

CHAPTER 1

INTRODUCTION

1.1. PURPOSE

This manual guides Navy areas in developing and implementing their Spill Prevention, Control, and Countermeasure Plan (SPCC Plan) for oil and hazardous substances (HS). This document is required by the Environmental Protection Agency (EPA) Part 40 of the Code of Federal Regulation, Section 112 (40 CFR 112), the Oil Pollution Prevention regulation, and OPNAVINST 5090.1B, for oil areas meeting the criteria in 40 CFR 112. Spill control measures are required for hazardous waste (HW) storage areas regulated by either 40 CFR 264 or 40 CFR 265. Additionally, some spill control measures are required for underground storage tanks (USTs) regulated by 40 CFR 280. HS storage areas, not specifically regulated by the above referenced regulations, do not have regulated spill control requirements; however, it is considered best engineering practice to have spill control measures at all HS storage areas. Therefore, it is recommended that all HS storage areas be included in Navy SPCC plans. For overseas locations please refer to OEBGD/FGS criteria for spill prevention guidance.

The SPCC requirements are intended to minimize an area's potential for an oil or HS spill, to prevent any oil or HS spill from leaving the confines of the area, and to ensure that the cause of any spill is corrected. These goals are accomplished by requiring compliance to specific design standards for oil and HS storage, standard operating procedures, inspections, testing, construction of containment structures, personnel training, and placement of equipment at the area.

This manual guides the user through the planning process, from assessing areas, to collecting and organizing the information that goes into the plan, to preparing and implementing the plan. This manual also helps the user determine to which areas the various regulations apply, identify physical and procedural deficiencies, and propose corrective actions.

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.

1.2. WHY PLAN?

Navy areas use, store, treat, process, and transport large quantities of oil and HS in support of their mission. These substances are at a constant risk of being spilled into the environment due to accidents, equipment failure, operator error, and other unscheduled events. To insure mission readiness, the Navy is concerned with the proper and efficient operation of its areas. Navy resources are impacted whenever oil and HS spills occur.

Oil and HS spill prevention is currently regulated under several Federal laws and regulations, especially those dealing with oil, HW, Polychlorinated Biphenyls (PCBs), and NPDES permitted areas under the Clean Water Act (CWA). State and local agencies may also have regulatory requirements which must be met and addressed in the SPCC plan.

Implementing adequate provisions such as dikes and curbing reduces the impact of a potential spill. The cost of planning is small when compared to the potential cleanup costs, worker injuries, public health and environmental impacts, production downtime, expensive fines and lengthy litigation, as well as the poor public image that a large spill creates.

1.3. LEGAL AND NAVY REQUIREMENTS

The CWA required the EPA to promulgate regulations to protect the surface waters of the United States. Consequently, in 1973 the EPA published 40 CFR 112, requiring applicable oil areas to develop and implement an SPCC plan. Since then, this CFR has been amended several times between 1973 and March of 1996. The Chief of Naval Operations (CNO), through the Environmental and Natural Resources Protection Manual (OPNAVINST 5090.1), directs applicable Navy areas to conform with 40 CFR 112 by developing and implementing SPCC plans. OPNAVINST 5090.1 states that Commanding Officers at Naval shore activities are responsible for budgeting, funding, and implementing hazardous material (which includes HS) spill prevention plans. The combination of these requirements is the SPCC Plan for oil and/or HS. For overseas locations please refer to OEBGD/FGS criteria for spill prevention guidance. Oil Pollution Act (OPA) and Non-OPA guidance is addressed in a separate guidance document.

40 CFR 112 requires that SPCC Plans be prepared for facilities which have the following storage capacities:

- 1) USTs with a capacity of more than 42,000 gallons of oil (40 CFR 112.1 (d)(2)(i)); or
- 2) Total aboveground storage tank (AST) capacity of greater than 1,320 gallons of oil (40 CFR 112.1 (d)(2)(ii)); or
- 3) At least one AST with a capacity greater than 660 gallons (40 CFR 112.1 (d)(2)(ii)).

These capacities can be reached by a single tank or multiple tanks in order for SPCC to apply. The minimum size container that should be included in a SPCC is 55 gallons, however, smaller quantities should also be included if they are a threat to waterways. There are many different functions and types of tanks such as oil tanks, hazardous waste tanks, day tanks, permanent storage tanks, single and double walled tanks, and process tanks, but it is beyond the scope of this guidance manual to cover in detail all the different possibilities. It is only important to realize the above definition of a regulated tank and to use the Navy definition of SPCC tanks as stated above for best management practices.

In addition to 40 CFR 112, other pertinent regulations such as those for USTs should be applied when evaluating oil and HS storage areas. The EPA regulates non-transportation related oil areas under 40 CFR 112, while the U.S. Department of Transportation regulates marine 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.

All USTs must be included in the SPCC once the thresholds have been reached.

Section 2.6 of this guidance manual lists additional regulations. The following is a summary of notable regulations.

