



# SLUG DISCHARGE CONTROL PLAN OUTFALL 001

Prepared by



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## Table of Contents

1. Description of Reporting System .....	2
2. Training, Equipment, and Facilities .....	2
3. Procedures to Prevent Accidental Spills .....	3
4. Materials, Products, and Chemicals, Used, Processed, or Stored at the Facility .....	5
5. Normal and Non-Routine Discharge Practices .....	6
6. Unauthorized Discharges During the Past 36-month.....	8
7. Implementation Schedule.....	8

## Summary

This update to the Slug Discharge Control Plan (SDCP) is being submitted to satisfy the requirements of State Water Discharge Permit Number ST 0005390, issued by the State of Washington, Department of Ecology Eastern Regional Office.

Within this permit, Section S11. Slug Discharge Control Plan is the requirement to prepare and submit the SDCP by April 15, 2016. Annually, Chemi-Con Materials Corporation (CMC) will review and update the plan as needed and submit any revisions to Ecology. This SDCP satisfies the information and procedures required for the prevention of unauthorized slug discharges. The sections hereafter detail the information necessary to meet the permit requirements.

## 1. Description of Reporting System

*A description of a reporting system the Permittee will use to immediately notify facility management, the POTW operator, and appropriate state, federal, and local authorities of any slug discharges, and provisions to provide a written follow-up report within five days.*

All slug discharges that occur at Outfall 001 shall be documented and reported to the Environmental Manager and the Safety Coordinator. In the event that a slug discharge occurs at Outfall 001, the following steps will be taken:

- Record the date, time, duration, nature of the slug discharge, and any other relevant information
- Notify the Environmental or Safety departments of the event:
  - Anthony Carpenter, Environmental Manager (509) 762-8788 ext. 129
  - James Stockton, Safety Coordinator (509) 762-8788 ext. 144
- Generate an incident report using CMC's internal incident reporting and tracking system
- Investigate the nature and extent of the slug discharge including contributing factors and countermeasures taken
- Provide a written report of the investigation's findings to Department of Ecology within five business days

## 2. Training, Equipment, and Facilities

*A description of operator training, equipment, and facilities (including overall facility plan) for preventing, containing, or treating slug discharges.*

Operators complete initial training on general practices and procedures, including basic knowledge of instrumentation, valves, meters, and standard operating procedures (SOPs). Specific job locations that have operational responsibility for Outfall 001 have additional training requirements and must demonstrate their knowledge by passing a test on these requirements.

Specific equipment which continuously monitors Outfall 001 is the Yokogawa Controller programmable logic control (PLC). The PLC allows operators to measure water quality including flow, temperature, pH, and conductivity measurements. The land application

<b>Title:</b> Slug Discharge Control Plan Outfall 001	<b>Rev:</b> B	<b>Page:</b> 2 of 8	<b>Date:</b> 10/12/21
---	---------------	---------------------	-----------------------

composite sampler (LACS) is used to collect water samples that are sent to Soiltest Laboratories for measurement of total suspended and dissolved solids, boron, anions, cations, oil, grease, nitrate, biological oxygen demand, and various metals at the specified intervals required by ST 0005390.

Facilities that control the discharge to Outfall 001 include piping from the cooling tower blowdown, boiler blowdown, and reverse osmosis reject water to an above ground tank (TK4). From TK4, the mixed wastewater flows through an effluent monitoring station prior to discharge to the Port of Moses Lake's land application holding pond.

All of which support the containment and control of any material that could represent a slug discharge through Outfall 001 to the sewer system. A facility plan is attached to this report.

### 3. Procedures to Prevent Accidental Spills

*Procedures to prevent adverse impact from accidental spills including:*

- a. Inspection and maintenance of storage areas*
- b. Handling and transfer of materials*
- c. Loading and unloading operations*
- d. Control of plant site run-off*
- e. Worker training*
- f. Building of containment structures or equipment*
- g. Measures for containing toxic organic pollutants (including solvents)*
- h. Measures and equipment for emergency response*

#### Inspection and Maintenance of Storage Areas

CMC conducts regular inspections of chemical storage areas to ensure there are no leaking or deteriorating containers (See Daily Tank/Ancillary inspection check list & Weekly Facility inspection checklist). Specific items that are noted in the inspection are:

