

ACCELERATOR DIVISION ENVIRONMENT, SAFETY AND HEALTH PROCEDURE

ADSP-08-0301

IDENTIFYING AND INSPECTING POTENTIAL SPILL SOURCES

RESPONSIBLE DEPARTMENT ES&H

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TABLE OF CONTENTS

1.0	PURPOSE AND SCOPE.....	1
2.0	DEFINITIONS.....	1
3.0	RESPONSIBILITIES.....	2
3.1	AD Environmental Officer.....	2
3.2	AD Department Heads.....	2
4.0	INSTRUCTIONS.....	
4.1	Identifying Potential Spill Sources.....	3
4.2	Inspecting Potential Spill Sources.....	4
4.2.1	Visual Inspection of Primary Containment.....	4
4.2.2	Systems with Piping.....	4
4.2.3	Equipment and Systems with Secondary Containment.....	4
4.3	Inspection Documentation and Spill Reporting.....	4
4.3.1	Mandatory Monthly Inspections for Bulk Storage Oil Containers/OFOE (MI).....	4
4.3.2	Spill Reporting.....	5
4.4	Corrective Action.....	5
5.0	REFERENCES.....	5
6.0	DISTRIBUTION.....	5
	APPENDIX 1 AD ES&H Department Personnel.....	1 Page

1.0 PURPOSE AND SCOPE

This document establishes Accelerator Division (AD) procedures for identifying and inspecting potential sources of oil, other chemicals, or radioactive water spills. It provides guidance on what constitutes a spill source, the frequency that certain oil filled containers/equipment must be inspected, what to look for during the inspection, how to document an inspection.

The goals of this procedure are to help prevent spills through early detection of potential containment problems and to limit potential impacts of spills by identifying and reducing environmental or operational vulnerabilities. It addresses part of the required content of the local spill plan required by Fermilab Environment, Safety, and Health (ES&H) Manual Chapter 8030, Spills and Releases. Guidance for responding to an actual spill may be found in Attachment 2 of ADSP-02-0401, Accelerator Division Spill Control Plan.

2.0 DEFINITIONS

Bulk Storage Container: any container used to store oil. Example of a bulk storage container is a 55-gallon drum.

Credible Spill: Any spill which requires additional cleanup assistance or resources (more than is immediately available to the discoverer) or that impacts on the environment, regardless of spill size. This includes any spill of oil/chemical into surface waters (e.g., ditch, pond, lake, or stream), floor drain, storm or sanitary sewer, or any spill that requires resources beyond those immediately available to the discoverer.

EERAP: Environmental Emergency Response Action Plan is included within the monthly assessment procedures of the SPCC Plan. It consists of monthly inspections of oil-filled operational equipment that does not meet the secondary containment/environmental equivalent requirement. The monthly inspections are used to determine if the integrity of the equipment is damaged in any way that could cause a leak or spill to occur.

Large Spill: A spill of oil, chemicals, radioactive liquids, or other hazardous materials, of a sufficient size that it is reasonable to recover the spilled material in liquid form. The liquid is pumped into barrels, etc. for disposal. For non-hazardous liquids, this is normally a spill in excess of 50 gallons.

Oil-Filled Operational Equipment (OFOE): Oil-filled operational equipment is any equipment that includes an oil storage container (or multiple containers) in which the

oil is present solely to support the function of the apparatus or device. OFOE is not considered a bulk storage container. Transformers are most prevalent OFOE at Fermi.

Potential Spill Source: Piece of equipment, system or other source of oil, chemicals or other hazardous materials that might be of concern if spilled or released into the workplace or the environment. The AD EO will maintain a list of potential spill sources and the departments responsible for the equipment.

Primary Containment: The physical structure designed to contain the oil or hazardous substance; e.g., barrel, can, transformer case, etc.

Secondary Containment: Physical structure, such as curbing, dikes, cabinets, pans, etc., erected to contain the contents of the primary containment vessel, should it rupture.

Small Spill: A spill of a quantity of oil, chemicals, radioactive or hazardous materials sufficiently small that no attempt is made to recover it in liquid form. The liquid is absorbed with pads, oil dry, neutralizing agents, or wipes that are readily handy.

3.0 RESPONSIBILITIES

3.1 AD ENVIRONMENTAL OFFICER (EO)

The AD EO is responsible for:

- a. notifying department heads of any new requirements or revisions to Fermilab's SPCC Plan and programs;
- b. reviewing "Monthly Assessment Forms" for oil bulk storage containers and OFOE (MI) and maintaining them in a file;
- c. submitting revisions to the ES&H Section's Environmental Group regarding a new addition to the division's bulk storage oil containers/OFOE or removal of equipment that will increase or decrease the volume of oil in a location.
- e. inspecting potential spill sources that have been determined to be the responsibility of the ES&H Department.

3.2 AD DEPARTMENT HEADS

The department heads are responsible for:

- a. notifying the AD EO of new potential spill sources;
- b. notifying the AD EO whenever equipment is either added or removed from a location, especially bulk storage oil containers or OFOE, that will increase or decrease the volume of fluid in a location;
- c. ensuring that Monthly Assessment Forms for bulk storage oil containers/OFOE (MI) inspections are completed and submitted to the AD EO;
- e. reporting any credible spills that are detected via X3131. All spills (regardless of size) from potential spill sources should be reported, as a minimum, to the AD EO, alternate EO, or the AD Senior Safety Officer (SSO). See Appendix 1 for contact names and phone numbers.

