



BACWA - BAAQMD Workshop: Impact of Proposed Rule 11-18 on Bay Area Wastewater Treatment Facilities

Agenda

Date: March 9, 2017
Time: 10 AM - 12 PM
Location: BAAQMD Office - 375 Beale Street, Suite 600, San Francisco, CA 94105

- 1) Introductions
- 2) Rule Overview (BAAQMD - 10 min)
- 3) Impact on Wastewater Treatment Facilities (60 min)
 - a) Big Picture Overview of Wastewater in the Bay Area - **Dave Williams, BACWA**
 - b) Impact of Rule Requirements and Timelines - **Courtney Mizutani, BACWA AIR**
 - c) Impact on Wastewater Facility Planning and Implementation Projects
 - i) San Francisco Public Utilities Commission - Capital Improvement Plan Impacts, **Laura Pagano**
 - ii) Central Contra Costa Sanitary District - Impacts of T-BARCT implementation on project costs and schedules, **Randy Schmidt**
 - iii) East Bay Municipal Utility District - New Scrubber Installation, **Chris Dembiczak**
 - iv) Future Renewable Energy Projects - Conflict with State & Bay Area Climate Related Goals, **Sarah Deslauriers, BACWA AIR**
- 4) Review of the Draft T-BARCT list for Sewage Treatment Operations (10 min) - **Victor Douglas, BAAQMD**
- 5) Specific "Asks" from the Wastewater Community (10 min) - **Dave Williams, BACWA**
- 6) Next Steps

DRAFT Best Available Retrofit Control Technology for Toxics (TBARCT): Sewage Treatment Operations

Operating Type	Source Type	Pollutant	Potential Risk Reduction Measure	Risk Reduction Basis	Installation Cost	Annual Operating Cost	Cost References or Comments
Sewage Treatment	Incinerator	Chrome VI	1) Increase Stack Height 2) Oxidation Catalyst	1) Currently controlled by afterburners and scrubbers - increased stacked heights Based on HRSA @ PN 617			
Sewage Treatment		Cadmium	1) Increase Stack Height 2) Oxidation Catalyst	1) Currently controlled by afterburners and scrubbers - increased stacked heights Based on HRSA @ PN 617			
Sewage Treatment		Hg / NC*	1) Increase Stack Height 2) Oxidation Catalyst	1) Currently controlled by afterburners and scrubbers - increased stacked heights Based on HRSA @ PN 617			
Sewage Treatment		DPM	1) Higher Stacks 2) Diesel particulate filters	Refer to numbers for diesel engines in Lines 2-7.			
Sewage Treatment		H ₂ S / NC*	1) Covering the headworks 2) Injecting ferric chloride 3) Injecting peroxide	PN 778 Covering process PN 778 A27353, Iron Salts ap PN 2482 Peroxide injection	1) \$1M	2) PN 778 \$1.5M cost of ferric chloride 3) PN 2482 \$4.75/ gallon of peroxide + monthly rental \$1000	
Sewage Treatment		CH ₂ O	Oxidation catalyst	A28470 for 49.5 Mmbtu/hr natural gas engine	300000	Minimal	
Engines + Other Sources	Engine	CH ₂ O	Oxidation Catalyst (80% efficiency for Miratech, 60% efficiency for Synergy)	Miratech, Synergy Catalyst	Miratech: \$13800, Synergy: \$34800 (rough estimate)	Miratech: \$2349.35, Synergy: \$5924.44	5% interest; 20 year life CRF=(0.05*(1.05)^20)/(-1+(1.05)^20)=0.08 annualized cost = =TC*(0.01+0.01+0.02+0.05+CRF)=TC* 0.17

Operating Type	Source Type	Pollutant	Potential Risk Reduction Measure	Risk Reduction Basis	Installation Cost	Annual Operating Cost	Cost References or Comments
Engines + Other Sources		HF Acid Mist / NC*	All Sources of HF acid mist emissions were removed from service in Jan 2015				
Engines + Other Sources		Perc	N/A	N/A	N/A	N/A	Facility provided test result data to reduce the emission factor by a tenth. Updated emissions will likely reduce PS below 10.

* NC=non-cancer