- The outside of containers are clean and labels legible
- Containers are in good shape and not leaking
- Caps are secure and free of deformation
- Only screw caps are used on chemical containers in storage: foil, Parafilm™, corks or other plugs are not acceptable
- Metal containers are free of rust, bulges, or signs of pressure buildup
- Chemicals are stored in containers that are compatible with the specific chemical
- Incompatible chemicals are not stored together (e.g., acids with bases)
- All gas cylinders are secured upright

The shelves used for chemical storage at CMC are of sturdy construction and when necessary securely fastened to the wall or floor to provide added stability. Chemicals stored on shelving units are not overcrowded and stored within easy reach of the staff. Large bottles and containers are stored as close to floor level as possible. However, chemical containers

<b>Title:</b> Slug Discharge Control Plan Outfall 001	<b>Rev:</b> B	<b>Page:</b> 3 of 8	<b>Date:</b> 10/12/21
---	---------------	---------------------	-----------------------

are not stored directly on the floor where they might be knocked over and broken, unless they are in approved safety cans or still in their original shipping carton and packing.

### Handling and Transfer of Materials

When CMC employees transfer chemicals between containers, careful attention is paid to the receiving container to ensure it is not overfilled. When transferring liquids from containers too large to pour from, CMC employees will use pumps, siphoning or other mechanical means to transfer the material. Containers that chemicals are being added to will be placed on spill containment trays to catch leaks and spills when transferring chemicals. Additionally, CMC employees will make sure they know the location of and have access to a suitable chemical spill kit before they begin to handle or transfer chemicals.

### Loading and Unloading Operations

When CMC employees take part in unloading acidic or caustic materials from the tanker delivery trucks, they follow a specific SOP for acid and caustic tanker delivery (CMC document “Acid & Caustic tanker delivery”). When unloading these hazardous materials employees will:

- Make sure at least two wheels of the delivery truck are chocked while unloading materials
- Instruct the driver as to what bulkhead connection goes to the correct tank for unloading
- Blow the airline down to purge any condensate from the line prior to the driver hooking up to the fitting
- Ensure the driver secures all Cam-Lock connections with either wire or Velcro in a manner to prevent any fittings from accidentally opening during the unloading procedure
- Ensure one of the 55 gallon corrosives spill kit is present during the unloading procedure

### Control of Plant Site Run-Off

The general runoff from CMC’s yard area is channeled to one of three storm drains located between the environmental building and the production building. To prevent caustic materials from entering the storm drains, the phosphoric acid and sulfuric acid holding tanks are contained within a concrete berm capable of holding the total capacity of both tanks. Additionally, within this berm there is a pump system that transfers any liquids to a tank (TK1) within the environmental building for neutralization.

### Worker Training

CMC has staff trained in spill response (spill responders) who are trained to respond to chemical spills should they occur. Spill responders have at least eight hours of training or have had sufficient experience to demonstrate competency in the following areas listed below:

- The basic hazard and risk assessment techniques
- How to implement the emergency response plan
- Understanding of basic hazardous materials terms
- How to perform basic control, containment and/or operations within the capabilities of the resources and personal protective equipment available

<b>Title:</b> Slug Discharge Control Plan Outfall 001	<b>Rev:</b> B	<b>Page:</b> 4 of 8	<b>Date:</b> 10/12/21
---	---------------	---------------------	-----------------------

- How to select and use proper chemical personal protective equipment
- How to implement basic decontamination procedures

All employees will be trained at time of hire to the appropriate emergency response procedures based on their position. Employees that will take part in spill responses will receive specific spill response training and be able to demonstrate their competency in the area of spill response. Those employees who are trained to respond to spills will also receive annual refresher training (spill drills). All initial and refresher training will be documented in the employee training records.

#### Building of Containment Structures or Equipment

Building containment structures consist of the cement containment berm around the phosphoric and sulfuric acid tanks and sumps within the environmental building that collect leaks and direct any collected material to the designated tank TK1, TK2 or TK3.

#### Measures for Containing Toxic Organic Pollutants (Including Solvents)

CMC does not use any toxic organic pollutants at their facility.

