

CHAPTER 2

SPCC PLAN DEVELOPMENT

2.1 INTRODUCTION

A Spill Prevention, Control and Countermeasure (SPCC) plan for oil and hazardous substances (HS) describes the procedures, methods, and equipment used at a facility's oil and/or HS areas to prevent or minimize the occurrence and impact of an oil or HS release. A SPCC plan is required for oil areas identified in Section 2.4. Spill control measures are required for certain other areas as discussed in Section 2.6. A SPCC plan is recommended for all hazardous substance areas as a best engineering practice. Developing and implementing a SPCC plan consists of five major steps:

- Identifying oil and HS present, potential spill sites, potential impact sites, and applicable areas.
- Evaluating areas for compliance with SPCC requirements.
- Preparing the SPCC plan using the results of the field surveys with recommended procedures and corrective actions. The SPCC plan may be completed on a facility level, addressing several areas, or for a single area.
- Implementing the SPCC plan's recommendations and procedures
- Reviewing the SPCC plan's effectiveness.

A SPCC Plan for oil and HS template document has been prepared to complement this manual. The template document has the basic format and information required for a SPCC plan. The user completes the document by surveying the area and inputting the required information and descriptions into the template document. The majority of the information is formatted in table form for ease of use. The template document is available in Microsoft Word[®] version 97 format.

This chapter will take the user through each step of the planning process.

2.2 SPCC RESPONSIBILITIES

The responsibility for developing and implementing the SPCC plan must be clearly established from the start. A Spill Control Committee (SCC) should be formed and tasked with this responsibility. The SCC should include representatives from Public Works, Engineering, Maintenance, Environmental, Safety, Supply, and Fire Department. The SCC functions similar to a fire prevention or safety committee. The

SCC's duties and responsibilities may include:

- Identify potential spill sources and oil and HS handled (materials inventory).
- Identify and correct spill prevention deficiencies.
- Establish spill reporting procedures.
- Establish visual inspection and records procedures.
- Review past incidents, countermeasures used, and lessons learned.
- Coordinate with the base spill contingency plan.
- Establish personnel training and education program.
- Review new construction and process changes at an area relative to spill prevention.
- Review, evaluate, and amend the spill prevention plan as required and institute appropriate changes at regular meetings.
- Coordinate all activities and organizations involved in implementing the plan.

The SPCC plan should delegate certain responsibilities to key personnel at the area. The following personnel are suggestions as to the appropriate personnel to assign SPCC responsibilities; evaluate the capabilities of people at your area when deciding who will be involved in the SCC and implementation of the SPCC plan. Personnel crucial to the successful implementation of an area's SPCC plan includes

- The Commanding Officer who is responsible for implementing the plan and budgeting and funding of SPCC projects;
- The Resident Officer in Charge of Construction (ROICC) or Public Works officer in charge of implementing SPCC construction projects;
- Area personnel, Public Works maintenance personnel, or Supply Fuel Department personnel are tasked with regular area inspections and preventive maintenance;
- A representative from the transportation office and a representative from the fire department;
- A representative from the safety office may be involved in employee training;
- The Security Office may be involved with after-hours area security inspections; and
- A representative from Public Works or Environmental Management may act as the area's regulatory contact and may keep pertinent SPCC records.

Whether your plan is developed by an outside consultant or in-house, the SCC must be proactive in performing these responsibilities. A registered professional engineer must certify the SPCC if the plan addresses any oil handling areas (40 CFR 112.3(d)).

2.3 RELEVANT INFORMATION AND RECORDS

2.3.1 General Area Information

A thorough familiarity with your area's mission, operation, and environmental setting is essential before preparing the SPCC plan. The nature of an area's operations, geography, and geology of the surrounding area affect the nature and extent of spill controls and countermeasures that may be required. The following information should be reviewed before starting the planning effort:

- Name and any alternative names for the area. This should include any identification including building number.
- Operator of the area, i.e. activity, department, tenant, command, etc.
- Area Operations; brief description of what the area does.
- Description of the area's physical plant.
- Designated Person; person who is accountable for spill prevention and who reports to line management
- Base master plan and organizational chart/manual.
- Base development and topographical maps.
- Location of area within host facility, e.g. map grid.
- Groundwater hydrology and soil permeability data.
- Base sanitary and storm sewer systems network.
- Existing or previous oil, hazardous substance, and hazardous waste (HW) related plans/studies.
- Past oil or HS spill records.
- Presence of environmentally sensitive areas including water bodies, parks lands, wildlife refuge areas, and similarly protected areas.
- Base chemical inventories (Supply and Base Environmental records).
- Base Fire Department inspection records for oil and HS storage areas.
- Compliance obligation (mandatory or optional) as determined by comparing the area storage equipment with the regulatory requirements described in Section 2.4 of this manual.

Even if a contractor prepares your SPCC plan, you should collect this information to ensure that you understand the current conditions. In addition, the information will be readily available for use by the contractor, which may reduce the cost of the plan.

