General Pretreatment Permit for Significant Industrial User, Dewatering, and Remediation Discharges

Appendix A

Operation & Maintenance Plan

Purpose: Operation and Maintenance Plans shall be updated as needed, but minimally every five (5) years. An adequate Operation and Maintenance Plan must contain the following, when applicable:

1. **Description of Wastewater Treatment Equipment:**
   - 1.1. A detailed description of all on site wastewater treatment equipment including:
   - 1.2. A description of all treatment units, including their manufacturer and model, all tank sizes, system operating capacities and retention times.
   - 1.3. A functional description of each treatment system and subsystem including a discussion of how each item functions and variables that might affect performance.
2. **Collection and Treatment System Operations:**

   A detailed description of the collection system and treatment system operation including start-up, shutdown, power outage, and emergency treatment control procedures. Each procedure must include the positions of all switches, valves, instrument settings and precautions. For batch systems, include operating instructions describing treatment and testing procedures to be performed for each batch, when different treatments are to be used and instructions for operating the different types of treatments.
3. **Calibration and Alarm Testing:**

   A list of instrument calibration and alarm testing frequencies. This should include but not be limited to the frequency that the pH meters and alarms, flow meters, and level alarms are tested or calibrated. Calibration frequency should reflect the recommendation of the manufacturer of the equipment, but shall be once per year at a minimum for flow meters.
4. **Spare Parts Inventory:**

   An inventory of all spare parts and equipment kept at the facility for the wastewater treatment system.
5. **Chemical Inventory and Dosage:**

   A list of all treatment chemicals, quantities stored at the facility and dosage rates.
6. **Maintenance Schedule:**

   Maintenance schedule for the proper operation of the collection and treatment system, both preventive and corrective, with proposed daily, weekly, monthly, quarterly, semi-annual, and annual inspections and procedures.

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7. Operator Staffing and Training:

The number of full or part time wastewater treatment system operators needed to properly run the system at all times, a detailed description of required training an operator must have to run the system, and all training the operators have had completed.

8. Operator List:

A list of operators trained in the O&M of the treatment system.

9. Records & Record Keeping:

A description of records and log(s) to be kept near the treatment system or readily accessible, for operational monitoring and inspections. All entries in logs must indicate the time and date they are made. Such records and logbooks must include the following information, as applicable:

9.1. For Batch Systems, log entries must include:

9.1.1. Number of gallons discharged per batch.

9.1.2. Number of batches discharged per day.

9.1.3. Time(s) and duration of batches.

9.1.4. Type and quantity of treatment chemicals added to each batch.

9.1.5. The results of any chemical analysis done on each batch.

9.1.6. What the wastewater of each batch consisted of (what processes contributed to the batch).

9.1.7. Any maintenance performed on the system.

9.1.8. The pH of each batch at time of discharge.

9.1.9. Any maintenance performed on the system.

9.1.10. When meters and probes were calibrated and/or replaced.

9.1.11. Any observations the operator may have noticed about the discharge (clarity, foam, etc.).

9.2. For Flow-Through Systems, log entries must include:

9.2.1. Total daily flow.

9.2.2. Time and duration of discharges.

9.2.3. Treatment chemicals used and dosage rates and/or quantity of chemical used each day.

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9.2.4. Daily/shift treatment chemical tank levels.

9.2.5. The results of any chemical analysis performed on the discharge.

9.2.6. The range of pH during the day/shift.

9.2.7. When meters and probes were calibrated and/or replaced.

9.2.8. Any maintenance performed on the system.

9.2.9. The reason for any upsets that may have occurred.

9.2.10. Any observations the operator may have noticed about the discharge (clarity, foam, etc.).

10. Security Measures:

A description of any security measures to prevent vandalism of the collection and treatment systems.

11. System Diagram:

A diagram of the treatment system showing the flows associated with each discharge. The diagram must show all incoming waste streams, treatment units and their sizes, treatment chemical additions, all pumps and valves, electrical equipment (pH sensors, controllers and alarms, high level sensors and alarms, etc.) and connections between electrical units. Average, maximum, and design flow rates of incoming waste streams between treatment units and from discharge points and pumps must be indicated.