



# Standard Operating Procedures: Sewer Treatment & Collection Systems

Tammany Utilities  
TU Staff

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## SOP Forms

All forms associated with this SOP can be found in the attachments

## Glossary

ADESO	Assistant Director of Environmental Services – Operations (Tim Brown)
Director	Director of Environmental Services (Greg Gorden)
DMR	Discharge Monitoring Report
ECC	Environmental Compliance Coordinator (Darryl Paulette)
LDEQ	Louisiana Department of Environmental Quality
LDH	Louisiana Department of Health
LPDES	Louisiana Pollutant Discharge Elimination System
LS	Lift Station
SEM	Supervisor of Electrical Maintenance (Derek Crayton)
SFO	Supervisor of Field Operations (Todd Torregano)
SLL	Supervisor of Line Location (Kent Riecke)
SSO	Sanitary Sewer Overflow
SWM	Supervisor of Water Maintenance (Allen Jube)
SWO	Supervisor of Water Operations (Aaron Davis)
SWWO	Supervisor of Wastewater Operations (Glenn Daughdrill)
TU	Tammany Utilities
TUAS	Tammany Utilities Administrative Assistant (Monica St. Cyr)
UOC	Utility Operations Coordinator (Sean Riecke)
WWTP	Wastewater Treatment Plant

## Sewer Treatment & Collection System Management Plan Goals

1. Maintain and improve the condition of the wastewater treatment and collection system infrastructure in order to provide reliable service into the future;
2. To properly manage, operate, and maintain all parts of the wastewater treatment and collection system;
3. Minimizing the number and impact of sanitary sewer overflows (SSOs) that occur and detailing an SSO response plan;
4. Organization of personnel in treatment and collection system management/maintenance;
5. Ensure contingency equipment to handle emergencies, and spare/replacement parts intended to minimize equipment/facility downtime;
6. Implement design and construction standards.

## TU Personnel Responsible for Implementation of this SOP

The following TU personnel are responsible for the implementation of this SOP (Organizational Chart provided in [Appendix A](#)):

- Assistant Director of Environmental Services – Operations (ADESO)
  - Communication/Coordination with Director, TU staff, Parish Administration, Public Information Officer, Parish Council, LDEQ, and TU customers
  - Authorize solicitation of quotes and requisitions by UOC
- Environmental Compliance Coordinator (ECC)
  - Communication/Coordination with the LDEQ, ADESO, and TU staff
  - Inspection of TU WWTPs
  - Coordinate the collection of all LPDES required samples
  - Communication/Coordination with contract laboratory
  - Oversight of DMR preparation and entry into NetDMR
  - Reporting of SSOs in accordance with LPDES permits and this SOP
- Supervisor of TU Field Operations (SFO)
  - Communication/Coordination with ADESO, and TU staff
  - Oversight of maintenance/repairs
  - Authorize solicitation of quotes and requisitions by UOC
- Utility Operations Coordinator (UOC)
  - Communication/Coordination with Department of Procurement
  - Solicit quotes as directed by SFO, ADESO, or Director
  - Prepare requisitions and track procurement as directed by SFO, ADESO, or Director
  - Communication/Coordination with SWO, SWM, SEM, SWWO and SLL to maintain inventory
  - Facilitate emergency procurement of parts and equipment
- Supervisor of Wastewater Operations (SWWO)
  - Supervise Utility Operators and Utility Maintenance Specialists
  - Educate and train Utility Operators and Utility Maintenance Specialists in the proper operation of WWTPs
  - Communication/Coordination with SFO, ECC, and ADESO
  - Collection of LPDES required samples
  - Coordination/scheduling of sludge wasting

- Preparation of Spill Reports and reporting to ECC
- Supervisor of Water Maintenance (SWM)
  - Repair lines as directed by SFO, ADESO, or Director
  - Preparation of spill reports not associated with lift stations and report to ECC
- Supervisor of Electrical Maintenance (SEM)
  - Coordinate/schedule the day to day checking of TU lift stations
  - Perform electrical maintenance/repairs on wastewater treatment plants and lift stations as needed and/or directed by SFO, ADESO, or Director
  - Coordinate the after-hours responses to lift station complaints
  - Preparation of Spill Reports and reporting to ECC
- Supervisor of Line Location
  - Locate lines as directed by SFO, ADESO, or Director

## Routine Operation of Wastewater Treatment Plants

TU Utility Operators and Utility Maintenance Specialists assigned to the Wastewater Treatment Crew shall report to the SWWO and are responsible for performing the following daily activities at their assigned WWTPs:

- Upon arrival, the operator shall initiate a 30 minute settleometer test. The test shall consist of the following:
  - collect 1 Liter of mixed liquor from the aeration basin (while the aerators are on) in a settleometer
  - allow the settleometer to sit for 30 minutes
  - after 30 minutes, record the volume of the settled solids
- Inspect fences, gates, ladders, railings, blowers, belts, chlorinator, metering pumps, tanks, etc. General maintenance that can be completed at the time should be done. If parts or equipment are needed, the operator shall note the maintenance required on the WWTP inspection form and turn into the SWWO.
- Ensure that disinfection system is operating properly and add chlorine if needed
- Clean weirs and baffles
- Knock down pop-ups if needed
- Inspect chlorine contact chamber for solids. If present, note it on the WWTP inspection form and turn into the SWWO
- Inspect outfall location. If solids are present, note it on the WWTP inspection form and turn into the SWWO

WWTP operators, on a monthly basis, shall collect a mixed liquor sample and submit to the SWWO for Mixed Liquor Suspended Solids (MLSS) analysis.

