



**BACWA - BAAQMD Meeting:
"Details" Discussion on Impact of Proposed Rule 11-18
on Bay Area Wastewater Treatment Facilities**

Agenda

Date: June 1, 2017
Time: 10 AM - 12 PM
Location: BAAQMD Office - 375 Beale Street, 6th Floor, San Francisco, CA 94105

- 1) Introductions
- 2) Health Risk Assessment Modeling
 - a) Update influent flow and concentrations for Phase 1 facilities (Table 1)
 - b) Define and update distance adjustment factors for Phase 1 facilities (Table 2)
 - c) Emission sources that pose the highest risk (Table 3)
 - d) Update emission factors for specific toxic air contaminants (Table 4)
- 3) Next Steps
 - a) Letter from BAAQMD (Phase 1 facilities to Phase 2)
 - b) Update influent flow and concentrations for Phase 1 facilities
 - c) Update distance adjustment factors for Phase 1 facilities
 - d) Draft proposal to update emissions factors for specific TACs
 - e) Schedule meeting to discuss TBARCT cost-benefit
- 4) Adjourn

Table 1. BAAQMD Influent Concentrations Used to Estimate Prioritization Scores by Facility vs Facility Data

East Bay Municipal Utility District (Facility # 591)						Revised
S-100 Municipal Wastewater Treatment Plant						3/21/2017
Pollutant	Basis Code	Effective Date (Not reflected in Prioritization Scores)	BAAQMD Database	Influent Concentration	Reduction	Notes
			Emission Factor lb/million gallons	2012-2016 Emission Factor lb/million gallons		
Benzene	1	3/7/1996	0.013	0.0018	86%	All ND since 2012
Perchloroethylene	1	3/7/1996	0.063	0.0075	88%	
Toluene	1	3/7/1996	0.038	0.0677	-78%	Not all volatilizes?
1,1,1-trichloroethane	1	3/7/1996	0.034	0.0024	93%	All ND since 2012
Trichlorethylene	1	3/7/1996	0.011	0.0038	65%	
Xylene	1	3/7/1996	0.016	No Influent Data		
Chloroform	1	3/7/1996	0.063	0.0963	-53%	prechlor added since 1992
Methylene chloride	1	3/7/1996	0.058	0.0121	79%	
Dichlorobenzene	1	3/7/1996	0.01	0.0026	74%	used 1,4-dichlorobenzene
Hydrogen sulfide	5	3/20/1997	0.2			
Ammonia	7	12/15/2015	0.118			

Palo Alto Regional WQCP (Facility # 617)						Revised
S-100 Municipal Wastewater Treatment Plant						5/31/2017
Pollutant	Basis Code	Effective Date	BAAQMD Database	Influent Concentration	Reduction	Notes
			Emission Factor lb/million gallons	2012-2016 Emission Factor lb/million gallons		
Perchloroethylene	1	3/30/1992	2.00E-02	7.50E-03	63%	All ND since 2012
Toluene	1	3/30/1992	7.00E-02	---		
1,1,1-trichloroethane	1	3/30/1992	1.00E-02	2.40E-03	76%	All ND since 2012
Trichlorethylene	1	3/30/1992	7.00E-02	3.80E-03	95%	All ND since 2012
Xylene	1	3/30/1992	2.00E-02	4.00E-03	80%	All ND since 2012
Chloroform	1	3/30/1992	6.00E-02	9.63E-02	-61%	
Methylene chloride	1	3/30/1992	1.00E-01	1.21E-02	88%	All ND since 2012
Dichlorobenzene	1	3/30/1992	1.00E-02	2.60E-03	74%	All ND since 2012; used 1,4-dichlorobenzene
Hydrogen sulfide	5	3/19/1993	9.00E-03	---		
Ammonia	7	12/14/2011	1.18E-01	5.00E-03	96%	

SFPUC Southeast Plant (Facility # 568)						Revised
S-100 Municipal Wastewater Treatment Plant						5/11/2017
Pollutant	Basis Code	Effective Date	BAAQMD Database	Influent Concentration	Reduction	Notes
			Emission Factor lb/million gallons	2012-2016 Emission Factor lb/million gallons		
Benzene	1	3/9/1992	0.002	1.69E-03	15%	
Perchloroethylene	1	3/9/1992	2.90E-02	1.93E-03	93%	
Toluene	1	3/9/1992	8.00E-03	9.06E-03	-13%	
1,1,1-trichloroethane	1	3/9/1992	3.00E-03	7.97E-04	73%	
Trichlorethylene	1	3/9/1992	4.00E-03	1.41E-03	65%	
Xylene	1	3/9/1992	5.00E-03	No Influent Data		
Chloroform	1	3/9/1992	1.50E-02	1.25E-02	17%	
Methylene chloride	1	3/9/1992	6.00E-03	4.00E-03	33%	
Dichlorobenzene	1	3/9/1992	1.00E-03	1.61E-03	-61%	used 1,4-dichlorobenzene
Hydrogen sulfide	5	3/19/1993	2.40E-01			
Ammonia	7	12/14/2011	1.18E-01			