- 40 CFR 125, Subpart K, provides the criteria and standards for best management practices (BMP) for ancillary industrial activities subject to permitting requirements under the CWA. This applies to dischargers who use, manufacture, store, handle, or discharge any pollutant listed as toxic or hazardous under the CWA.
- 40 CFR 264 and 40 CFR 265 set standards for owners and operators of HW treatment, storage, and disposal areas.
- 40 CFR 280 addresses technical standards and corrective action requirements for owners and operators of USTs. This regulation impacts USTs, 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 Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)-regulated substances excluding regulated HW.
- 40 CFR 761 establishes requirements for the manufacture, processing, distribution, disposal, and storage of PCBs. This regulation addresses such topics as containment, maintenance, inspection, security, etc.

1.4. DIFFERENCES BETWEEN SPCC AND CONTINGENCY PLANNING

Though they may be easily confused for one another and may contain some of the same material, SPCC plans and contingency plans are two distinct, separate plans with different purposes and different laws and regulations behind them.

SPCC plans are required by 40 CFR 112 and OPNAVINST 5090.1B. An SPCC plan defines what measures are being taken at oil and HS areas to prevent spills. An SPCC plan documents spill prevention structures, procedures, and equipment that are already in place, and recommends any additional spill containment structures, procedures, and equipment that should be in place. SPCC plans at areas handling oil must be certified by a registered professional engineer.

Contingency plans are required by 40 CFR 300, which is authorized by CERCLA. Contingency plans call for pre-planning the response to and cleanup of a spill that has actually occurred. Contingency plans detail how personnel will respond to a spill that has already occurred. This is the major difference: SPCC plans address spill prevention, while contingency plans address spill response. Additionally, contingency plans are not required to be certified by a registered professional engineer.

1.5. SCOPE

This SPCC Guidance Manual provides guidance for spill prevention planning at oil and HS areas. It is directed towards area environmental coordinators and engineering field division environmental engineers who develop or recertify SPCC plans for their areas.

This manual is intended to supplement, not replace, other technical references, manufacturer's material, and professional experts. It is not a design manual; the technical guidance is directed towards upgrading existing areas rather than designing new areas.

This manual deals specifically with HS listed in 40 CFR 302 under CERCLA, HW as defined in 40 CFR 261, and oil, fuels, and petroleum products as defined in 40 CFR 112. This manual does not address natural gas, natural gas liquids, liquefied natural gas, and synthetic gas usable for fuel. Liquefied natural gas areas are regulated under the Natural Gas Pipeline Safety Act of 1968. Spill prevention requirements under this act are covered in 49 CFR 193. Also, pipeline areas used to transport hazardous liquids are regulated under the Hazardous Liquid Pipeline Safety Act of 1979. The safety standards of this act are prescribed in 49 CFR 195.

Other Navy chemicals not addressed in this manual include ordnance, explosives, chemical/biological warfare agents, and radioactive materials, as these are covered under separate programs. For information on these programs, consult your regional Engineering Field Division (EFD).

This manual does not address state or local spill prevention rules, regulations, and guidelines. You should consult your EFD for information concerning these requirements.

1.6. ORGANIZATION OF THIS MANUAL

This manual is divided into ten chapters:

Chapter 1 introduces the SPCC Guidance Manual and the regulatory requirements for preparation of a SPCC Plan.

Chapter 2 outlines the steps to follow in preparing a SPCC Plan for your area and provides guidance in surveying your areas, compiling information, and finalizing your SPCC Plan.

Chapter 3 discusses oil and HS use in the Navy: the types of oil and HS used, typical causes of spills, and the many impacts of spills.

Chapter 4 provides the specific SPCC requirements for oil and HS storage. This includes corrosion protection, secondary containment, level-sensing devices, and testing.

Chapter 5 outlines the requirements for transfer systems including piping and couplings, overfill protection, system testing, and operations.

Chapter 6 explains how to predict the path of spills.

Chapter 7 discusses spill containment structures such as dikes, berms, catchment basins, curbing, and sorbents.

Chapter 8 provides guidance on drainage control and treatment units.

Chapter 9 discusses the necessary site security for spill prevention and reporting.

Chapter 10 outlines the administrative procedures under SPCC.

Nine appendices provide information referenced throughout the manual:

Appendix A - Acronyms and glossary

Appendix B – Operational requirements of SPCC rule

Appendix C - Data collection worksheets for developing an SPCC Plan

Appendix D - Inspection forms and procedures

Appendix E - A compatibility matrix between specific chemicals and a variety of construction materials

Appendix F - Standard operating procedures for loading/unloading operations

Appendix G - A list of spill control equipment vendors

Appendix H - A sample oil spill prevention, control, and countermeasure plan

Appendix I - A tank management plan

Appendix J - An April 29, 1992, EPA memorandum concerning alternative secondary containment

Appendix K - A spill prevention training syllabus and outline presentation