

Bay Area AQMD National Air Toxic Trends Site status at San Jose, CA

SAMWG, May 13, 2004

- Mark Stoelting
- Eric Stevenson

Central San Jose Air Quality Measurements

- Full station monitoring began in 1970
- 30-year site at 4th St. operated from 1972 to May 2002
- Current Jackson St. site established October 2003
- Most complete Ambient Air Monitoring Station in District

Current SJ Jackson Ambient Air Monitoring Parameters

- Gasses: NO_x, O₃, CO, Methane, THC
- PM₁₀: Gravimetric (1/6), Chemical Analysis
- PM_{2.5}: Continuous (BAM), Gravimetric (1/6 summer, 1/1 winter), Speciation (**EPA**)
- EC (PM2.5 aethalometer)
- Dioxin (**CARB**), 2 years ending 2004
- VOCs (BAAQMD)
- Metals and Carbonyls (**CARB**)

VOCs

- Nine core VOCs identified for NATTS
- Samples collected and analyzed by BAAQMD
- Sampling began in 1991, 1/12 schedule
- All NATTS core VOCs are included except 1,2-dichloropropene

Carbonyls

- Three core carbonyls identified for NATTS
- Collected and analyzed by **CARB**
- Sampling began in 1986; 1/12 schedule
- Includes acetaldehyde and formaldehyde, but not **acrolein**

Metals

- Seven core metals defined for NATTS
- Collected and analyzed by **CARB**
- Sampling began in 1986, 1/12 schedule
- Includes all NATTS core metals, including hexavalent chromium

NATTS core 18 HAPs

VOCs

- benzene
- 1, 3 butadiene
- carbon tetrachloride
- chloroform
- 1, 2 dichloropropene
- methylene chloride
- tetrachloroethylene
- trichloroethylene
- vinyl chloride

Carbonyls

- acrolein
- formaldehyde
- acetaldehyde

Metals

- arsenic, beryllium
- cadmium, lead
- chromium (&Cr6)
- manganese, nickel

Trace CO Analyzer

- Through agreement with Region 9, existing HAP data collection will continue on a 1/12 sampling schedule rather than NATTS 1/6
- CO sensitivity enhanced by installing a TECO 48CTL trace level CO analyzer with MDL=0.02 ppm (MDL=0.1 ppm for a TECO 48C)

NATTS site cost estimates

Pollutant	Outlay (annual except for Capital)				Time (annual), fraction of FTE					
	Capital	O/M	Utilities	Other	Operation	Maintenance	QA/QC	Data	Overhead	Other
NOx	11,500	950	550		0.03	0.01	0.02	0.01	0.005	
CO (Trace)*	9,000	1,650	450		0.09	0.02	0.03	0.01	0.005	
Hydrocarbon*	17,000	1,500	800		0.08	0.02	0.02	0.01	0.005	
O ₃	10,000	950	400		0.05	0.01	0.02	0.01	0.005	
PM ₁₀	8,000	920	800		0.06	0.01	0.03	0.01	0.005	0.05
PM _{2.5(FRM)}	12,000	800	400		0.08	0.02	0.03	0.01	0.005	0.05
PM _{2.5(BAM)}	15,500	1,250	650		0.09	0.02	0.02	0.01	0.005	
Toxics CARB	9,200	250	200	6,000	0.06	0.01	0.01	0.01	0.005	0.2
Toxics	8,500	250	200	4,500	0.06	0.01	0.01	0.01	0.005	0.15
Aethalmer	16,000	1,200	400		0.09	0.02	0.01	0.01	0.005	
Sub Totals	116,700	9,720	4,850	10,500	0.69	0.15	0.2	0.1	0.05	0.45
Totals	\$116,700			\$25,070					FTE:	1.64
* Limited operational experience										
Utilities include limited air conditioning										