***ALL Non_Detects Averaged in at MDL

***ALL Estimated Values Averaged in at Reported Value

***Assume 100% volatilization

Table 2. Draft Preliminary Distance Adjustment Factors by Facility

Facility #	Facility Name	Implementation Phase	BAAQMD Database		Residential Measured Distance (meters)	Residential Factor	Worker Measured Distance (meters)	Worker Factor
			Residential	Worker				
			Factor	Factor				
568	SFPUC Southeast Plant	1	1.00	1.00				
591	EBMUD	1	1.00	1.00				
617	Palo Alto Regional WQCP	1	1.00	1.00	913.02	0.011	30.48	1.00
653	CMSA	1	1.00	1.00				
778	San Jose - Santa Clara RWF	1	1.00	1.00				
861	San Mateo WQCP	1	1.00	1.00				
907	CCCSD	1	0.25	0.25				
1209	USD	1	0.25	0.04				
1404	FSSD	1	0.003	0.04				
1534	SVCW	1	0.25	0.25				
1791	City of Benicia	1	1.00	0.25				

Receptor Distance (meters)	Proximity Adjustment Factors (PAF)
0 < 100	1
100 < 250	0.25
250 < 500	0.04
500 < 1000	0.011
1000 < 1500	0.003
1500 < 2000	0.002
2000 and up	0.001

By default, the PAF is assumed to be 1. The Air District stores two sets of receptor distances (one for off-site workers and one for residents). These distances are the distance from the facility boundary (or a specific source or stack location) to the nearest worker and to nearest resident. The PAFs for each receptor type are determined per the table (in accordance with the CAPCOA guidance). The highest of these two PAFs is used for the prioritization score calculation.

Table 3. Draft Prioritization Scores with Key Contributing Compounds by Emission Source for Each Facility

(**Bold** compound is the primary contributor to the Draft Cancer Prioritization Score)

Phase 1 Facilities											
Facility Name	SFPUC Southeast Plant	EBMUD	Palo Alto Regional WQCP	CMSA	San Jose-Santa Clara RWF	San Mateo WQCP	CCCSA	USD	FSSD	SVCW	City of Benicia
Facility #	568	591	617	653	778	861	907	1209	1404	1534	1791
Diesel Engine (Standby)	DPM		DPM	DPM				DPM	DPM	DPM	
Cogen ICE		Benzene		Benzene	Benzene						
		Formaldehyde		Formaldehyde	Formaldehyde						
		DPM									
		Acrolein									
Furnace (Incinerator)			Chromium						Cadmium		
									Mercury		
Turbine								Formaldehyde			
S-100	Benzene	Benzene		Benzene	Benzene			Benzene	Benzene	Benzene	
	Perchloroethylene	Perchloroethylene		Perchloroethylene	Perchloroethylene	Perchloroethylene	Perchloroethylene	Perchloroethylene		Perchloroethylene	
	Chloroform	Chloroform	Chloroform	Chloroform	Chloroform	Chloroform		Chloroform	Chloroform	Chloroform	
		Methylene Chloride	Methylene Chloride		Methylene Chloride	Methylene Chloride		Methylene Chloride		Methylene Chloride	
		Dichlorobenzene		Dichlorobenzene							
	Hydrogen Sulfide	Hydrogen Sulfide			Hydrogen Sulfide						Hydrogen Sulfide
Preliminary Prioritization Score	14.249	111.373	28.729	23.971	88.085	0.056	25.859	5.404	0.056	10.028	1.901
Distance Adjusted Prioritization Score	14.249	111.373	28.729	23.971	88.085	18.538	103.435	21.614	18.538	40.112	1.901
Projected Final Prioritization Score	64.5	504	130	109							8.6

DPM Diesel Particulate Matter

Table 4. Date of Most Recent Emission Factors for Specific TACs by Facility Used to Estimate Prioritization Scores

Facility #	Facility Name	Implementation Phase	Other Pollutants ¹	Perchloroethylene	Hydrogen Sulfide	Ammonia ²
568	SFPUC Southeast Plant	1	1992, 1993		1993	2011
591	EBMUD	1	1992		1993	2011
617	Palo Alto Regional WQCP	1	1992		1993	2011
653	CMSA	1	1992			2011
778	San Jose - Santa Clara RWF	1	1992		1993	2011
861	San Mateo WQCP	1	1992		1993	2011
907	CCCSD	1	1992		1993	2011
1209	USD	1	1992		1993	2011
1404	FSSD	1	1992, 1993		1993	2011
1534	SVCW	1	1992		1993	2011
1791	City of Benicia	1	1992	2000		2011

Notes:

1. Other pollutants - basis code 1 (reported by plant)

2. Ammonia - basis code 7 (literature, not AP-42)