2.4 DETERMINATION OF SPCC PLAN REQUIREMENTS

2.4.1 Facility

EPA verbally defines “facility” as fenceline to fenceline on a Naval Base for SPCC applicability and not individual facilities (i.e. fuel farms, bulk storage, gas stations, and etc.) within the Naval Base. However, many naval bases have other facilities within the base. They are also referred to as facilities. The terminology may be confusing. To clarify what is applicable to the threshold, the definition, a facility can be any container of oil which could reach navigable waters within the confines of the Naval Base, needs to be evaluated. Even though the individual facilities within the base facility do not meet the threshold requirements, all of the containers of oil collectively need to be considered. Once the requirement of a SPCC Plan is determined, the individual facilities within a base will be referred to as an “area.” An area can be a fuel farm (a collection of tanks), an emergency generator (one or more tanks), or a used oil tank (typically one tank). There can be multiple oil storage containers within an “area.” For example, the fuel farm facility will now be called a fuel farm “area” with multiple tanks.

An activity could optionally split their base into multiple facilities, but this must be coordinated through their Regional Environmental Coordinators (REC) and local regulators.

There is a large variety of types of SPCC areas, and most have only a few medium to small size tanks or distribution points. Sources of spills at end use areas include overfilling tanks, leaking tanks, and drum leaks and spills. Many of these areas have waste oil tanks, for collection and temporary storage of waste oil, which are below the size limit which requires an SPCC plan. However, since small spills frequently occur at waste oil tanks due to improper housekeeping practices, waste oil tanks deserve consideration as a SPCC facility.

2.4.2 Applicability under 40 CFR 112 (Oil Regulation)

An area must be included in the SPCC plan when the area meets certain criteria concerning the transportation classification, storage capacity, and potential for discharge. If either of the following sections is applicable, a SPCC plan is required.

2.4.2.1 Probability of Reaching Navigable Waters 112.1(d)(1)(A)

If an area can reasonably be expected to discharge oil into or upon a navigable waterway or shoreline of the United States or meets the size requirement shown in Section 2.4.2.3 of this manual, then the area needs an SPCC plan. A waterway need not be navigable at the location where oil would enter the waterway for it to be considered navigable. The term "navigable waterways" includes not only the traditionally recognized navigable waters, but all streams, creeks, lakes, and ponds which are used recreationally or commercially and tributary systems connected to these bodies of water.

Naval activities that are inland may or may not have the potential to discharge to a U.S. waterway. Although an oil area may be far from a navigable waterway, if drainage

from the area could reach a navigable waterway through surface or groundwater migration, the area must be included in a SPCC plan. This means that a spill at any site may have the potential to reach a navigable waterway. You will need to consult topographic maps of your activity and surroundings to determine or predict the final destination of your activity drainage. Is your activity in a basin that feeds streams or tributaries to a navigable waterway? If so, it is reasonable that drainage from your activity could ultimately flow to navigable waters.

The probability of spills reaching navigable waters or its shores must be determined without consideration of spill control or other man-made structures. Man-made features such as dikes, equipment, or other structures that may serve to contain or prevent an oil discharge from reaching a navigable waterway cannot be considered. If the contours of the landscape can retain the potential spill volume, then there is a low potential of the spill reaching navigable waters. If navigable waters or a storm drain discharging to navigable waters is adjacent to the storage area, then there is a high potential of the spill reaching navigable waters. If navigable waters are not adjacent to the storage area but the terrain cannot retain the potential spill volume then there is a medium potential of the spill reaching navigable waters.

Table 2-1 lists potential spill hazards at various types of oil areas. The table also gives the relative probability of a spill from different types of equipment at an area and the possible severity of a spill from the site.

2.4.2.2 Transportation Classification

112.1(a)

The EPA regulates non-transportation-related oil areas under 40 CFR 112, while the U.S. Department of Transportation (DOT) regulates transportation-related oil areas under 33 CFR 154 and 33 CFR 156, oil pipelines under 49 CFR 194, and hazardous liquid pipelines under 49 CFR 195. EPA's SPCC regulations, 40 CFR 112, require non-transportation-related oil areas meeting certain criteria to have SPCC plans.

The distinction between a transportation-related and a non-transportation-related area is defined in the Memorandum of Understanding, presented in Appendix A of 40 CFR 112, between the Secretary of Transportation and the Administrator of the Environmental Protection Agency. Appendix B of 40 CFR 112 states the agreement between the EPA, DOT, and the Department of Interior (DOI) as follows:

- EPA regulates non-transportation related offshore facilities located landward of the coast line
- DOT regulates transportation related facilities, including pipelines, located landward of the coast line and retains jurisdiction for deep-water ports and their associated pipelines
- DOI retains jurisdiction over facilities, including pipelines, located seaward of the coast line, except for deep-water ports and their associated pipelines

Tanker trucks that operate solely within the boundaries of an installation are regulated as “portable tanks” by EPA under 40 CFR 112 (see 40 CFR 112, Appendix A, Section II, (1)(J)). 40 CFR 112 is presented in Appendix B of this document. Figure 2-

1 illustrates the distinction between the two classifications.

