



STANDARD OPERATING PROCEDURE

Low Flow Odor Mitigation

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Approved By:
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Executive Director

PURPOSE: A guide to assist operations staff with proactive procedures to begin following when the Authority enters into low flow conditions that generate additional odors.

SCOPE: This Standard Operating Procedure (SOP) covers actions to begin taking to attempt to mitigate odors as much as possible during low flow conditions.

Part I	Staff Responsible: Administration/Operations
Low Flow/Odor Conditions Definition/Determination	
<ol style="list-style-type: none"> 1. Proactive measures to attempt to mitigate odors due to low flows will begin if at least one of the following conditions is identified: <ol style="list-style-type: none"> a. Previous daily flows are less than 8.5 MGD for 3 consecutive days, ambient air temperature is predicted to be above 40 degrees Fahrenheit with no substantial rain (0.25 inches or greater) in the forecast for the day, and wastewater influent temperature is above 62 degrees Fahrenheit. b. Staff detects increased odors during routine inspections of adjacent properties, or during travel to and from the main plant that are not attributed to a unique/known circumstance. c. More than 3 resident odor notifications within a 48-hour period that are not attributed to a unique/known circumstance. 	
Part 2	Staff Responsible: Operations Department
Initial Pro-Active Measures	Measures to take for the first 1-3 days if "low flow" conditions are determined
<ol style="list-style-type: none"> 1. Increase potency of odor neutralizer from 0.5% to 1.5% 2. Add "freshening water" to gravity thickener if it does not increase odors 3. Shut off exhaust fans during evening hours 4. Ensure extra diamond plating is in place 5. Perform routine plant rounds to ensure there are no additional sources of odor 	
Part 3	Staff Responsible: Operations Department
Continued Pro-Active Measures	Measures to take for prolonged "low flow" conditions (3-14 days)
	Continue taking actions listed in Part 2
<ol style="list-style-type: none"> 1. Increase potency of odor neutralizer from 1.5% to 2.5% 2. Deploy temporary odor neutralization units with increased odor neutralizer potency 3. Cover additional channels and other accessible areas that otherwise would need routine access 4. Pro-actively clean tanks and equipment that would otherwise not need cleaning 5. Perform daily odor checks outside of plant grounds to determine levels of odors, and determine if there are any other sources of odors (septic lagoons, other industrial activities, etc.) 	

<ol style="list-style-type: none"> 6. If lagoons on plant site are septic; chlorinate lagoons. 7. Recycle flows (open drain lines in UV) 8. Divert any groundwater pumping operations into head of plant 9. If 4th clarifier is in service, do not take out of service, so that no additional odors are created by the draining of the tank 	
Part 4	Staff Responsible: Operations Department
Advanced Pro-Active Measures	Measures to take after two weeks or longer of low flow conditions
	Continue taking actions listed in Parts 2 and 3
<ol style="list-style-type: none"> 1. Limit Leachate Hauling to Monday – Friday; 1 delivery a day between the hours of 7am – 12pm 2. Increase oxygen rate to the aeration deck to deliver 11 tons/day O2 or more 3. Cease supernating off the digester; always press sludge instead 4. Simulate high flow event by lowering pump speeds/building up wet well, then rapidly increasing pump speed to increase flow through plant. Essentially a “flush.” Perform every 7 to 10 days that conditions persist 5. Drain and clean the gravity thickener 6. Evaluate installing 8” pump in a manner to increase recycle flow through the plant 	
Part 5	Staff Responsible: Executive Director, Assistant Executive Director, Operations Superintendent
Public Communications	
<ol style="list-style-type: none"> 1. Address resident communications 2. Monitor weather data to ensure it is possible that odor complaints are coming from the Authority 3. Issue public communication statements (e-mail blast, website posting, etc.) for any unique circumstances that would cause additional temporary odors 4. Ensure SOP’s are being followed 5. Continue to attempt to determine other means and methods in order to attempt to mitigate odors 	