The Electrical Maintenance Crew shall, on a quarterly basis, change the oil in the blowers. All maintenance shall be recorded on the maintenance log.

WWTP operators, on a semi-annual basis or as needed (determined by pressure gauge readings), shall clean the diffusers.

The SWWO shall be responsible for the prioritization and scheduling of sludge wasting. The Utility Operators operating the pump trucks and vacuum truck shall be responsible for completing the TU Sludge Removal Record form.

The SWWO shall be responsible for communicating maintenance needs to the SFO.

### Collection System Inspection and Condition Assessment

The ADESO and SFO shall identify and prioritize structural deficiencies and implement a program prioritized short-term and long-term actions to address them. The actions will include smoke testing, camera inspection, and flow monitoring.

Smoke Testing: Tammany Utilities staff (or subcontractor) will perform smoke testing on at least 50% of sewer collection systems annually to monitor/reduce inflow/infiltration.

- Based upon inspection data collection system deficiencies will be placed on a master sewer collection deficiency list and reviewed by Director, ADESO, SFO, ECC, and relevant TU Supervisors.

Camera System: budget to camera specific portions of system, sewer mains, on an annual basis. Use results of smoke testing, issues at sewer lift stations to determine if impacted portions of the collection system need to have a camera inspection.

Flow Monitoring: Flow monitoring for capacity analysis on an as needed basis, utilizing run times of lift stations and influent to treatment plant(s).

Deficiencies: Utility Operators and Utility Maintenance Specialists shall note deficiencies or maintenance needs to their respective supervisors. Ultimately, these deficiencies and maintenance requests will be submitted to the SFO for prioritization. Deficiencies noted will be sorted by:

- Emergency repair(s) to be completed immediately by TU staff
- Emergency repair(s) to be completed by construction/maintenance vendor via Task Order
- Short/long term repair(s) to be completed by TU staff and issued a work order number
- Short/long term repair(s) to be completed by construction/maintenance vendor via Task Order



- Long term capital improvement project that needs to be placed on the TU capital list and submitted in the next fiscal year

The SFO shall submit identified deficiencies to the TUAS for creation of a work order in entry into the system.

*Record Maintenance:* TU staff shall maintain all records associated with inspection(s) and condition(s) assessment to support analysis, reporting, procurement and budget requests.

### Sewer Lift Station Operation and Maintenance

TU Utility Maintenance Specialists assigned to the Electrical Maintenance crew shall be responsible for the operation and maintenance of TU sewer lift stations. Electrical Maintenance staff's goal is to have a lift station checker check each lift station each day, with maintenance crew members visiting the station thereafter. Tammany Utilities operates and maintains sewer lift stations that utilize submersible and above-ground pumps. Electrical Maintenance staff shall follow the below steps when checking/maintaining the respective lift stations:

#### *Submersible Pumps:*

- Check electrical panel integrity
- Check and clean float switches
- Turn pumps on/off to check for clogging (remove all clogging if necessary)
- Test audible alarm and float alarms
- Check conduit and piping to see if it is secure
- Check lift station lid and panel and make sure it is locked at arrival and departure

#### *Above-Ground Pumps:*

- Check electrical panel integrity
- Check and clean float switches
- Turn pumps on/off to check for clogging (remove all clogging if necessary)
- Test audible alarm and float alarms
- Check conduit and piping to see if it is secure
- Check lift station lid and panel and make sure it is locked at arrival and departure

- Check integrity of belts (replace belts if necessary)
- Check oil level (Change oil once a month on all above-ground pumps and record the oil change on log sheet that is kept at the lift station site)

Electrical Crew members will finally note the grease and debris level in the lift station in order to determine if the lift station needs to be cleaned/pumped out on an interval greater than the quarterly cleaning that is currently contracted.

### Illegal Tie-in/Tampering/Service Line Break

Tammany Utilities sewer collection systems can be compromised by infiltration from illegal tie-ins, tampering and service line breaks on customers' property.

*Illegal Tie-In:* If during course of smoke testing an illegal tie-in by customer of residential drainage/pool is discovered by TU personnel, TU will issue notice/letter of correction to customer.