4.0 INSTRUCTIONS

4.1 IDENTIFYING POTENTIAL SPILL SOURCES

Department Heads are responsible for reporting all new potential spill sources to the AD EO. In order to meet this requirement, department heads should review their areas for new equipment that could be a potential spill source using the following criteria:

Any system or fixed vessel that contains oil, glycol and water, radioactive water, or hazardous liquids, in excess of 50 gallons should be considered a potential spill source.

A non-permanent vessel (i.e., bulk storage oil container) that will be stored in an area for a short period of time (less than six months) is a potential spill source.

The AD/ES&H Department has also identified chemical and storage cabinets as potential spill sources even though these areas generally have the potential to spill less than 50 gallons. The determination of whether or not something represents a potential spill source will be based on the toxicity of the material, storage location, and potential for release. This determination should be made with the assistance of the AD EO.

4.2 INSPECTING POTENTIAL SPILL SOURCES

Spill sources that have the potential for release to the environment via ground, floor drains, or some other area that would be particularly hazardous or difficult to cleanup should be inspected by the departments responsible for the equipment. Inspections may be combined with the Department Head inspections conducted under the AD

Self-Assessment Program or any other routine inspections conducted by the group responsible for the equipment. A few potential spill sources that are in well-traveled, highly visible, indoor locations are not subject to the inspection requirements of this procedure.

The following conditions may not apply to all inspections because of the various types of spill sources included in 4.1.

4.2.1 Visual Inspection of Primary Containment Integrity

The outside of the primary containment vessel should be observed for signs of deterioration or any accumulation of oil/chemical outside of the tank/container.

Inspect tank supports, foundations, and seams for rust or other signs of decay that might lead to containment failure.

If possible, liquid level-sensing devices/gauges should be checked to make sure they are working correctly.

4.2.2 Systems with Piping

Assess the condition of all above-ground valves and pipelines. Inspect joints, valves, catch pans, pipeline supports, and locking of valves and metal surfaces.

4.2.3 Equipment and Systems with Secondary Containment

All bulk storage oil containers with a capacity to hold 55 gallons or more must have secondary containment. The secondary containment should be checked for cracks or other evidence of decay that could result in containment leaks. If applicable, check the drain valve to make sure it is closed and locked. Check for oil/chemical spillage or oil stains in secondary containment. When inspecting outdoor sources, check for standing water in the containment that should be drained to ensure that the secondary containment capacity remains sufficiently large to contain the total volume of a spill. If the containment basin contains gravel, check to make sure the void spaces are not choked with sediment and/or vegetation.

4.3 INSPECTION DOCUMENTATION AND SPILL REPORTING

4.3.1 Mandatory Monthly Inspections for Bulk Storage Oil Containers/OFOE (MI)

Employees responsible for monthly inspections of bulk storage oil containers and OFOE subject to Fermi's EERAP should be visually inspected to determine if the equipment is corroding, leaking, or other damage is present that may cause it to leak

or spill. The “Monthly Assessment Form”, available in the ES&H Section’s FESHM manual, chapter 8031 should be used to document the inspection. The manual is available on the ES&H Section’s website. The inspector should complete the form and document any problems encountered. Also include any corrective action taken and future action that is needed. The completed Monthly Assessment Form must be submitted to the AD/EO every month.

4.3.2 Spill Reporting

Any credible spill that is detected shall be reported via X3131. Any other spills, regardless of size, involving potential spill sources should be reported, as a minimum, to the AD EO, alternate EO, or the AD SSO.

4.4 CORRECTIVE ACTION

As stated in Section 4.3.1, any corrective action taken or needed should be noted in the inspection documentation.

Containment vessel or piping failures, such as corroded tank seams, gaskets, rivets and/or bolts, that allow leaks of oil/chemicals sufficiently large to cause an accumulation in containment areas should promptly be repaired. If it is not practical or feasible to fix small leakage problems immediately, at a minimum, spilled material should be cleaned up and materials such as absorbent pads, drip pans, or oil-dry shall be put into place to contain future leakage. Such temporary measures should not be relied upon for any longer than absolutely necessary because disposal of these materials can be costly.

5.0 REFERENCES

- 5.1 Fermilab ES&H Manual Chapter 8030, Chemical Releases Spill Prevention and Response
- 5.2 Fermilab ES&H Manual Chapter 8031, Oil Pollution Prevention
- 5.3 Title 40 Code of Federal Regulations Part 112, Oil Pollution Prevention
- 5.4 ADSP-02-0401, Accelerator Division Emergency Plan. See especially Attachment 2, AD Spill Control Plan.

APPENDIX 1

AD ES&H DEPARTMENT PERSONNEL

<u>Title (as written in procedure)</u>	<u>Contact Person</u>	<u>Ext.</u>
AD Environmental Officer (EO)	Sylvia Wilson	4489
AD Senior Safety Officer	John Anderson	4973
AD Waste Coordinator	Sylvia Wilson	4489

Approved By:  Date: 2.28.12