

## **City of Hollister Water Reclamation Facility Off-Specification Effluent Contingency Plan**

**Purpose:** The Master Reclamation Requirements regulating the production and distribution of recycled water at the Hollister DWTP include the requirement: “In the event effluent discharged to the effluent storage ponds does not meet the criteria for disinfected recycled water, the Supplier shall implement the Off-Specification Contingency Plan (Supplier and Distribution Requirement No. 28). This Off-Specification Effluent Contingency Plan fulfills the requirement of MRRO Supplier and Distribution Requirement No. 28).

### **PREVENTION**

At the Hollister facility, all water not suitable for recycling will be disposed of through the percolation ponds on the east side of Highway 156, stored in the east side storage ponds or the Sludge Storage Basin (SSB), and/or be returned to the treatment plant to be retreated. There are three areas of concern to be considered as potential for producing off-spec effluent: biological treatment, turbidity, and disinfection.

### **BIOLOGICAL**

The biological process is stable and measured for D.O. (dissolved oxygen) continuously, as long as D.O., turbidity and nitrates are normal there is little chance that BOD or TSS will be noncompliant. Since BOD testing requires six days to complete and report, there is no way to divert noncompliant water until after the fact, unless one of the other indicators indicate a problem. Therefore the operator’s responsibility is to notify the Supervisor if problems exist in the aeration tanks that could indicate a potential biological upset so a diversion can be made prior to getting final results from the laboratory.

### **TURBIDITY**

The turbidity of the filtered wastewater shall not exceed any of the following:

- a. 0.2 NTU more than 5 percent of the time within a 24-hour period; and
- b. 0.5 NTU at any time.

The Water Reclamation Facility SCADA system continuously monitors the turbidity of the water produced by each membrane train and the combined water from all the trains that are in operation. Through operator selected parameters, the membrane trains and valves downstream of the combined membrane train flow can be SCADA alarmed and controlled.

For instance, if an individual train's permeate registers a turbidity of greater than 0.2 NTU for a preset time or reaches 1.5 NTU at any time, the train will automatically shut down, the next train in line will start, and an alarm will be sent to the on-call operator. This will assure that the combined turbidity will be in compliance at all times, yet give some flexibility to short-span turbidity spiking that occurs during train start-up.

The same procedure will be used for the combined flow turbidity, but with tighter tolerances, and will be tied to valve BFV5000 which controls flow to the Chlorine Contact Basin (CCB). If the combined turbidity exceeds 0.2 NTU for a preset time or reaches 0.4 NTU at any time, SCADA will automatically close valve BFV5000, stopping flow into the chlorine contact tank and diverting the flow to the disposal or storage on the east side of Highway 156 until permitted turbidity is restored.

## **DISINFECTION**

Disinfected tertiary recycled water shall not contain total coliform concentrations exceeding the following limits:

- a. the seven-day median concentration must not exceed a Most Probable Number (MPN) of 2.2 per 100 milliliters (ml); and
- b. concentrations must not exceed an MPN of 23 per 100 ml in more than one sample taken over a 30-day period; and
- c. no sample shall exceed an MPN of 240 total coliform bacteria per 100 milliliters.

and

The chlorine contact basins will not be operated in series at any time. The chlorine residual within the disinfection process following filtration shall provide a CT value of not less than 450 milligram-minutes per liter at all times with a modal contact time of at least 90 minutes, based on peak dry weather design flow in each contact basin.

The disinfection system is automated to ensure that there is proper dosing of sodium hypochlorite to maintain the proper residual in the effluent. The dosing pumps are controlled by the residual analyzer to increase or decrease the dose to maintain a preset residual.

SCADA will alarm if the chlorine residual drop below the targets on the influent end of the contact tank, and will also alarm if the residual drops to a minimum set-point that indicates that the dose is potentially too low to ensure that the effluent residual will meet the standard. This alarm will automatically close valve BFV5000, stopping flow to the CCB and diverting the water to storage/disposal on the east side of Highway 156.