2.4.2.3 Oil Storage Capacity

112.1

For the purpose of 40 CFR 112, oil storage occurs when an area is engaged in storing, transferring, distributing, or consuming oil. The associated piping of a storage tank is to be considered as part of the capacity. 40 CFR 112 defines specific storage capacity thresholds; when an area meets or exceeds one of the thresholds and could reasonably be capable of discharging oil in harmful quantities into navigable waters, the area must be included in an SPCC plan. The total storage capacity of the area must be considered, not just the typical or anticipated storage capacity.

An oil storage area, which could reasonably be capable of discharging oil in harmful quantities into navigable waters, requires an SPCC plan when the total storage capacity of the area meets or exceeds any of the following thresholds:

- The underground storage capacity of the area is greater than 42,000 gallons of oil, or
- The aboveground storage capacity of the area is greater than 1,320 gallons of oil, or
- The individual aboveground storage capacity of any one container or tank at the area is greater than 660 gallons of oil.

The minimum size container that should be included in an SPCC is 55 gallons, however, smaller quantities should also be included if they are a threat to waterways.

2.4.3 Applicability Under Various HS Regulations (OPTIONAL)

The Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) definition of a potential HS spill site includes any area, building, structure, equipment, pipe or pipeline, well, pit, pond, lagoon, landfill, ditch, container, vehicle, rolling stock, or aircraft, that could experience an HS spill or release of sufficient magnitude to require reporting it to the National Response Center.

A hazardous substance, or HS, is any substance, which because of its quantity, concentration, or physical/chemical characteristics, may pose a substantial hazard to human health or the environment, when spilled or released to the environment. The CERCLA definition of HS includes substances regulated under several laws including the Clean Water Act (CWA), Resource Conservation and Recovery Act (RCRA), Toxic Substances Control Act (TSCA) and the Clean Air Act (CAA). EPA has published a consolidated list of these substances in 40 CFR 302.4, along with a "reportable quantity" for each substance. The term, HS, does not include petroleum and petroleum products (including crude oil) which are not otherwise specifically listed in 40 CFR 302, nor does it include natural gas, natural gas liquids, liquefied natural gas, or synthetic gas usable for fuel.

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**Table 2-1
Areas of Potential Spill Hazards**

	Tank Farms	Terminals	Airports	Power Plants	Industrial Plants	Drilling	Onshore Prod	Offshore Prod
Tanks								
Gauges	H/3	M/3			H/3		M/3	M/2
Sampling areas	H/3	H/3	M/3	M/3	H/3			
Shell and bottoms	L/1	L/1	L/1	L/1	L/1		L/1	L/1
Underground seepage	L/1	L/1	L/1	L/1	L/1			
Heating coils	M/2			M/1	L/2			
Containment dikes	M/2	M/2	M/2	M/2	M/2	M/3	L/2	
Dike drains	H/2			L/2	M/2		M/2	
Pipe, Valves, and Fittings								
Seal failure						L/1	L/1	L/1
Valve stem packing	M/3	M/3	M/3	M/3	H/2		M/2	M/2
Gaskets	M/2	H/3	M/3	M/3	H/2		M/2	M/2
Pipe rupture	L/1	L/1	L/1	L/1	L/2		L/1	L/1
Pumps and Mechanical Equipment								
Seals	M/2	M/3	M/3	M/2	H/2	H/3	H/1	H/2
Lubricating systems					H/2	H/3		H/2
Loading Stations								
Fill safeguards		L/1	L/1				H/2	
Curbs and drains		H/2	H/2				M/2	
Waste Disposal								
Oil sumps	M/2	M/3		M/2	M/2		H/2	H/2
Separators	M/2	M/3		M/2	M/2		M/1	H/2
Site drainage	H/1	L/2	M/2	L/2	H/2	H/2	M/2	
Pits						M/2	M/2	
OPERATIONS								
Tanks								
Filling/Overfilling	H/1	H/1	M/2	M/1	H/1	M/2	H/1	L/2
Sampling	H/2	M/3	M/3	M/3	H/2		H/3	L/3
Cleaning	H/1	L/2	L/2	L/2	M/1		H/2	L/2
Dike draining	H/2			L/2	M/2		H/2	
Pipe, Valves, and Fittings								
Maintenance		H/2	M/2	M/2	H/2	H/1	H/3	H/2
Collision		H/1	L/2		L/1		L/1	
Pumps								
Maintenance	H/3	H/3	H/3	H/3	H/2	H/2	H/3	H/2
Loading Racks								
Overfills		H/2	M/2				H/2	
Loading drips		H/3	H/3				H/3	
Waste Disposal								
Monitoring	H/2	M/3	M/3	M/3	M/2	M/2	H/2	H/2
Maintenance	M/1	L/2	L/3	L/3	L/2	H/2	L/2	L/1

Probability	Severity
H - High, occurs frequently	1 - Major cleanup required
M - Medium, could occur periodically	2 - Intermediate cleanup required
L - Low, could occur on less frequent occasions	3 - Minor cleanup required