#### Measures and Equipment for Emergency Response

The procedures for emergency response are outlined in CMC's Contingency Plan and Emergency Procedures. However, when a spill occurs that is within the scope of CMC's spill responders or personnel, the employee(s) will confine the spill using the appropriate spill control/containment and clean-up materials and supplies available on-site. These consist of:

- Two 55 gallon spill kits
- One 35 gallon spill kit
- One 1 gallon spill kit (lab)
- Various powder and liquid acid neutralizers
- Two 55 gallon hazardous waste steel drums
- Plastic bags (45 gallon, 3 mil thickness) for contaminated absorbents

Due to the enclosed systems of the cooling tower blowdown, boiler blowdown, and reverse osmosis reject water, the likelihood for accidental spills are extremely low. However, there are areas where contamination could occur. The procedures to prevent accidental spills are specified in CMC's Spill Response Plan.

#### **4. Materials, Products, and Chemicals, Used, Processed, or Stored at the Facility**

*A list of all raw materials, products, chemicals, and hazardous materials used, processed, or stored at the facility; the normal quantity maintained on the premises for each listed material; and a map showing where they are located.*

<b>Title:</b> Slug Discharge Control Plan Outfall 001	<b>Rev:</b> B	<b>Page:</b> 5 of 8	<b>Date:</b> 10/12/21
---	---------------	---------------------	-----------------------

<b>Material</b>	<b>Amount on-site (lbs)</b>
Sulfuric acid, 93%	48,000
Caustic soda, 50%	14,800
Phosphoric acid, 75%	136,000
Soda ash	4,900
Acetylene	294
Silver nitrate	19
Oil	807
Used oil	~ 810
Ammonium Hydroxide, 10%-35%	50
Hydrochloric acid, 36%-38%	50
Nitric acid	59
Oil contaminated rags	~25

A list of raw materials, products, chemicals, and hazardous materials used in the manufacturing process and their respective storage areas are provided in the attached site map. A list of any additional products, chemicals, or hazardous materials at CMC not directly used in the manufacturing process is maintained at the plant. This information is also provided in the Spill Response Plan.

Raw materials, products, chemicals, and hazardous materials are stored in a manner that, by virtue of their proximity to CMC's Outfall 001 discharge point, will not contribute to a slug discharge of deleterious material to the Port of Moses Lake land application holding pond.

## **5. Normal and Non-Routine Discharge Practices**

### ***A description of discharge practices for batch and continuous processes under normal and non-routine circumstances.***

Chemi-Con Materials receives etched aluminum foil in coils, which are anodized in electrolytic baths containing a boric acid solution. The process applies direct current (DC) electricity to the aluminum to oxidize the surface. The entire production process takes place in machines, where the aluminum foil travels through heated deionized water baths, the anodizing baths (as described above), and phosphoric acid baths.

Process wastewater generated at the facility includes two separate waste streams:

- Cooling tower blowdown, boiler blowdown, reject from supply water treatment
- Waste solutions from the anodizing process (rinsing, phosphoric acid and boric acid baths)

<b>Title:</b> Slug Discharge Control Plan Outfall 001	<b>Rev:</b> B	<b>Page:</b> 6 of 8	<b>Date:</b> 10/12/21
---	---------------	---------------------	-----------------------

Only the wastewater from the cooling tower blowdown, boiler blowdown, and water rejected from the supply water treatment system discharge from Outfall 001 to the POTW. The facility routes cooling tower blowdown, boiler blowdown, and reverse osmosis reject water to an above ground tank (TK 4). From TK 4, the mixed wastewater flows through an effluent monitoring station prior to discharge to the Port of Moses land application holding pond.

Water is continually flowing through the outfall during routine operations. If non-routine conditions should arise that result in the discharge exceeding the allowable pH, conductivity, total dissolve or total suspended solids, or flow, operators will be notified by the alarm on the Yokogawa PLC. If such a problem arises, the operator can manually close the valves to stop flow to Outfall 001.

## 6. Unauthorized Discharges During the Past 36-month

*A brief description of any unauthorized discharges which occurred during the 36-month period preceding the effective date of this permit, and subsequent measures taken by Permittee to prevent or to reduce the possibility of further unauthorized discharges.*

During the 36 months preceding of ST00005390, there have been no unauthorized discharges via Outfall 001.

## 7. Implementation Schedule

*An implementation schedule including additional operator training and procurement and installation of equipment or facilities required to properly implement the plan.*

Implementation of the Slug Discharge Control Plan has already taken place. All systems that regulate and treat the water being discharged from this facility have been engineered and installed. Proper operation of the equipment is ensured by operator training, the use of a preventative maintenance program and routine inspections.