

Jones Island Chlorine Dosage Adjustment

Jones Island Purification

PURPOSE

WPDES permit requires that effluent discharged from the JIWWTP be disinfected before being discharged into the receiving water. A Sodium Hypochlorite solution is used to disinfect wastewater leaving the JIWWTP. Fecal coliform count is the indicator used to determine that the disinfection process is operating properly. Contact Time (CT), which is the chlorine residual times contact basin detention time, will be used as the control point to indicate proper operation of the disinfection process. Due to variations in plant flow and wastewater characteristics, chemical dosage may need to be changed to account for these variables. By changing chlorine dosage based on actual operating conditions, better control of the disinfection process is possible.

BACKGROUND

Upstream:

Secondary treatment processes

Downstream:

Dechlorination process

PROCEDURE

Run total chlorine residual test using the Hach spectrophotometer 4 times per day. Tests should be run at Midnight, 6:00AM, Noon and 6:00PM. Enter the Channel 1 and Channel 2 Cl₂ residual (mg/L), TPE flow (MGD), and contact basins in service in the JI Secondary SIC '4 Daily' worksheet. Contact time (CT) will be calculated. If the midnight CT value is below 20, raise the hypochlorite dosage set point chart by 2. Notify the lead operator if a chart change is made.

The shift supervisor on day shift will evaluate CT and dosage chart number and adjust the dosage if needed. Target CT should be between 20 and 50. It is important that the midnight reading be taken and data entered as close to midnight as possible. This will allow sufficient contact time to occur if a chart change is made. Fecal coliform sample should be taken between 3:00AM and 4:00AM.

SOP DOCUMENT TRACKING

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