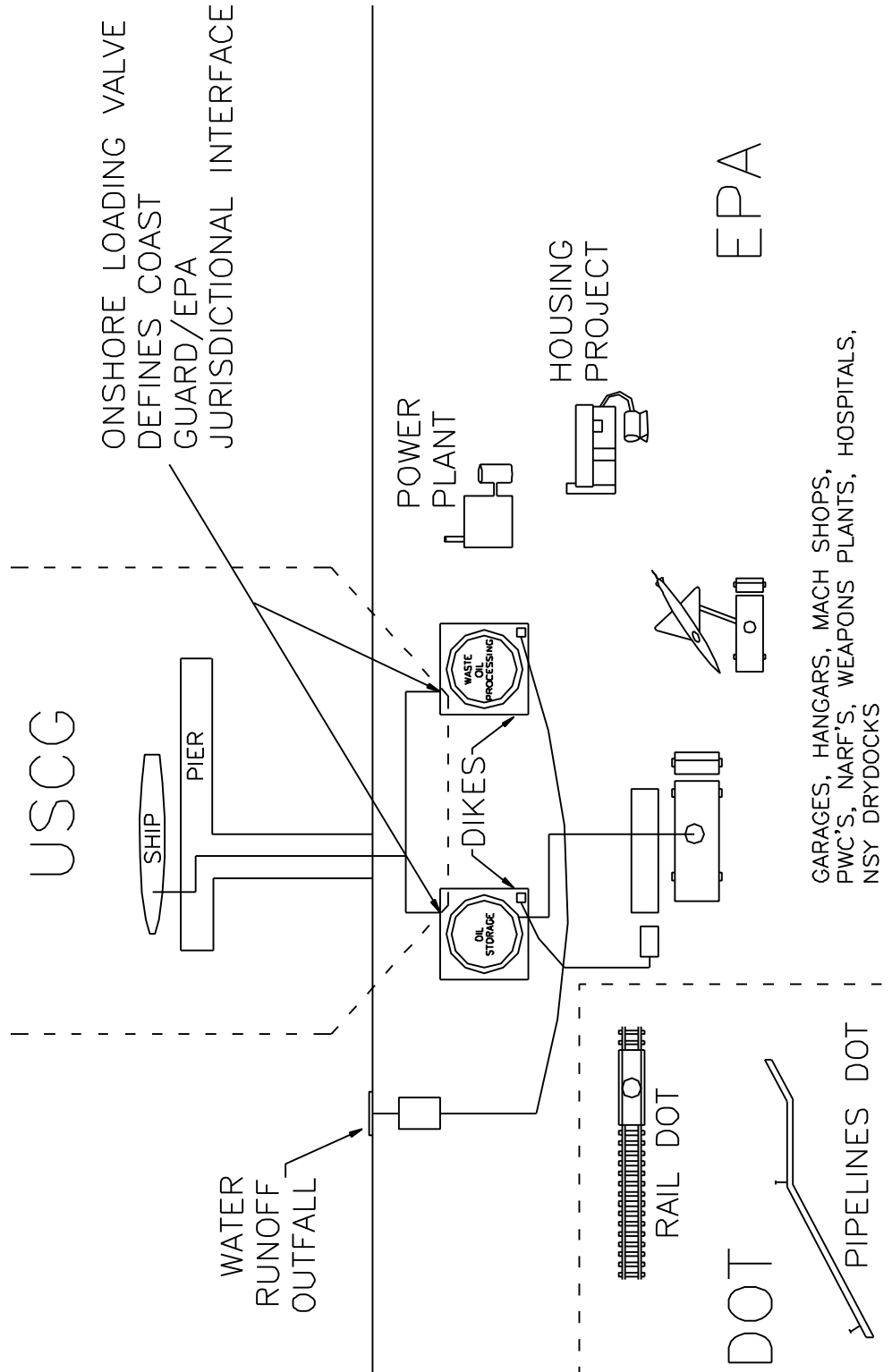


Figure 2-1
Boundaries of U.S. Coast Guard and EPA Jurisdiction

CERCLA also defines an HS "release," as any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping or disposing of a regulated HS into the environment. All locations having the potential for releasing into the environment any of the regulated HS specified in 40 CFR 302.4 should be incorporated into the SPCC plan.

Navy areas and equipment which are subject to spill prevention requirements can be categorized as follows:

- Drums and smaller container storage and handling areas such as operation shops, raw material warehouses, HW storage areas, and satellite accumulation areas.
- Bulk storage (fixed and portable HS/HW storage tanks, bow-sets, process tanks and transfer tank car/truck loading and unloading areas, piping systems, pumps, etc.) areas.
- Spill control structures and drainage systems (containment areas, diversion channels and sewers, treatment ponds and lagoons, etc.).

When identifying potential spill sites using the above criteria, keep in mind that there are five types of releases that are exempted under CERCLA:

- Releases to the environment in compliance with Federal/State permits.
- The normal application of fertilizers.
- The normal application of registered insecticides, fungicides, herbicides, and rodenticides in accordance with recommended procedures.
- Emissions from engine exhaust on moving vehicles.
- Releases that do not enter the environment. This primarily includes indoor storage areas of small quantities of nongaseous substances, stored in such a way that spills cannot come in contact with the soil or enter a drain where they may be released into the environment.

