

## Proposed Modifications to the Alaska Air Monitoring Network

The Municipality of Anchorage Air Quality Program (AAQP) is requesting two modifications to the Alaska Air Monitoring Network that were not anticipated or addressed in the 2014/2015 Alaska Air Monitoring Network Plan.

### 1) Closure of the Turnagain CO Monitoring Site

AAQP is requesting approval to discontinue operation of the Turnagain Carbon Monoxide (CO) monitoring site (AQS ID: 02-020-0048). The building at 3201 Blvd which hosted the AAQP CO monitoring site sold to a new owner. AAQP has received notice from the new owner that he does not wish to allow AAQP continued use of that property for local air monitoring. Thus AAQP was unable to resume CO monitoring there this October as planned.

AAQP staff believe that CO measurements at the Garden site at 3000 E 16th Avenue (AQS ID: 02-020-0018) are representative of exposures that can be expected in most older, densely populated neighborhoods where some of the highest CO concentrations within the city occur as a result of cold-start vehicle emissions. Tables 1 and 2 below show a comparison of the first and second highest 1-hour and 8-hour CO measurements recorded at the Garden and Turnagain sites for the last five years. No exceedances of the CO 1 hour and 8 hour National Ambient Air Quality Standards (NAAQS) have been recorded since 1996 (see Figure 1).

**Table 1**  
**Summary of Anchorage 1-Hr CO data**  
**(1<sup>st</sup> & 2<sup>nd</sup> maximum 1-hr average, ppm)**  
**NAAQS = 35 ppm**

Year	Site	1st Max	2nd Max	Exceedances	% Valid Hours
2010	Garden	6.7	5.2	0	98.8
	Turnagain	8.2	8.1	0	89.3
2011	Garden	5.9	5.5	0	91.5
	Turnagain	6.6	6.4	0	99.5
2012	Garden	6.9	6.4	0	99.5
	Turnagain	7.6	7.4	0	99.6
2013	Garden	4.4	4.3	0	99.2
	Turnagain	5.7	5.2	0	99.6
2014*	Garden	5.2	4.5	0	99.6
	Turnagain	4.8	4.8	0	99.5

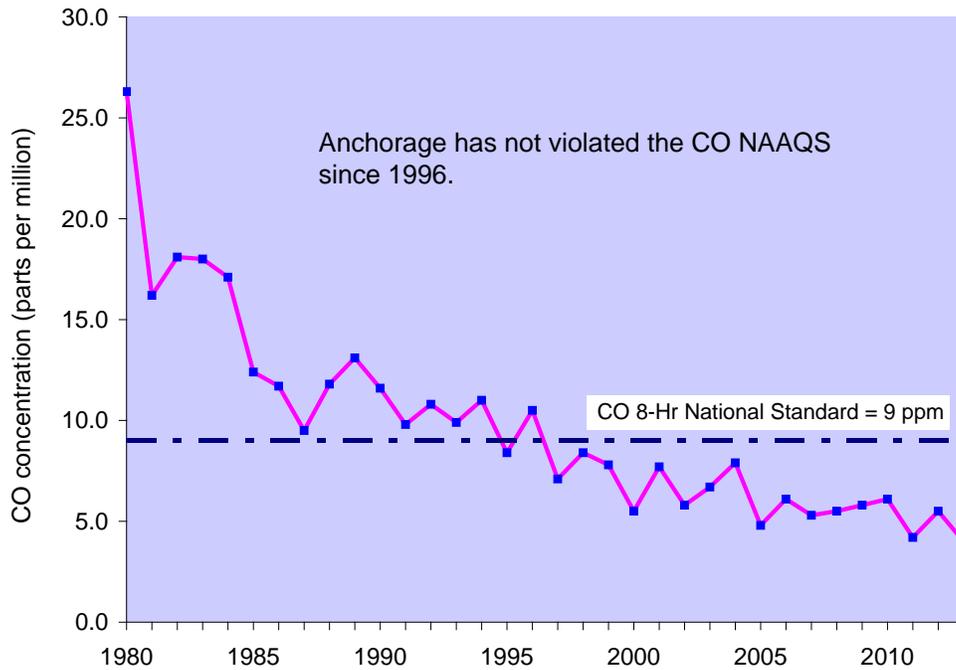
\* The 2014 analysis includes data collected through March 31, 2014.

**Table 2**  
**Summary of Anchorage 8-Hr CO data**  
**(1<sup>st</sup> & 2<sup>nd</sup> maximum 8-hr average, ppm)**  
**NAAQS = 9 ppm**

Year	Site	1st Max	2nd Max	Exceedances	% Valid Observations
2010	Garden	4.6	3.8	0	98.9
	Turnagain	6.9	6.1	0	89.3
2011	Garden	3.9	3.6	0	90.4
	Turnagain	4.4	4.2	0	99.8
2012	Garden	4.4	4.3	0	99.6
	Turnagain	6.6	5.5	0	99.8
2013	Garden	3.4	3.1	0	99.3
	Turnagain	4.5	4.0	0	99.8
2014*	Garden	2.5	2.4	0	99.9
	Turnagain	3.3	2.8	0	99.9

\* Analysis of data collected through March 31, 2014.

**Figure 1**  
**2nd Maximum 8-hour CO Concentration, All Anchorage Monitoring Stations (1980 – 2013)**



Although the Turnagain site has typically recorded the highest annual 1-hour and 8-hour CO concentrations in Anchorage since its first full season of operation in 1999, data from the Garden and Turnagain neighborhood sites illustrates a strong trend of decreasing CO concentrations over the past decade. In recent quarters the Turnagain site has recorded maximum concentrations comparable to those measured at the Garden site on high CO days. Both sites have recorded annual second maximum 8-hour CO concentrations below 85% of the 8-hour CO NAQQS since 2000. In the last five years, second maximum 8-hour CO averages have remained below 70% of that standard at both sites. Considering the low concentrations of CO measured throughout Anchorage in recent years and the trend of decreasing CO concentrations, AAQP staff believe that continued CO monitoring at the Garden site alone is sufficient to adequately assure the protection of public health associated with ambient exposure to carbon monoxide.

## 2) Relocation of the PM<sub>10</sub> Maximum Exposure Site

AAQP also received notice in October that the owner of the property at 3335 East Tudor Road, which AAQP uses for their Tudor Road PM<sub>10</sub> site (AQS ID: 02-020-0044), intends to terminate their site use agreement effective on November 30, 2014. The corporation which owns the Tudor Rd site building plans to level it and replace it with a structure which will be incompatible with PM<sub>10</sub> monitoring objectives.

Because 3335 East Tudor Road is AAQP's designated maximum PM<sub>10</sub> exposure site within the Anchorage Bowl, AAQP intends to replace it with another near-road PM<sub>10</sub> site at a location with similar roadway PM<sub>10</sub> exposure. A replacement site may be found at another location on Tudor Road or along another arterial roadway with similar PM<sub>10</sub> emission characteristics, such as Gambell Street or Muldoon Road. The replacement site will be chosen to represent the PM<sub>10</sub> exposure that one might expect to find in close proximity (within 20 meters) of a major arterial roadway within the Anchorage Bowl. Designation of the new maximum exposure PM<sub>10</sub> site will be subject to review and approval by the Alaska Department of Environmental Conservation Air Quality Program Manager and by the EPA Region-10 Regional Administrator. AAQP hopes to have a new site in place by March 2015.