Slug Discharge Control Plan

Instruction & Purpose

The purpose of this form is to assist you in developing and / or updating a wastewater slug discharge control plan for your facility. Please complete this form in detail. Attach additional information if necessary. Return the completed form to:

Brice Sodorff
Industrial Pretreatment Coordinator
Utilities
City of Rock Hill
P.O. Box 11706
310 Red River Road (29730)
Rock Hill, South Carolina 29731-1706
o: 803-329-8789
m: 803-487-1595

Brice.Sodorff@cityofrockhill.com
www.cityofrockhill.com

Definition

A **slug discharge** is any discharge of non-routine, episodic nature, including but not limited to an accidental spill of non-customary batch discharge.

The **Slug Discharge Control Plan** shall contain at a minimum, the following elements:

1) Description of discharge practices, including non-routine batch discharges
;
2) Description of stored chemical.

3) Procedures for immediately notifying the City of slug discharges, including any discharge that would violate a prohibition under The City of Rock Hill Sewer Use Ordinance, with procedures for follow-up written notification within five days.

4) Procedures to prevent adverse impact from accidental spill, including inspection and maintenance 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, measures for containing toxic organic pollutants (including solvents) measures and equipment for emergency response, containment, and proper disposal.

General Information

Facility Name: Silfab Solar SC

Facility Address: 7149 Logistics Ln. Fort Mill, SC 29715

Authorized Representative (print): Matt Korzelius Signature: 

Phone Number: 716-949-0241

Discharge Practices

Does this facility discharge process wastewater the sanitary sewer system on a continuous basis? Does this discharge occur 24 hours per day? Briefly describe:

Yes. The intent is to run the facility 24/7 at full production in both Phase 1 and Phase 2 where the production tools operate as bleed and feed systems to maintain the bath concentrations necessary to produce the solar cell. However, during the ramp up phase, limited production will be the norm as the systems are proven out and adjusted.

Does this facility have any process wastewater discharges to the sanitary sewer system that are released as a batch? Identify the process(es) from which the discharge originates, Including the approximate amount discharged, and time of day normally released.

No. All wastewater from the process area will be directed to the on-site WWT process which will produce a continuous flow at full production rates. Again, during ramp up, flows will fluctuate, and estimates will be communicated to the City of Rock Hill and the POTW.

Discharge Quality

Does the flow rate or quality of the process wastewater at this facility change significantly shift-to-shift, day-to-day, week-to-week, product-to-product? Please describe:

No. There should no significant variation in the process wastewater. Even as recipes vary slightly, the wastewater treatment process should be able to adjust and account for the minor fluctuations to remain fairly consistent on the effluent discharge.

Material Storage

List the chemicals, wastes, and raw materials stored at this facility, including approximated quantities. Attach a diagram showing storage locations.

Material	Quantity	Location
Oxygen	12000 ccf	Bulk Gas Pad
Nitrogen	24000 ccf	Bulk Gas Pad
Nitrous Oxide	63360 lbs.	Spec Gas Pad
Anhydrous Ammonia	44000 lbs.	Spec Gas Pad
Silane	4400 gal	Spec Gas Pad
Trimethyl Aluminum	951 lbs.	TMA Bldg.
Boron Trichloride	1540 lbs.	TMA Bldg.
Potassium Hydroxide 49%	10567 gal	Chem Dist. Bldg.
Hydrogen Peroxide 30%	7925 gal	Chem Dist. Bldg.
Hydrochloric Acid 37%	10597 gal	Chem Dist. Bldg.
Hydrofluoric Acid 49%	15850 gal	Chem Dist., Bldg.
Sodium Hydroxide 50%	11785.4	WWT Bldg.
Calcium Hydroxide	126231 lbs.	WWT Bldg.
Sulfuric Acid 93%	9198 lbs.	WWT Bldg.
Phosphorus Oxychloride	1945 lbs.	TMA Bldg.
Silver Paste	2200 lbs.	Production Area
Isopropyl Alcohol	220 gal.	Production Area
Texture Additive	3962.5 gal	WWT Bldg.
PC 1174	29194 lbs.	WWT Bldg.
PC6220	319 lbs.	WWT Bldg.
CaF2 – Filter Cake	30 yrds	WWT Bldg

Control Procedures

Briefly describe the spill response program for this facility, including the equipment and personal training requirements. Signs must be posted in work areas to inform employees on proper procedures for spill/ slug discharge response and reporting.