The SPCC plan preparer should examine each site identified under the above groups for the potential risk of HS releases to the environment. An HS inventory should be developed for every area identified to determine the specific sources and quantities of HS handled at each particular site. The detail of each site's inventory should be proportionate to the quantity of HS present and their potential risk to the environment.

2.5 SPCC PLAN REQUIREMENTS

The primary motivation for developing a SPCC plan is to comply with Federal and Naval regulations. To satisfy the requirements of 40 CFR 112, your SPCC plan must address some general conditions.

2.5.1 Engineering Certification**112.3(d)**

Unless the SPCC plan covers areas handling only HS, the SPCC plan must be certified by a registered professional engineer (PE) who is familiar with the provisions of 40 CFR 112, has examined the area, and has reviewed the SPCC plan. The PE certifies that the SPCC plan has been prepared in accordance with good engineering practices. In addition, a registered PE must certify the plan every time the plan is amended.

2.5.2 Command Endorsement**112.7**

The plan is required to have full approval of management at the level that has the authority to commit all necessary resources. A written endorsement of the plan is required to be given by the Commanding Officer and the Public Works Officer. The SPCC plan should identify the specific deficiencies and corrective actions required so that management can commit the resources to eliminate SPCC deficiencies. The plan can be used to:

- Fund projects - the plan summarizes, prioritizes, and estimates costs of projects. The plan also provides logs to record the projects' implementation.
- Correct procedures - the plan provides written procedures for standard area operations.
- Assist in spill response - the plan provides maps, drawings, and spill prediction to assist response efforts. The SPCC plan is not a contingency plan, but can be a useful document to supplement the area's contingency plan during response.
- Identify training requirements - the plan identifies appropriate personnel training and incorporates site-specific responsibilities and procedures.

2.5.3 Plan Accessibility**112.3(e)**

40 CFR 112 requires that a complete copy of the SPCC plan be maintained at the area if the area is normally attended at least 8 hours per day or at the nearest field office if the area is not attended. The plan must be made available to the EPA Regional Administrator, or his representative, for on-site review during normal working hours.

The activity Environmental Coordinator should maintain a complete copy of the plan, as should each SPCC area at the facility.

However, if the plan is too large, each area should maintain a copy of the sections of the plan which are pertinent to the area. Pertinent sections include the facility instruction that implements the SPCC plan, general facility-wide procedures, operating procedures and instructions, and the specific evaluation of the area. In the SPCC template, this would include Sections 1 through 4 and the area-specific subsection from Section 5.

2.6 ADDITIONAL REGULATIONS

As stated in Section 1.2, OPNAVINST 5090.1 states that Navy activities must comply with all applicable laws and regulations including implementing SPCC plans (OPNAVINST 5090.1, Section 9-4.2).

The areas categorized in Section 2.4 must comply with several existing Federal spill prevention regulations.

2.6.1 40 CFR 264 and 265 for RCRA HW Areas

40 CFR 264 and 40 CFR 265 are identical regulations; 40 CFR 265 is an interim status standard derived from 40 CFR 264. Both regulations cover hazardous waste treatment, storage, and disposal areas permitted under the Resources Conservation and Recovery Act (RCRA) and establish minimum national standards for the management of hazardous waste. Hazardous waste generators are required to manage hazardous waste in accordance with the storage standards in 40 CFR 265. Table 2-2 lists the topics pertinent to spill prevention planning and the regulations that apply.

**Table 2-2
Selected Hazardous Waste Regulations**

Topic	Regulation
Security	40 CFR 265.14 (required for TSD Facilities)
Inspection	40 CFR 265.15 (required for TSD Facilities)
Personnel Training	40 CFR 265.16 (required for TSD Facilities and HW Generators)
Safety Equipment	40 CFR 265.32 (required for TSD Facilities and HW Generators)
Preventative Maintenance	40 CFR 265.33 (required for TSD Facilities and HW Generators)
Record Keeping	40 CFR 265 Subpart E (required for TSD Facilities)
Container Storage	40 CFR 265 Subpart I (required for TSD Facilities and HW Generators)
Material Compatibility	40 CFR 265.172 (required for TSD Facilities and HW Generators)
Tanks	40 CFR 265 Subpart J (required for TSD Facilities and HW Generators)
Hazardous Waste Surface Impoundments	40 CFR 265 Subpart K (required for TSD Facilities and HW Generators)

2.6.2 40 CFR 125 Best Management Practices Requirements

Subpart K of 40 CFR 125 provides the criteria and standards for best management practices (BMP) for ancillary industrial activities subject to permitting requirements under the Clean Water Act (NPDES permits). This applies to dischargers who use, manufacture, store, handle, or discharge any pollutant listed as toxic or hazardous under the Clean Water Act. 40 CFR 125 applies to storage areas, in-plant transfer, process and material handling areas, loading and unloading operations, plant site runoff, and sludge and waste disposal areas.

