

City and County of San Francisco  
2030 Sewer System Master Plan

**TASK 400**  
**TECHNICAL MEMORANDUM NO. 401**  
**AIR QUALITY REGULATIONS**

**FINAL DRAFT**  
August 2009



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2030 SEWER SYSTEM MASTER PLAN**

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**TABLE OF CONTENTS**

	<b><u>Page No.</u></b>
1.0 AIR PERMITS .....	401-1
2.0 ODOR CONTROL .....	401-1
3.0 REGULATORY DEVELOPMENT .....	401-3

**LIST OF TABLES**

Table 1	BAAQMD Permit – Plant Numbers and Permit Expiration Dates.....	401-2
Table 3	Hydrogen Sulfide and Sulfur Dioxide Ground Level Concentrations Emission Limits .....	401-3
Table 4	Summary of Greenhouse Gas Emissions Regulations & Activities.....	401-4

## **1.0 AIR PERMITS**

The Bay Area Air Quality Management District (BAAQMD) issues the San Francisco Bay Area Region air quality protocols and policies for air pollution control. The jurisdiction of the BAAQMD comprises the following counties: Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara and Napa, and portions of southwestern Solano and southern Sonoma.

One of the BAAQMD's responsibilities is to issue and annually renew air quality permits for any air polluting equipment such as diesel generators, vehicles, compressors, etc. Air quality permits are required by State and Federal laws as a part of doing business in the San Francisco Bay Area. Additionally, the District also issues permits for modification of existing permitted equipment and for the installation of abatement equipment used to control emissions, such as activated carbon odor control units.

Types of new permits include the "Authority to Construct" and "Permit to Operate". A facility must file an application for an Authority to Construct before construction begins to ensure that all District rules and regulations are considered. District permit staff will evaluate the project before an Authority to Construct is issued. After an Authority to Construct has been issued and construction is complete, BAAQMD personnel may inspect the facility in operation to verify that equipment performs as required. If it does, the District issues a Permit to Operate, which may contain specific operating conditions for the equipment. The permit must be renewed annually.

Table 1 shows a list of Plant numbers for the BAAQMD permit and their expiration dates.

## **2.0 ODOR CONTROL**

The BAAQMD Rules and Regulations include Regulation 7, Regulation 9, Rule 1 and Rule 2, which regulate certain odorous substances limitations. Regulation 7 provides emission limits and requires that the ambient air at the property boundary not cause the ambient air to be odorous. Odor emissions limits are listed in Table 2. However, the requirements of Regulation 7 are only applicable after the BAAQMD receives 10 or more odor complaints in a period of 90 days from persons beyond the property boundary. When the limits are in effect, these limits will be applicable for a year until no complaints are received. Limits are in effect again when BAAQMD receives five or more complaints within a 90-day period. BAAQMD also regulates the limits on sulfur dioxide and hydrogen sulfide ground-level emissions in Regulation 9, Part 1 and Part 2, respectively. The limits for the mentioned substances are presented in Table 3.

<b>Table 1 BAAQMD Permit – Plant Numbers and Permit Expiration Dates 2030 Sewer System Master Plan City and County of San Francisco</b>			
<b>Facility Name</b>		<b>BAAQMD Plant #</b>	<b>Expiration Date</b>
<b>Bayside Facilities</b>			
	Southeast Plant (SEP)	Plant # 568	5/1/2010
	North Point Facility (NPF)	Plant # 6952	11/1/2009
	Bruce Flynn Pump Station (BFS)	Plant # 9598	2/1/2011
	Griffith Pump Station	Plant # 14231	2/1/2011
	Channel Pump Station	Plant # 14232	2/1/2011
<b>Westside Facilities</b>			
	Oceanside Plant (OSP)	Plant # 4116	7/1/2010
	Westside Pump Station (WSS)	Plant # 14215	2/1/2011
	Zoo Wet Weather Pump Station	Plant # 14216	2/1/2011
	Treasure Island	Plant # 479	7/1/2008
	Cesar Chavez Maintenance Yard	Plant # 15819	8/1/2010
	Southeast Community Facility	Plant # 14862	2/1/2011

<b>Table 2 BAAQMD Odor Substances Limits <sup>(1)</sup> 2030 Sewer System Master Plan City and County of San Francisco</b>	
<b>Elevation of emission above grade in Meters (Feet)</b>	<b>Dilution Rate (Volumes of Odor-Free Air per Volume of Source Sample)</b>
Less than 9 (30)	1,000
9 to 18 (30 to 60)	3,000
18 to 30 (60 to 100)	9,000
30 to 55 (100 to 180)	30,000
Greater than 55 (180)	50,000
Notes:	
(1) Source: <i>BAAQMD Regulation 7, Table 1 Dilution Rates, Table 1 (3/17/82)</i>	