Silfab Solar has on-site Emergency Response Teams to address spills if they occur. The team members have received 24hr and 40hr HAZWOPER Training and have been fit tested for proper respiratory protection use. Team members that can respond to chemical spills have also been trained on SCBA use. The facility is equipped with 12 SCBA units that are stationed in the facilities areas and in the two entrances to the production clean room. Spill kits and equipment will be stationed around the facility, and they will contain pig mats, absorbent pads, PPE to include chemical resistant gloves, chemical resistant suites, face shields, brooms, shovels, buckets, etc. If the spill or release is larger than 5 gallons, the York County Office of Emergency Management will be notified. If any spill or releases extend beyond the borders of the Silfab Solar property, a third-party chemical spill response team will be called in to assist and the on-site team will take steps to stop and contain the spill prior to the third party's arrival. In addition, the York County Office of Emergency Management will be contacted along with the Flint Hill Fire Department and the neighboring facilities to include Ross Distribution, Motion Industries, and the Fort Mill School System. Further details are outlined in the Silfab Solar Facility Emergency Action Plan (FEAP).

Does this facility have any floor drains (or sumps, trenches, pipes) to the sanitary sewer system? Describe the controls used to prevent materials (liquid and dry) from getting in these drains:

There are no floor drains in the production area that drain directly to the sanitary sewer. All process equipment using chemicals will drain, via piped systems, to the on-site wastewater treatment system. Personnel are trained not to dispose of any chemicals or hazardous materials by dumping them down sink drains or flushing them in the toilets. Signs stating this information will be posted as a reminder in locations where sinks exist.

The chemical distribution area is designed to act as secondary containment so, if a spill or release occurs inside one of the areas the material will be contained and will flow to one of sumps where it can be pumped back to the wastewater treatment process or be retained for collection, treatment and disposal from an outside organization. The wastewater treatment area is designed in the same fashion as well as the chemical offloading station, which is designed to contain the entire contents of any of the chemical transport vessels delivering bulk chemicals to the site.

Describe materials handling and transfer procedures, including the type of equipment used and personnel involved.

Bulk chemicals are unloaded at the chemical unloading pad which is designed to hold the entire contents of any of the bulk chemical transport containers. The unloading pad is equipped with a sump that can pump back to the on-site wastewater treatment process or hold the material until it can be collected by a third party for off-site treatment and disposal. Specific procedures for each chemical will be followed by the Facility Techs who are trained in chemical unloading and chemicals will not be received unless there is sufficient capacity in the tanks to receive the load. The bulk chemicals will

either be pumped by AOD pumps or pressurized with N2 to unload the bulk chemical via specifically designed hoses for the specific chemical to the proper holding tank. The tanks are equipped with high level alarms in case the tank's level gets too high.

Specialty gases, NH3, SiH4, and N2O will be connected to the bulk gas delivery system and the product will be delivered directly from the tube trailer or the isotainer that it is delivered in, via hoses designed specifically for the gases in use. Each delivery system is designed for the specific gas as well and will go through a multi pressure and vacuum test sequence to ensure the system is leak free before gas can be delivered from the delivery vessel. All connections will be made by Facility Techs that are trained to receive specially gases. The NH3 and SiH4 pads will be equipped with TGMS monitors as a backups to the safety check systems and will continuously monitor the area in case a leak is detected. The systems are also equipped with internal pressure monitoring systems so if a leak is detected, it will automatically shut down the gas feed from the delivery vessel. There are also interlocks between the gasses and the thermal oxidizer and acid scrubber systems, so that if the scrubber and DFTO are down, then the gases will stop flowing.

