

# SLUG DISCHARGE CONTROL PLAN POLICY

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Version	Approved By	Effective Date
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**METRO  
WATER  
RECOVERY®**

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## Slug Discharge Control Plan (SDCP) Policy

### 1.0 PURPOSE, SCOPE, AND RATIONALE

The purpose of this policy is to establish requirements to reduce the chance of a slug discharge of substances that may adversely affect the collection, transmission, or treatment systems of Metro Water Recovery (Metro) and its connectors. A slug discharge is defined in Section 2.85 and Section 6.20.1 of Metro's *Rules and Regulations Governing the Operation, Use, and Services of the System* (Rules and Regulations) and this policy as any discharge of a non-routine, episodic nature, including but not limited to an accidental spill or a non-customary batch discharge, which has a reasonable potential to cause:

- 1.1 Pass-through of pollutants.
- 1.2 Interference with the transmission system and/or treatment plant operations.
- 1.3 Contamination of municipal sludge.
- 1.4 Adverse effects on worker health and/or safety.
- 1.5 Violation of Metro's Rules and Regulations, local limits, or permit conditions.

Slug discharges do not include routine, customary batch discharges, which are disclosed by an industry in a wastewater discharge permit application, identified by Metro in a wastewater discharge permit fact sheet, and controlled through the wastewater discharge permit that Metro issues to the industry. See Appendix A of this policy for a discussion of the differences between slug discharges and routine batch discharges. **Note that any batch discharge that is not identified by Metro in a wastewater discharge permit fact sheet is considered a slug discharge under this policy.**

This policy was developed by Metro's Industrial Pretreatment Engineering Division (P&E) under the authority of the National Pretreatment Regulations published at Title 40 of the Code of Federal Regulations (CFR) Part 403 and Metro's Rules and Regulations.

This policy replaces and supersedes Metro's existing Accidental & Slug Discharge Prevention Plan Policy, Slug Discharge Plan Policy, Spill Prevention Plan Policy, and Accidental Discharge Prevention Plan Policy. Any reference to the superseded policies listed above now refers to this policy. Plans approved by Metro according to the superseded policies listed above shall remain in effect until an industrial user receives a modified wastewater discharge permit from Metro or Metro notifies the industrial user in writing that it must update its existing plan.

Application of this policy does not relieve the industrial user from compliance with other applicable federal, state, and local codes, rules, and regulations. Metro's review and approval of a Slug Discharge Control Plan (SDCP) does not relieve the industrial user from responsibility to operate and modify its facility as necessary to prevent slug discharges. Likewise, Metro's review and approval of a SDPC does not relieve the industrial user of any expense, loss, damage, or other liability that may be incurred as a result of a slug discharge.

## Slug Discharge Control Plan (SDCP) Policy

### 2.0 SPILL CONTROL REQUIREMENTS

#### 2.1 Applicability

The spill control requirements described in this section apply to each Significant Industrial User (SIU) that Metro has determined needs an SDCP according to the requirements outlined in Section 6.20.2 of the Rules and Regulations.

Spill control requirements described in this section must be met in all chemical storage, waste storage, and process areas where materials or substances of concern as defined in Sections 1.1-1.5 of this policy are stored or used.

#### 2.2 Spill control requirements

The POTW must be protected from substances and materials of concern by either providing secondary containment as described in Sections 2.3 and 2.4 of this policy or by providing alternative measures to prevent spills from reaching the sewer as described in Section 2.5.

#### 2.3 Secondary containment shall:

- 2.3.1 Be 110% of the total capacity of the largest storage tank or container within the containment.
- 2.3.2 Account for the displacement volume of any object located inside of the secondary containment area.
- 2.3.3 Not contain drains of any type that hydraulically connect to the sanitary sewer.
- 2.3.4 Be appropriate to the location of installation and compatible with the materials contained.
- 2.3.5 Be properly maintained at all times.
- 2.3.6 Have separate secondary containment systems for incompatible chemicals and materials to prevent mixing.
- 2.3.7 Be certified by a Colorado-licensed Professional Engineer when the system involves custom, site-specific construction. Examples of secondary containment designs that require custom, site-specific construction are concrete containment structures, the use of compacted soil, berms, or liners for containment, or structural modifications to an existing facility to create secondary containment. Commercial, pre-fabricated components that are installed and used in accordance with manufacturer specifications are exempt from this requirement.
- 2.3.8 Be fully protected from forklifts, trucks, and other vehicular traffic.

#### 2.4 Examples of secondary containment include, but are not limited to:

- 2.4.1 Double-walled tanks.

## Slug Discharge Control Plan (SDCP) Policy

- 2.4.2 Containment pallets.
- 2.4.3 Vaults.
- 2.4.4 External liners.
- 2.4.5 Diversions to containment structures inside or outside a building (may require other agency approvals).