To ensure that the plant maintains a minimum CT of 90 minutes, the flow through valve BFV5000 is programmed to restrict the maximum flow to the Chlorine Contact Tank to 4.0 MGD. The effluent chlorine residual analyzer is also set to alarm and notify the operator if the residual drops to 3.7 mg/l. There is also a calculated value alarm to determine that we comply with the 450mg/l/minute residual requirement, which will

notify the operator if we drop below 460, and it will also close valve BFV5000 and divert flow to storage/disposal on the east side of Highway 156.

If off-spec water reaches the CCB and cannot be corrected by additional detention time in the case of under-chlorination, all effluent pumping will be stopped, and the off-spec water removed from the CCB by either: (1) diverting it to the east disposal/storage areas by opening gate CG-8100 or using portable pumps; or (2) returning it to the plant through the drain valves.

Coliform results are expected to be <2. Any results above this will initiate an investigation to determine the source

## **OFF-SPECIFICATION EFFLUENT CONTINGENCY PLAN**

In the event effluent discharged to the **effluent impoundment** (west percolation beds) does not meet the criteria for disinfected recycled water, isolate that section of the impoundment area from the other sections.

The quantity of off-spec water discharged, and the status of the impoundment area, will determine the contingency response.

If the quantity is relatively small and the effluent impoundment is unlined, the water will be allowed to percolate/evaporate. Upon completion, the area would be returned to normal use.

If the quantity precludes percolation/evaporation, or the impoundment area has been lined to prevent percolation, the water will be pumped to the east disposal/storage area using the following procedure:

1. Stop all off-site pumping by securing the IWTP and Recycled Water pump stations.
2. Open the CCB gate CG-8100 going to the east disposal/storage area.
2. Isolate non-contaminated impoundment cells by closing inlet and drain valves and open the drain valve of the contaminated cell.
3. Pump the water from the contaminated cell back to the CCB using the west storage pond return pump station. This flow will continue through the distribution channel and out to the east disposal/storage system.
4. Drain any standing water in the CCB distribution channel to the plant drain system.
5. Return to normal CCB operation by closing drain valves, closing gate CG-8100 and restore IWTP and Recycled Water pump stations.

In the event effluent discharged to **off-site use areas** does not meet the criteria for disinfected recycled water, stop flow to the use areas by turning off the IWTP and Recycle Water pumps until the problem is corrected.

If non-compliance water has reached off-site use areas, **notify the areas' site supervisors immediately** and assist in isolating the areas if there is a danger to public health. A list of use-site supervisors is attached. Take steps to isolate and mitigate the hazard.

If the off-specification water can be isolated in the delivery system and diverted to a safe use site or treated locally to correct the problem, do so.

When flow is resumed, collect samples at the use site to determine the level of non-compliance.

## **REPORTING**

In any incident creating any adverse conditions or non-compliance with Order No. R3-2006-0069 (Facility operating permit) potentially endangering public health or the environment, WWTP staff will report the incident within 24 hours of knowing of such conditions to:

- a. Regional Water Quality Control Board (805/549-3147);
- b. California Department of Public Health (831/655-6939);
- c. San Benito County Environmental Health (831/636-4035);
- d. San Benito County Water District (831/637-8218); and
- e. Any other appropriate agency

If there is a spill of 1000 gallons or more that may enter a waterway, notify

- f. Office of Emergency Services (OES) (800) 852-7550

Be prepared to give the location and time of the incident, type of violation (disinfection, turbidity, etc.), rough volume estimate, if it reached a waterway or drainage to a waterway and if it is a threat to public health.

RECLAIMED WATER SITE SUPERVISORS

Dec. 2009

Airport	Candido Diaz – ValleyCrest Landscape or Jeff Colton	925 463 0700
Brigantino Park	Marcelo Orta – City of Hollister Or Juan Lopez – City of Hollister	831 636 4370 cell 831 902 7454 831 636 4370 cell 831 902 7448
Dennis Rose		831 626 4350 cell 831 524 1880 home 831 726 2934