The BMP program address the following points:

- Statement of Policy
- Spill Control Committee
- Material Inventory
- Material Compatibility
- Employee Training
- Reporting and Notification
- Visual Inspections
- Preventive Maintenance
- Housekeeping
- Security

In order to comply with stormwater BMPs, many Navy activities have developed Storm Water Pollution Prevention Plans (SWPPPs). Spill prevention is generally a component of a SWPPP. To the extent possible, activities should attempt to avoid duplication between their SWPPP and SPCC plans. If HS storage area spill prevention is already adequately addressed by an activity's SWPPP, then these areas should not be included in the SPCC plan. For oil storage areas, the EPA allows the SPCC plan to be incorporated by reference into the SWPPP's written stormwater BMPs (40 CFR 125.104(b)(4)). At a minimum, there must be consistency between the SWPPP and SPCC plans; otherwise, it will be difficult for an activity to comply with both plans. The EPA developed the NPDES Best Management Practices Guidance Document, PB80-135221, to assist permitting authorities and permit applicants to comply with the BMP requirements. State and local requirements are not addressed in this manual, but must be met where they exist.

2.6.3 40 CFR 761 Polychlorinated Biphenyls (PCBs)

40 CFR 761 establishes requirements for the manufacture, processing, distribution, disposal, and storage of polychlorinated biphenyls (PCBs). 40 CFR 761.65 covers PCB spill prevention and applies to the storage for disposal of PCBs at concentrations of 50 ppm or greater. 40 CFR 761.65 also provides criteria for storage containers, PCB transformers, and inspection for leaks. The following criteria for a PCB storage area must be met:

- Adequate roof and walls to prevent rain water from reaching the stored PCB.
- An adequate floor with a minimum 6-inch high continuous curb. The floor and curbing must provide a containment volume equal to at least two times the internal volume of the largest PCB container or 25 percent of the total internal volume of all PCB container stored, whichever is greater.
- NO drain valves, floor drains, or other openings that permit liquids to flow from the curbed area.
- Floors and curbing must be constructed of continuous smooth and impervious material to prevent or minimize PCB penetration.
- Not located below the 100-year flood water elevation.

2.6.4 40 CFR 280 Underground Storage Tanks

40 CFR 280 establishes requirements for underground storage tanks. This regulation regulates underground storage tanks, partially-buried storage tanks, and bunkered storage tanks whose volume, including attached underground piping, is at least 10 percent beneath the surface of the ground and contains either petroleum oil or a CERCLA-regulated substance excluding regulated hazardous wastes. 40 CFR 280 does not regulate any of the following:

- Farm or residential tank of 1,100 gallons or less capacity used for storing motor fuel for noncommercial purposes;
- Tank used for storing heating oil for consumptive use on the premises where stored (covered by SPCC);
- Septic tank;
- Pipeline facility (including gathering lines) regulated under (covered by SPCC): The Natural Gas Pipeline Safety Act of 1968, The Hazardous Liquid Pipeline Safety Act of 1979, or Which is an intrastate pipeline facility regulated under state laws comparable to the provisions of the law referred to under this bullet;
- Surface impoundment, pit, pond, or lagoon;
- Stormwater or wastewater collection system;
- Flow-through process tank (covered by SPCC);

- Liquid trap or associated gathering lines directly related to oil or gas production and gathering operations (covered by SPCC); or
- Storage tank situated in an underground area (such as a basement, cellar, mineworking, drift, shaft, or tunnel) if the storage tank is situated upon or above the surface of the floor (covered by SPCC).
- Any UST system holding hazardous wastes listed or identified under Subtitle C of the Solid Waste Disposal Act, or a mixture of such hazardous waste and other regulated substances;
- Any wastewater treatment tank system that is part of a wastewater treatment facility regulated under section 402 or 307(b) of the Clean Water Act;
- Equipment or machinery that contains regulated substances for operational purposes such as hydraulic lift tanks and electrical equipment tanks;
- Any UST system whose capacity is 110 gallons or less;
- Any UST system that contains a *de minimis* concentration of regulated substances;
- Any emergency spill or overflow containment UST system that is expeditiously emptied after use.

The following deferrals under 40 CFR 280 are regulated for Release Response and Corrective Action outlined in Subpart F:

- Wastewater treatment tank systems;
- Any UST systems containing radioactive material that are regulated under the Atomic Energy Act of 1954;
- Any UST system that is part of an emergency generator system at nuclear power generation facilities regulated by the Nuclear Regulatory Commission under 10 CFR Part 50, Appendix A;
- Airport hydrant fuel distribution systems (covered by SPCC); and
- UST systems with field-constructed tanks (covered by SPCC).

Release Detection outlined in Subpart D of 40 CFR 280 does not apply to any UST system that stores fuel solely for use by emergency power generators, but such a system is covered in SPCC.