2.5 In lieu of secondary containment, spill control may consist of:

- 2.5.1 **Drain Isolation:** Capping or raising floor drains within a chemical storage, waste storage, or process area

### **AND**

Demonstrating that a release of the contents of the largest container in the chemical storage, waste storage, or process area will not reach the sewer or the environment through drains in other areas of the facility, permeable floor materials, or other openings. The SDCP must include all calculations, specifications, and supporting information necessary for Metro to determine that this demonstration is adequate. Final approval of the SPCP will be subject to Metro's review of this demonstration and a determination of its sufficiency.

- 2.5.2 **Alternative spill control measures:** For areas where secondary containment cannot be installed and floor drains are necessary and must remain open, the use of approved, alternative spill control measures may be developed and implemented in limited, site-specific cases. Alternative spill control measures must provide an equivalent level of protection to secondary containment and drain isolation measures. The SDCP must include a robust justification for the equivalent level of protection provided by the alternative spill control measures and include all calculations, specifications, and supporting information necessary for Metro to determine that the alternative spill control measures are sufficient. Final approval of the SPCP will be subject to Metro's review of the justification for the alternative spill control measures and a determination of its equivalent level of protection.

## **3.0 SDCP REQUIREMENTS**

For SIUs required to prepare a SDCP, the SDCP must include the following information:

- 3.1 Descriptions of discharge practices, including non-routine batch discharges.
- 3.2 Descriptions of all procedures that are/will be utilized to prevent adverse impact from accidental spills including inspection and maintenance of storage areas, handling and transfer of materials, loading and unloading operations, control of plant-site runoff, worker training, building of containment structures or equipment, measures for containing toxic organic pollutants (including solvents), and/or measures and equipment for emergency response.

## Slug Discharge Control Plan (SDCP) Policy

- 3.3 Authorized personnel that will be contacted in the event of a slug discharge.
- 3.4 Directions to immediately contact Metro in the event of a slug discharge. The notification shall be executed in accordance with the SIU's wastewater discharge permit and Section 6.20.1 of the Rules and Regulations.
- 3.5 Directions to submit written notification to Metro within 5-days of a slug discharge. The notification shall be executed in accordance with the SIU's wastewater discharge permit and Section 6.20.1 of the Rules and Regulations.
- 3.6 Specific descriptions of all recordkeeping procedures that are/will be utilized for maintaining adequate documentation of all slug discharges that occur at the facility.
- 3.7 Annual employee training program that describes how and when employees will be trained in slug discharge prevention and response, including refresher/update training. Training shall include emergency response and notification procedures as described in Sections 3.1 through 3.5 above.
- 3.8 Submission of a legible facility site/plumbing plan that at minimum includes the following:
  - 3.8.1 Building outlines, including identifying names/numbers and interior rooms with identifying labels.
  - 3.8.2 Property lines.
  - 3.8.3 North arrow.
  - 3.8.4 All floor drains in the facility - specify whether they are open, capped, raised, or hard-piped. All floor drains shall be identified with drain-specific identifiers (e.g. "FD1, FD2, etc.).
  - 3.8.5 All sinks in the facility.
  - 3.8.6 Storm drains.
  - 3.8.7 Wastewater routing (piping) with directional arrows.
  - 3.8.8 Wastewater drainage discharge points and manholes - include domestic wastewater discharge points.
  - 3.8.9 Locations of all wastewater-generating processes or activities, including domestic wastewater.
  - 3.8.10 All long-term and short-term chemical storage locations.
  - 3.8.11 Locations of all hazardous waste central accumulation areas and satellite accumulation areas
  - 3.8.12 Metro-approved monitoring points, if any.

## Slug Discharge Control Plan (SDCP) Policy

- 3.8.13 Wastewater treatment facilities, if any.
  - 3.8.14 Outfall locations to the sanitary sewer.
- 3.9 Description of all stored chemicals. This information should be provided by completing the Slug Discharge Evaluation Table included at the end of this document.

**EXAMPLE SLUG DISCHARGE EVALUATION TABLE -**

This is an example – fill out the table on the next page with your facility information

Chemical/Process	Location	Maximum Capacity of Storage Container	Containment Volume and Description	Nearest OPEN or RAISED Floor Drain
Chemical A	Warehouse	55-gal	65-gal containment pallet	Floor drain #5 - RAISED
Chemical B Chemical C Chemical D Chemical E Chemical F	Chemical storage room	20-gal 1-gal 1-gal 1-gal 1-gal	65-gal containment pallet	Floor drain #2 - CAPPED
Chemical G	Chemical storage room	5,000-gal	N/A – no drains to discharge to	N/A – no drains to discharge to
Chemical H	Chemical storage room	20,000-gal	N/A – no drains to discharge to	N/A – no drains to discharge to
Chemical I	Boiler room	500-gal	500-gal double walled tank	Floor drain #2 - OPEN
<u>Filling Line</u> -Chemical A -Chemical E -Process water -Closed loop chiller water	Filling Line (Northwest corner of facility)	50,000-gal	N/A – drains are hard piped	N/A – drains are hard piped
<u>Plating Line</u> -Chemical B -Chemical C -Chemical D -Chemical F -Chemical G -Chemical H -Chemical I	Plating Line (Southeast corner of facility)	6,000-gal	7,000-gal, 24" high concrete containment enclosure	Floor drain #3 to treatment - OPEN