<b>Table 3 Hydrogen Sulfide and Sulfur Dioxide Ground Level Concentrations Emission Limits 2030 Sewer System Master Plan City and County of San Francisco</b>		
<b>Substance</b>	<b>Limit Ground Level Concentration (ppm)</b>	<b>Duration</b>
Hydrogen Sulfide <sup>(1)</sup>	0.06 or 0.03	Averaged over 3 consecutive minutes Averaged over 60 consecutive minutes
Sulfur Dioxide <sup>(2)</sup>	0.5 or	Averaged over 3 consecutive minutes
	0.25 or	Averaged over 60 consecutive minutes
	0.05	Averaged over 24 hour period
Notes: (1) Source: BAAQMD Regulation 9, Rule 2, 9-2-301 (10/16/99) (2) Source: BAAQMD Regulation 9, Rule 1, 9-1-301 (3/15/95)		

### 3.0 REGULATORY DEVELOPMENT

New regulations and City goals have been recently issued to address greenhouse gas (GHG) emissions at the Federal, State, and City levels. In 2004, the SFPUC and the San Francisco Department of the Environment created the “Climate Action Plan” for San Francisco. This project describes the steps the local agencies and residents should follow to reduce the City’s annual GHG emissions by more than 2.5 million tons by 2012.

In 2006, the State issued Assembly Bill (AB) 32 – the Global Warming Solutions Act . This Act requires statewide GHG emissions to be reduced to 1990 levels by the year 2020 and 80 percent below 1990 levels by 2050. In addition to various reduction measures outlined in the Scoping Plan, there will be a statewide GHG emissions cap and trade program to help accomplish the targets set by the Act that will commence in 2012. The California Air Resources Board (CARB) is in charge of developing and enforcing regulations under AB 32, including setting up the mandatory reporting system for monitoring GHG emissions that started in 2009 for reporting 2008 emissions.

Currently, there is no direct mandate on publicly owned treatment works (POTWs). However, in addition to a listing of the specific sectors, CARB’s Scoping Plan (released October 2008) listed two thresholds by which agencies (including POTWs) are to check if they are required to report. The reporting thresholds are: 1) if an agency’s cogeneration facility has a nameplate capacity of 1 megawatt or more and emits over 2,500 metric tons of carbon dioxide equivalent (CO<sub>2</sub>e) emissions, or 2) if an agency emits over 25,000 metric tons of CO<sub>2</sub>e emissions from its stationary combustion sources.

The SEP’s cogeneration facility’s nameplate capacity is greater than 1 megawatt. This facility was only recently put into service in June 2009 and was not running from January through June 2009. Consequently, it is not anticipated that the 2,500 metric tons of CO<sub>2</sub>e

threshold will be met for 2009. Based on estimations made by SFPUC staff, it is anticipated that San Francisco will have to report 2009 emissions in 2010 at the SEP when the cogeneration facility will be in operation for the full year.

The OSP cogeneration facilities did not trigger reporting in 2009 for the 2008 reporting year. However, San Francisco has planned to improve its calibration and measuring equipment and methods to improve the accuracy of its reporting results. As a result, the 2,500 metric tons of CO<sub>2</sub>e threshold may be met, and the SFPUC may need to report for OSP emissions as well.

San Francisco's stationary combustion sources do not reach the 25,000 metric tons of CO<sub>2</sub>e threshold. CARB is continuing to develop the regulation further, and it is possible that CARB may cap POTW GHG emissions in the near future.

In a similar effort to CARB, the U.S. EPA released the Proposed Mandatory Greenhouse Gas Reporting Rule in March of 2009. POTWs were excluded from this rule except for when facilities emit greater than or equal to 25,000 metric tons of CO<sub>2</sub>e from stationary combustion sources in any calendar year. While this Rule has yet to be finalized, SFPUC's facilities do not reach this threshold.

The SFPUC is also a member of the California Climate Action Registry (soon to be known as The Climate Registry) and currently reports the direct and indirect GHG emissions based on power and gas consumption to the Registry. A summary of existing and pending GHG regulations and activities is presented Table 4.

<b>Table 4 Summary of Greenhouse Gas Emissions Regulations &amp; Activities 2030 Sewer System Master Plan City and County of San Francisco</b>	
<b>Regulations/Activities</b>	<b>Status</b>
Climate Action Plan	Released by the City in 2004 City emissions reductions targets in 2012
Assembly Bill 32	Signed in September 2006 with statewide targets Emissions reporting began in 2009 for 2008 emissions Emissions reductions targets in 2020 and 2050
U.S. EPA Proposed Mandatory GHG Reporting Rule	Draft Rule released in March 2009 Final Rule expected in Fall of 2009
California Climate Action Registry	SFPUC voluntarily reports emissions annually