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| CITY OF MOLALLA WATERC:\Users\nlennartz\Desktop\Logos for City\2 inch Emblem Spot.jpgTREATMENT PLANT | SODIUM HYPOCHLORITEPERISTALTIC CHLORINE CHEMICAL FEED MEETERING PUMP ADJUSTMENT AND MAINTENANCE | DATE ISSUEDJAN-2016 |
| SOP #3 |

**Overview**

The Molalla Water Treatment Facility uses Sodium Hypochlorite for disinfection (12.5%). The Treatment Plant has three (3) 400 gallon storage tanks fitted with (3) peristaltic metering pumps. All (3) pumps are rated at 55 gpd. Pump percent can be increased to meet demand. Usually we will run one chlorine pump per filter (Cl2 pumps can be selected on the HMI panel). When just running one filter during low flow season please make sure to de-select the 2nd pump on the HMI panel. Spare parts for the peristaltic pumps are located on the chlorine room with the pumps. The tubing can be swapped at the chlorine check valves to use any of the desired pumps in a different combination if needed. Please check the number on Chlorine feed line to determine the current configuration.

**Location**

The three (3) chlorine tanks are located inside the chlorine room and the metering pumps are fitted to the top of the tanks. The specific manual for the pumps is located in the cabinet in the lab/office.

**Setup**

The recommended free chlorine at the first user should be between 0.80-0.85 ppm. This is sampled in the rechlorination building and seen on the HMI as “Reservoir Chlorine” or “Treated Water Residual Chlorine”. The “Treated water residual chlorine” is our compliance instrument with the “Reservoir chlorine” as a backup unit. These are sampling at the first user. To achieve a 0.80-0.85 residual at the first user you will need to dose at 1.5 or 1.6 mg/L. You confirm this at the sample line near the effluent of the filters. It will take approx. 5 minutes to see a change in residual at the effluent line after a pump setting change has been made. Log your chlorine residuals on the “Chlorine strength” sheet located near the sample line. Temperature of the water, age of the sodium hypochlorite, as well as clarity of the finished water can change this demand slightly. We are operating the reservoirs in series to you will not see much of a change at the first user for approximately 90 minutes. If the residual at the first user drops to 0.2 or below you will need to contact the DRC or Operations Manager so that we can notify OHA and review public notification requirements. If the reservoirs are operating in series (current) than the residual at the first user will take hours to change. It’s best to pull up the analyzers on the trend screens to verify that the residuals are trending in the desired direction.

 **Maintenance**

The Chem-Tech Peristaltic Pump Manual is located on the bookshelf in the main office. Maintenance items include the ball checks at the utility water injection port, peristaltic tube and greasing the rotating assembly. When you see any discharge from the pressure relief valve in the clear pvc it is most likely caused by a clogged ball check. You need to unscrew the ball check valve remove the ball, rinse with water, then re-install.

**Parts/Service**

Spare parts are located in the chlorine room and chemical room. Parts can be ordered at USA BlueBook or through Mike Kelley at Engineered Control Products 503-656-4880. Sodium Hypochlorite is supplied by Northstar Chemical 503-625-3770. Bulk Delivery.

***\*Always wear proper PPE will performing maintenance on the chlorine equipment. SDS sheets located in the file cabinet.***