## Slug Discharge Control Plan (SDCP) Policy

### APPENDIX A

#### DETERMINING WHETHER A DISCHARGE IS A SLUG DISCHARGE OR A ROUTINE BATCH DISCHARGE

Slug discharges are defined in Section 1.0 of Metro Water Recovery's (Metro's) Slug Discharge Control Plan (SDCP) Policy. Slug discharges are also defined in Section 2.85 and Section 6.20.1 of Metro's *Rules and Regulations Governing the Operation, Use, and Services of the System* (Rules and Regulations) and federal pretreatment standards published in Title 40 of the Code of Federal Regulations (CFR) Section 403.8(f)(2)(vi).

A slug discharge, as defined in the references above, is a discharge of a non-routine and episodic nature that has reasonable potential to cause harm to Metro's publicly owned treatment works (POTW) or violation of the Rules and Regulations, local limits, or wastewater discharge permit conditions. In accordance with Section 6.20.2 of the Rules and Regulations, Metro evaluates whether each Significant Industrial User (SIU) needs a plan to control slug discharges. If Metro determines that a SIU needs a slug discharge plan, the SIU must submit one to Metro according to the requirements of Section 6.20.2 of the Rules and Regulations and this policy.

Many industries also send batch discharges to Metro's POTW on a routine, regular basis. Routine batch discharges are not controlled by the slug discharge plans described in this policy but often have reasonable potential to cause harm to Metro's POTW or to violate Metro's Rules and Regulations, local limits, or wastewater discharge permit conditions. Metro controls routine batch discharges through individual wastewater discharge permits, which outline site-specific batch discharge controls. These controls may include notification requirements, additional monitoring requirements, and/or additional process-specific controls (e.g., equalization, neutralization). Routine batch discharges must be reported by a SIU in their wastewater discharge permit application, and Metro will identify all routine batch discharges in a SIU's wastewater discharge permit fact sheet. As described in each SIU's wastewater discharge permit, it is the responsibility of a SIU to notify Metro of any changes in their process that result in additional, routine batch discharges that were not reported in the SIU's original wastewater discharge permit and identified by Metro in the SIU's wastewater discharge permit fact sheet. ***Note that any batch discharge that is not identified by Metro in a wastewater discharge permit fact sheet is considered a slug discharge under this policy.***

To facilitate an understanding of the difference between slug discharges (non-routine, episodic) and routine batch discharges (regular, permitted), examples and categorization of several types of discharge are presented in Table A.1 below. Note that most of the discharge categories presented in Table A.1 could be defined as either slug discharges or routine batch discharges, depending on the circumstances of the discharge and the site-specific processes at a facility.

## Slug Discharge Control Plan (SDCP) Policy

**Table A-1. Slug Discharge vs. Routine Batch Discharge Example Table.**

Discharge Type	Slug discharge (non-routine/episodic) <sup>1</sup>	Routine batch discharge (regular, permitted) <sup>2</sup>
Accidental spills	Yes – by definition, accidental spills are non-routine and episodic.	Not applicable.
Off-specification product discharge	Yes – if the generation and discharge of off-specification product is unexpected and does not occur on a routine basis.	Yes – if off-specification product is generated and discharged frequently or routinely.
Clean-in-place (CIP) discharge	Yes – if CIP occurs unexpectedly or outside of a documented schedule.	Yes – if CIP cycles are part of routine operation.
Maintenance discharge	Yes – if arising from unplanned or emergency maintenance that results in a non-routine discharge.	Yes – if maintenance discharges are routine.
Start-up/Shut-down discharge	Yes – if these discharges deviate significantly from normal operation or occur outside of scheduled events.	Yes – if start-up or shut-down sequences are routine.
Process upset discharge	Yes – by definition, process upsets are non-routine and episodic.	Not applicable.

<sup>1</sup> These discharges must be controlled under a slug discharge control plan.

<sup>2</sup> These discharges must be reported by an IU in their wastewater discharge permit application. Metro will document all reported routine batch discharges in an IU's wastewater discharge permit fact sheet and may implement routine batch discharge controls in the permit. The IU must implement all permit controls for routine batch discharges. Any batch discharge that is not identified by Metro in a wastewater discharge permit fact sheet is considered a slug discharge under this policy.