Given here are some of the highlights of 40 CFR 280. For a full detail description of the requirements stated in 40 CFR 280, consult the corresponding sections of 40 CFR 280 as listed below:

- The tank is to be constructed of fiberglass-reinforced plastic, steel fiberglass-reinforced plastic composite, or steel which is protected from corrosion using a suitable dielectric coating, an impressed current system, or a suitable cathodic protection system (40 CFR 280.20).
- UST systems must be made of or lined with materials that are compatible

with the substance stored in the UST system (40 CFR 280.32).

- Piping routinely containing regulated substances and in contact with the ground must be properly designed, constructed, and protected from corrosion (40 CFR 280.20).
- Underground steel piping must also be protected from corrosion using a suitable dielectric coating, an impressed current system, or a suitable cathodic protection system. Cathodic protection systems must be inspected in accordance with 40 CFR 280.31.
- Petroleum UST systems must have release detection for tanks (40 CFR 280.41(a)) and for piping (40CFR280.41(b)).
- Methods of release detection for tanks such as inventory control, manual tank gauging, tank tightness testing, automatic tank gauging, vapor monitoring, groundwater monitoring, and interstitial monitoring are required (40 CFR 280.43).
- Regulated tanks must have a spill catchment basin or other suitable device to prevent release when the transfer hose is disconnected from the fill pipe (40 CFR 280.20(c)).

Owners and operators must cooperate fully with inspections, monitoring, and testing conducted by the implementing agency, as well as requests for document submission, testing, and monitoring (40 CFR 280.34). Tanks are also required to have overfill protection such as automatic flow shut off devices, high-level flow restrictors, or high-level alarms. The operator must ensure that the volume available in the tank is greater than the volume of product to be transferred to the tank before the transfer is made and that the transfer operation is monitored constantly to prevent overfilling and spilling.

- New tanks are required to have a release detection system which can detect a release from any part of the tank and associated piping (40 CFR 280.40).
- Hazardous substance UST's are required to have secondary containment for the tank and associated underground piping (40 CFR 280.42).

The UST must be installed by a certified installer, be inspected by a registered professional engineer or implementing agency, or installed according to a manufacturer's checklist.

Existing regulated tanks must be upgraded no later than December 22, 1998, to the new UST system performance standards under 40 CFR 280.20 or to the upgrade standards in 40 CFR 280.21.

2.7 AREA EVALUATION

Once all potential spill sites are identified, each site must be evaluated for compliance with applicable requirements. The remaining chapters and appendices in this manual are devoted to assist in evaluating and identifying common spill prevention deficiencies and determining corrective actions for the various types of oil and HS areas defined in Section 2.4. This section describes how to evaluate these areas as the first step to prepare your plan.

2.7.1 Field Survey

A field survey must be done to identify deficiencies and inconsistencies with the SPCC requirements. In addition, corrective actions and an implementation schedule must be proposed to remedy these deficiencies.

When collecting data, it is not enough to say, "the dike area is impervious to oil." Saying, "the dike area is lined with a clay barrier and is impervious to oil" is a preferable statement. In addition, the source of supporting data should be identified, such as design drawings, field measurements, and personal interview. The field survey should be conducted using data collection worksheets (Appendix D) for identifying and organizing the required information.

2.7.2 Data Collection Worksheets

Appendix D contains data collection worksheets for each type of oil or HS area or operation to be included in the plan. Each site should be given a detailed inspection, using the data collection worksheets to collect, organize, and evaluate the site's relevant information. Key points of contact at each site should be interviewed to clarify unclear information.

There are several different data collection worksheets, each pertaining to a particular area category as described in Section 2.4. Each part contains checklists and fill-in boxes to examine the area for compliance with applicable requirements.

Particular attention should be given during these audits to defining accurate probable spill routes for all potential spill sources at each site. This can be as detailed as practical, and can include references to drainage maps, drawings, or pictures. The potential impacts to the environment, particularly navigable waters, natural resources, soil, and groundwater, should also be assessed at this time.

2.7.3 Identification of Deficiencies and Corrective Actions

After completing the field audits, the information collected should be evaluated with respect to applicable requirements and assessed to determine the relative risks of the deficiencies found. The subsequent chapters of this manual address common deficiencies associated with spill control systems and discuss appropriate solutions and corrective actions. The following information on all deficiencies identified must be documented:

- Nature of the deficiency and its impact in the event of a spill.
- Recommended corrective action.
- Whether deficiency violates an existing or proposed regulation or a good engineering practices.

The SCC should review deficiencies and include them in the SPCC plan. The nature and priority of the corrective actions is determined by the potential risk to human health and the environment and by the cost of the corrective actions. Permit violations and citations are high on the list of deficiencies that require immediate correction. Figure 2-2 shows broad guidelines for determining corrective action priorities.

**Figure 2-2
Illustrative Matrix For Determining Corrective Action Priorities**

Consequences	Actual Loss of Primary Containment	Imminent Loss of Primary Containment	Potential Loss of Primary Containment	Inadequate Secondary Containment
Extensive Danger to Life, Health, Property	Remove from Service until Defects are Corrected	Remove from Service or Repair Immediately While Area in Operations		
Potential Danger to Life, Health, Property				
Limited Property Damage Only			Repair During Next Scheduled Maintenance	
Esthetic Damage Only				Repair Within Reasonable Period in Accordance with Applicable Regulations

2.7.4 Corrective Actions

Once a SPCC deficiency is identified, there may be several corrective action alternatives from which you may choose. In most cases, however, the regulations are restrictive. All corrective actions must be properly documented. If procedural changes are an option, they are often quicker, cheaper, and easier to implement than design changes.

