

SILICON VALLEY CLEAN WATER

May 2015

Slug Discharge Control and Spill Containment Guidelines

This document was revised and used with the permission of the Los Angeles County Sanitation District, Industrial Waste Section.

PURPOSE AND SCOPE

The general purpose of this document is to provide guidance to Industrial Users (IUs) to develop and implement plans to prevent the accidental or inappropriate discharge of hazardous materials/waste or materials which may impact the collection system, wastewater system workers, the processes at the wastewater treatment facility or public welfare. This is to protect public health and safety from hazardous conditions resulting from solvent fumes or the mixing of incompatible materials such as acid and cyanide and slug discharges that may cause collection system or treatment plant problems such as fire or explosion, corrosion, obstruction of flow, upset of treatment processes, discharge permit violations or excessive heat. Additional EPA guidance on spill containment and slug discharge control can be found at www.epa.gov/npdes/pubs/owm021.pdf.

SPILL CONTAINMENT PROGRAM REQUIREMENT

Any Industrial User (IU) with a significant potential to discharge RESTRICTED materials, as defined in Appendix A, is required to install and maintain an adequate spill containment system.

SLUG DISCHARGE CONTROL PLAN REQUIREMENT

Any Significant Industrial User (SIU) that may discharge any wastewater (including that from spill containment areas), treated or otherwise, AND that discharge may potentially cause adverse impacts to the collection system or treatment plant must complete and implement a Slug Discharge Control (SDC) Plan. All SIUs deemed to require a SDC Plan by SVCW must do so in accordance with these guidelines.

GENERAL SPILL CONTAINMENT REQUIREMENTS

All spill containment systems must be approved by your local Building Department prior to construction. If construction is completed prior to approval, modification to the system may be required. All systems must conform to the following general requirements:

- Process, storage, holding, or treatment tanks containing RESTRICTED materials as well as the associated piping, pumps, and other appurtenances must be contained if a spill or leak could enter the sewer. This includes tanks used for short-duration mixing, processing, or storage.
- All tanks containing incompatible materials such as acid and cyanide must be contained separately if mixing could occur in the event of a spill.
- No floor drains or other direct connections to the public sewer in containment areas that store toxic or flammable materials. In addition, your City Building Department and the Regional Water Quality Control Board may require containment to prevent spills from entering the groundwater or storm drain systems. More specific information on these spill containment requirements can be obtained by contacting these agencies.
- SVCW prohibits the unauthorized discharge of untreated contaminated rainwater from spill containment areas to the sanitary sewerage system. Rainwater that falls directly on spill containment areas should be discharged to the storm drain in accordance with the requirements

set by the Regional Water Quality Control Board or San Mateo County Environmental Health Services. Discharge to the sanitary sewer may only occur with authorization by SVCW. Contact SVCW at (650) 832-6240 to obtain a NON-ROUTINE DISCHARGE AUTHORIZATION application for approval prior to discharge. The controlled discharge of TREATED CONTAMINATED rainwater from spill containment areas MAY BE ALLOWED to the sewerage system after all other alternatives have been demonstrated to be infeasible. Restrictions may be imposed on wastewater quality, flow rate, and time of discharge to the sewerage system. Proposals for the discharge of rainwater from spill containment areas to the sewerage system must include sufficient documentation to demonstrate that no other alternatives are feasible. Alternatives that must be considered include treatment and discharge to the storm sewer, reuse, on-site storage/evaporation, and roofing of the spill containment area.

- The spill containment system must be capable of containing 100 percent of the volume of the largest tank of RESTRICTED material. If a portion of the containment volume is occupied by other tanks, equipment, and/or standing liquids, this displaced volume must be subtracted from the total spill containment volume. Spill containment systems exposed to rainfall or runoff must be capable of storing an additional six inches of rainfall over the exposed area.

ACCEPTABLE CONTAINMENT SYSTEMS

Diking:

Diking may be used to contain spills from single shell tanks. Diking usually consists of concrete blocks, concrete berming, or other materials that form a permanent structural barrier. Portable spill containment trays/pallets are also acceptable. Concrete or mortar surfaces must be coated or otherwise protected against corrosion if corrosive substances are contained. No openings, manual or electrical gates, or valves of any kind are allowed in the containment structure. Utility pipes through the diking may be approved if an effective sealant is used to keep the containment watertight.

Self-Containment:

Tanks of double shell construction are considered to be self-contained and do not require additional spill containment features unless there is a significant likelihood of overflowing. These tanks consist of two independent structural shells with the outer shell capable of containing any leakage from the inner one. An air gap of at least one-inch must be provided between the inner and outer shells; the top of the inner shell must be at least one inch lower than the top of the outer shell. No valves are allowed in the outer shell, and the area between the two shells must remain dry.

Pits:

Pits constructed under or around tanks are acceptable as spill containment. No openings, manual or electric gates, or valves are allowed. The surfaces of the pit must be protected against corrosion if corrosive materials are contained.

REQUIREMENTS FOR SPILL MITIGATION

Emergency Response:

A spill contingency plan must be developed. If an uncontrolled release of a RESTRICTED material reaches the sewer all city, county, and state agencies must be notified in compliance with applicable requirements. **SVCW must be notified immediately at (650) 591-7121 ext. 235.** Spills of flammable or explosive materials should also be referred to the local Fire Department. A written report of the slug discharge must also be submitted within five days to SVCW. The written report of the slug discharges must contain at a minimum the following items:

- Date and time of discharge
- Discharge location

- Concentration, volume, waste type, chemical name and harmful characteristics or effects of the material (e.g. explosive, flammable)
- Response measures being taken
- Name of agencies or contractors contacted
- Cause of the incident
- Specific details of the incident
- Remedial measures taken
- Preventive mechanism to avoid reoccurrence of similar incidents

Transfer and Documentation:

Pumps used for conveying materials from containment areas to pretreatment systems prior to discharge must be manually activated. Each transfer of material from the spill containment area must be logged according to the Log Book Requirements described below.

