emptied, and cleaned so the entire bottom is visible. API 653 internal inspections are required every 10–20 years depending on the corrosion rate of the tank. Because this is a new requirement in the SPCC rules, each facility should develop a schedule for integrity testing and begin implementing this schedule by August 2006.

Visual inspection alone is adequate for smaller shop-built tanks where there is a low risk of corrosion, all sides (including the bottom) are visible, and the tank is visually

inspected monthly. Therefore, integrity testing is typically not required for horizontal shop-built tanks on saddles or other structures that would allow a leak from the bottom of the tank to be visually detected as long as the tanks are visually inspected monthly.

Brittle Fracture Analysis

Another new requirement was added to the SPCC regulations in response to the 1988 Ashland oil spill in Pennsylvania. A 4,000,000 gallon diesel tank had been taken apart and reconstructed at a new location. It failed completely while it was being filled, contaminating drinking water for a million people as well as killing fish and thousands of birds. The tank failed due to brittle fracture of the welds.

A brittle fracture analysis is now required for all field-constructed tanks whenever they are reconstructed, altered, or repaired; when they have leaked or failed; or when there is a change in service. API 653 includes a flow chart that can be used to evaluate the risk of brittle fracture. If this analysis indicates there is a risk of brittle fracture, the tank should be integrity tested by a certified inspector before it is put in service.

Spill Response

The SPCC Plan must include a description of how a facility would respond to a spill. Appropriate phone numbers for reporting spills to federal, state, and local agencies should be included along with phone numbers for contracted spill response contractors, if applicable. Adequate spill equipment should be readily available onsite. The plan should include oil spill response procedures and methods for disposal of cleanup materials.

Training

All employees that handle bulk oils should be trained annually. Specific areas that must be addressed are SPCC regulatory requirements, general facility operations, use of equipment to prevent discharges, spill procedures, and known spills, leaks, and equipment failures that have occurred at the facility. All training must be documented and the records retained for at least three years.

Next Month: Part II: Facility Response Plan Requirements, by Becky Svatos. ■