2.8 PREPARING THE SPILL PREVENTION PLAN

The results of data collection, descriptions of operations, spill prevention methods, equipment and procedures used or planned, deficiencies encountered, and recommended corrective actions should be incorporated into the SPCC plan.

The general facility information portion of the plan should list the facility's name, location, and mission, a background of installation operations and spill risk assessment, spill history, and the name and location of potential spill sites. This part should be short and concise.

The activity-wide oil and HS spill prevention procedures portion should include a statement of the plan's policy and objectives, function and responsibilities of the SCC, and the minimum general requirements applicable to all potential spill sites within your activity including:

- Spill Reporting
- Visual Inspections
- Preventive Maintenance
- Good Housekeeping
- Standard Operating Procedures
- Employee Training
- Documentation and Records

Implementing these requirements is relatively low in cost and is generally independent of material/substance, equipment used, and area location. The requirements are discussed in detail in subsequent chapters of this manual.

Individual site-specific plans should be prepared for each potential spill site. The SPCC plan should include a general statement of site operations, oil and HS inventories, risk assessment and probable spill routes, specific spill prevention controls and countermeasures used for potential spill sources, existing deficiencies and proposed corrective actions. Specific control and countermeasures to be addressed include:

- Material Compatibility
- Integrity Testing
- Secondary Containment
- Drainage Control
- Corrosion Protection
- Overfill Prevention
- Traffic Collision Protection
- Security
- Marking and Labeling

Specific control and countermeasures will be determined by the spill source equipment (tanks, pumps, etc.), location and topographic constraints, oil and HS involved, potential health or environmental impacts, area or equipment age,

engineering design, effectiveness of the existing spill contingency plan, and applicable requirements.

Site-specific oil and HS-specific control and countermeasures are often subject to the discretion of the local regulatory agency and depend upon the site condition at each area. Therefore, their application and cost may vary widely from site to site. Guidance on control and countermeasures applicable to Naval areas subject to spill prevention regulations is provided in chapters 4 to 10 of this manual.

Specific guidelines for the review and update procedures section are provided in Section 2.10.

The supporting appendices of the SPCC plan should include all forms required for conducting and/or keeping records of inspections, preventive maintenance, testing, personnel training, SOPs, and project funding requests. The appendices should also include copies of the relevant regulations. A number of inspection forms developed for these purposes are included in Appendix E.

Appendix I, a sample plan for a fictitious Navy activity, has been developed to illustrate how a plan would look when prepared following the guidelines in this manual.

2.9 IMPLEMENTING THE SPILL PREVENTION PLAN

After the SPCC plan has been completed, it should be reviewed by the SCC and other necessary personnel for approval and implementation. Once approved, a professional engineer must certify it, attesting that he or she is familiar with applicable regulations, that he or she has examined the areas, and that the plan complies with good engineering practices and applicable requirements.

Finally, your area Commanding Officer should officially promulgate the plan, state the purpose, and direct all area personnel and organizations to support it fully.

2.10 PLAN REVIEW AND AMENDMENT

112.4**112.5**

The oil and HS SPCC plan is a dynamic document which must be reviewed periodically and amended. The frequency of these reviews must be stated in the plan and should, as a minimum, occur at the following intervals:

- When there is a change in area design, construction, operation, and maintenance, which materially affects the area's potential for releasing oil and HS into the environment.
- When the NPDES or RCRA permit is issued, reissued, or changed.
- When the SPCC plan fails or proves ineffective in the prevention or containment of a spill event.
- At the request of an authorized official from an applicable enforcement agency.
- After enactment of or amendment to applicable laws and regulations, or

changes in DOD or Navy policy, which affect the SPCC plan.

- After any changes in adjacent land or water use that would affect spill prevention and response considerations.
- As deemed necessary by the SCC or other authorized official.
- At least every three years, for oil areas and NPDES permitted areas which must comply with Best Management Practices under 40 CFR 125, Subpart K. Amendments should be implemented as soon as possible but no later than 6 months after a change occurs.

The SCC should be responsible for reviewing and amending the plan. The plan should be updated using the same procedures used to develop the plan initially (i.e. detailed field audits of each potential spill site). Special attention should be given to:

- New or changed locations and quantities of oil and HS
- Process changes that affect the potential and location of spills
- Changes in probable spill routes resulting from construction, particularly when it is unrelated to oil and HS.
- New spill prevention technology

The SCC should monitor any corrective actions that may result from amending the SPCC plan. The review and any resulting amendments or changes to the plan must be logged on a record sheet and attached to the plan. When significant changes or amendments are made to the plan, a PE must recertify the SPCC if the plan covers any oil handling areas (40 CFR 112).