Waste Hauling:

The disposition of spills that are treated off-site must be logged according to the Log Book Requirements described below. In addition, waste hauler reports must be kept on file at the permittee's site address for at least three years.

LOG BOOK RECOMMENDATION

It is recommended each IU maintaining a spill containment system keep a logbook that is available to SVCW staff upon request or during inspections. All materials removed from spill containment areas, must be included in the logbook. This includes all water within the containment area. The logbook must contain the following information:

- Date and time material is removed from spill containment area
- Identity of material (an analysis is required if the spill is of unknown origin to determine the type of treatment or remediation required for proper disposal)
- Quantity (volume)
- Cause of spill
- Method of disposal (includes transfer to off-site treatment system)
- Corrective action implemented to prevent spills from reoccurring

SLUG DISCHARGE CONTROL, SDC, PLAN REQUIREMENTS

The revised Environmental Protection Agency (EPA) regulations (40 CFR 403.8 (f)) that took effect on August 23, 1990 require that the Control Authorities evaluate each significant industrial user (SIU) at least once every two years to determine whether such SIUs need a plan to prevent and control slug discharges (accidental spills or non-routine batch discharges).

If such a plan is required, the SIU will be notified by SVCW.

Slug Discharge Control Plans will be required to maintain a written plan containing the following elements:

- Description of all discharge practices, including non-routine discharges. Dischargers of wastewater resulting from non-routine operations are prohibited unless prior approval is obtained.

- Description of all stored chemicals. Include Tank Schedule.
- Procedures for promptly notifying SVCW of slug discharges (as defined in Appendix A), with procedures for follow-up written notification within 5 days. An example of a Notification Form is provided in Appendix B and may be used for notification purposes.
- Procedures to prevent adverse impact from accidental spills, including maintenance and inspection of storage areas, handling and transfer of materials, loading and unloading operations, control of plant site run-off, worker training, building of containment structures or equipment, and measures and equipment for emergency response. Include drawings that show spill containment dimensions and the locations of all floor drains, wastewater piping, and pretreatment equipment.
- Follow-up practices to prevent damage to the treatment plant or the environment.

If approval of slug discharges could not be obtained due to emergency reasons, SVCW must be notified in writing within five days of such discharges. The written report shall contain all information as described in the Emergency Response item of the REQUIREMENTS FOR SPILL MITIGATION SECTION of this document.

The SDC plan must be maintained at the discharge location and made available to staff from SVCW, the Regional Water Quality Control Board or the USEPA upon request.

The SDC plan must contain a certification statement with the specific following language:

"Based on my inquiry of the person or persons directly responsible for managing compliance with the slug discharge control measures identified in the Slug Discharge Control Plan, I certify that this facility, to the best of my knowledge and belief, is fully implementing the Slug Discharge Control Plan."

Company Official: _____
 Print Name of Company Official: _____
 Title of Company Official certifying SDC Plan: _____
 Date: _____

APPENDIX A: DEFINITIONS

RESTRICTED MATERIALS: defined as Hazardous Materials, Hazardous Waste, or Other Materials as defined in this section.

Hazardous Materials: A hazardous material is any item or agent (biological, chemical, physical) which has the potential to cause harm to humans, animals, or the environment, either by itself or through interaction with other factors.

Hazardous Waste: defined by Title 22, Sections 66693-66723 of the California Code of Regulations

Other Materials: Any other liquid material that upon evaluation with respect to point of discharge, volume, and concentration is determined to have potentially adverse effects on the sewerage system. These materials include but are not limited to alkalis or alkaline substances, oils, foam generating wastes, highly colored wastes, pesticides, high COD wastes, high total solids wastes, and solvents.

SIGNIFICANT INDUSTRIAL USER: A Significant Industrial User (SIU) is defined as an IU that is subject to USEPA's categorical pretreatment regulations or an IU that has the reasonable potential to adversely affect the collection system or treatment plant or as defined in detail in the Regulations of the Silicon Valley Clean Water Section 1.3.30.

SLUG DISCHARGE: "...A slug discharge is any discharge of a non-routine, episodic nature, including but not limited to an accidental spill or a non-customary batch discharge..." or any wastewater discharge that may have the potential to cause collection system or treatment plant problems such as fire or explosion, corrosion, obstruction of flow, upset of treatment processes, discharge permit violations or excessive heat.

APPENDIX B: SLUG DISCHARGE NOTIFICATION FORM^[3]

Company Name:	
Address:	
Type of Slug (circle one): solid liquid other (explain):	
Reported By:	Phone Number:
Comments:	

Descriptions of Slug Loading

Time/Date:	
Discharged Material:	Amount:
Discharged To:	
Containment in Place:	
Current Response Efforts:	
Comments:	

Hazard Evaluation:

Fire Hazard:	Explosive: yes no	Flammable: yes no
Corrosive:	yes no	pH=
Personal Safety Concerns:	Exposure danger:	
Structual Danger:		
Comments:		

Initiation of Response:

Report By:	
Date/Time:	
Agencies Contacted	Date/Time