Bulk gasses, O2 and N2, will be delivered by the gas provider and all unloading will be done by the provider as well. These gases are considered cryogenic and must be transferred, by specially trained cryogenic handlers.

Describe alarms, tank level control systems and other safety systems that are used to prevent tank overflows and / or high concentration waste from being released to the sanitary sewer system.

The bulk chemical holding area is designed to be a secondary containment for each of the bulk chemicals that Silfab Solar will be using. Each area has a separate sump to collect leaks if they occur and the sumps can be pumped back to the on-site WWT system or be used for collection by a third party for off-site treatment and disposal. All holding tanks are equipped with high level alarms as well as low level alarms to notify techs of improper conditions. The acid chemical tanks are vented to the acid scrubber during filling procedures and are padded with N2 during normal operation. The acid chemical lines are double contained, so that if a leak occurs on the primary line, it will be caught in the secondary line. The chemical unloading pad is also designed to act as secondary containment and can hold the entire contents of any of the bulk chemical delivery containers. The pad is also equipped with a sump that can transfer material to the on-site WWT process or be used to collect the material for off-site treatment and disposal.

The on-site wastewater treatment system is also in a building designed to act as secondary containment, in case of any leaks or upsets. The building is also equipped with collection sumps that can pump back to WWT or be used for collection by a third part treatment and disposal company. Any neutralizing chemical, such as 50% NaOH, used for the acid scrubber will be stored in totes and will be stationed on a secondary containment platform. Additional liquid form chemicals not in use, will be stored in shipping containers, equipped with secondary containment protection. Spill response equipment will be readily available to address incidental spills by trained personnel.

Reporting Procedures

This facility must have a procedure in place for immediately notifying the City when there is a spill or slug discharge, including any discharge that would violate any pretreatment program requirements. Describe or attach a copy of notification procedure.

If any self-monitoring results indicate a violation of any condition of this permit, or there is a known accidental release from the Silfab Solar facility, Silfab Solar shall:

1. Take corrective actions to deter or stop the occurrence.

2. Notify the City of Rock Hill within 24 hours of becoming aware of the violation via phone at [(803) 329-8789] and include the date and time of the occurrence, the duration of the discharge and the material that may have been discharged when calling in to report.

3. Silfab Solar will upon taking investigative and/or corrective action, re-sample and submit the results of the re-sampling to the City of Rock Hill within 30 days after becoming aware of the violation.

This facility must have a procedure in place to provide a written follow-up report to the City regarding any such spill or slug load, or pretreatment program violation. Describe or attach a copy of the notification procedure.

A formal report describing the incident and the correcting and preventative measure taken to prevent recurrence will be submitted within 5 days of the occurrence to:
City of Rock Hill
ATTN: Brice Sodorff
Industrial Pretreatment Program
P.O. Box 11706 Rock Hill, SC 29731

The formal report will include:

A. Description and cause of the upset, slug load or accidental discharge, and the impact on the Permittee's compliance status. It will also include the location of discharge, type, concentration, and volume of waste.

B. Duration of noncompliance, including exact dates and times of noncompliance and, if the noncompliance is continuing, the time by which compliance is reasonably expected to occur.

C. All steps taken or to be taken to reduce, eliminate, and/or prevent recurrence of such an upset, slug load, accidental discharge, or other conditions of noncompliance.

If your facility has no notification or follow-up procedures, what steps are being taken to develop these procedures?

Emergency notification information, as stated above, will be posted in the wastewater treatment process area and other areas within the facility for quick reference. Blank Slug/Accidental Discharge Forms will be kept in the wastewater process area, as well, and will be used as a guide to record the pertinent information, if an incident occurs.

Certification (*to be completed by an official authorized to sign for the company*)

I certify, under the penalty of law, that I have personally examined and familiar with the above information, and that based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the submitted information is true, accurate and complete.

Matt Korzeniowski	Plant Facilities Director
Name (print)	Title (print)
Signature	7/7/25 Date