Notices and letters of correction sent to customers will reference appropriate Parish ordinances relative to authority to require repair, timeframe in which said repair needs to be completed, and potential penalties for non-compliance.

- Notices/letters to be issued by TUAS, signed by the Director
- Noted in customer account history for future reference.

*Service Line Break, Customer Side:* If during course of smoke testing a service line break on the customer side of the service connection is discovered by TU personnel, TU will issue notice/letter of correction to customer.

Notices and letters of correction sent to customers will reference appropriate Parish ordinances relative to authority to require repair, timeframe in which said repair needs to be completed, and potential penalties for non-compliance

- Notices/letters to be issued by TUAS, signed by Director
- Noted in customer account history for future reference.

## Contingency Equipment and Replacement Inventories

Owning and having accessible contingency equipment is important to responding effectively in emergency situations.

### Pump and Motor Demands:

- Develop a master list of pump and motor needs for each TU sewer lift station
- Determine the specific replacement inventory (pumps and motors, and parts/appurtenances for said same) to have in stock for back-up purposes
- Quarterly review by SFO of pump and motor inventory to determine emergency procurement; contact pump repair/winding vendor concerning outstanding repairs.

### Portable Gas Pumps and Generators:

- Number of portable pumps, determine if more need to be procured
- Utilize TU generator plan within Emergency Action Plan to assign generators in an emergency situation

## Sanitary Sewer Overflows

Because most raw wastewater spills are the result of a malfunction at a sewage lift station, the primary responsibility for implementation of the Sanitary Sewer Overflow (SSO) Response Plan will be with the Electrical Maintenance Crew and the Supervisor of Electrical Maintenance (SEM). Spills resulting from WWTPs will be the responsibility of the Wastewater Treatment Crew and the Supervisor of Wastewater Operations (SWWO). Spills from line breaks will be the responsibility of the Water Maintenance Crew and the Supervisor of Water Maintenance (SWM). The response plan is organized into how an SSO will be addressed during regular working hours, after-hours and the compliance/regulatory follow-up to ensure all SSO's are properly reported to the regulatory authorities. This plan also details the spill response/mitigation steps to be followed by personnel in the field.

### **DURING WORKING HOURS (CUSTOMER COMPLAINT, INTERNAL/SELF-REPORTING):**

1. When a customer calls with a complaint of sewer spill/overflow a Work Order will be generated. It will clearly be identified with a code of "SSO" (Sanitary Sewer Overflow).
  - 1a. When TU staff discover, find or see a sewer spill/overflow staff shall call the TU office and a Work Order will be generated. It will clearly be identified with a code of "SSO" (Sanitary Sewer Overflow).
2. The Work Order complaint will be dispatched to field personnel immediately via telephone and the work order paper will be faxed to the TU Tyler St Office.
3. Field personnel will respond to the complaint and mitigate as necessary (detailed below under Spill Response). Field personnel will visually inspect the specific address of the customer calling in the overflow and all points of the collection system (manholes, known low spots, etc...) between the complainant and the lift stations upstream and downstream as applicable.
4. Field personnel record their field findings & response on the SSO Work Order promptly with details of actions taken, clearly stating if SEWER SPILL occurred or NO SPILL.

5. The completed response work order will be provided to TU Administrative Assistant for close out.

#### **AFTER HOURS CALLS:**

1. After hours answering service email a list of all after-hours calls to TU staff.
2. An SSO coded Work Order will be generated the morning of the next working day by TU staff.
3. The Work Orders will be provided to the Field Supervisor for the field staff to complete with all details of the response (see Item #4 above details that must be met).
4. The completed response work order will be provided to TU Administrative Assistant for close out.

#### **COMPLIANCE FOLLOW-UP:**

1. Compliance staff will query on a weekly and/or monthly basis all SSO work orders in Inhance and MUNIS to ensure all have been responded to properly and that spills have been verified, or not verified. This will prompt compliance staff to generate overflow reports as necessary to the regulating entity as well as included in the Discharge Monitoring Report (DMR) submittals.
2. This process will allow multiple TU management and staff to access the data and quality control audit for proper implementation of the field response(s) and compliance close out.

**Spill Response:** The SFO, ECC, and/or the SEM shall be responsible for directing the clean-up of any spill. Depending on severity of overflow TU field staff shall:

- Use Vac Truck to vacuum up overflow in ditch(es);
- Rake and collect solids (once spill area is dry);
- Spread lime as appropriate on impacted area and standing water;
- Flush the affected area with fresh water using a nearby hydrant or the fresh water tank on the vacuum truck;

- Collect the wash water with the vacuum truck;
- Complete a spill report and turn in to the ECC;
- The ECC and SFO shall be responsible for inspecting the site to ensure the clean-up is complete.

**Mitigation:** If the cause of the spill is determined to be either stormwater infiltration or a line blockage, the SFO will schedule smoke testing and/or video investigation to determine if further collection system repair is needed.