

TCEQ Interoffice Memorandum

To: David Van Soest, Regional Director

From: Angela Curry, M.S. *AC*
Toxicology Division, Office of the Executive Director

Date: August 10, 2015

Subject: Health Effects Review of 2014 Ambient Air Network Monitoring Data in Region 11, Austin

Conclusion

- All 24-hour and annual average concentrations of 84 volatile organic compounds (VOCs) from canister samples collected in Region 11 – Austin were below their respective Texas Commission on Environmental Quality (TCEQ) Air Monitoring Comparison Values (AMCVs) and would not be expected to cause adverse health effects or vegetation effects.

Background

This memorandum conveys the Toxicology Division's (TD's) evaluation of ambient air sampling conducted at the Region 11 monitoring site in Austin during 2014. The TD evaluated summary results for VOCs collected at the Austin Webberville Road Community Air Toxics Monitoring Network (CATMN) site on a 24-hour every sixth-day schedule. TCEQ Region 11 monitoring site information is presented in Table 1 along with hyperlinks to the monitoring site maps and detailed information. The target analytes are listed in Attachment A.

Table 1. Monitoring Site Located in TCEQ Region 11

City and Site Location	County	Monitor ID	Monitored Compounds
Austin Webberville Road 2600B Webberville Rd	Travis	48-453-0021	VOC ^a

^aevery sixth-day 24-hour canister

The TCEQ Monitoring Division reported the data for all chemicals evaluated in this memorandum. The data collected for the 84 VOCs at the Austin Webberville Road monitoring site met the data completeness objective of 75 percent data return, or at least 45 valid samples per year.

Twenty-four-hour air samples, collected every third- or sixth-day for a year, are designed to provide representative long-term average concentrations. In order to be able to evaluate 24-hour monitoring data more fully, TCEQ has developed 24-hour AMCVs for specific chemicals. As such, 24-hour samples were compared to the available TCEQ 24-hour AMCVs for 1,3-butadiene and benzene. Short-term or peak concentrations are not necessarily captured by 24-hour samples;

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therefore, daily concentrations have limited use in evaluating the potential for acute health effects. The TD evaluated the reported annual average concentrations from 24-hour samples for each target analyte for potential chronic health and vegetation concerns by comparing annual averages of measured chemical concentrations to their respective long-term AMCVs. More information about AMCVs is available online at:

<http://www.tceq.state.tx.us/implementation/tox/AirToxics.html#amcv>.

Evaluation

The 2014 annual average concentrations of the 84 VOCs, and the 24-hour concentrations of 1,3-butadiene and benzene reported at the Austin Webberville Road monitoring site, were below their respective AMCVs. Therefore, adverse health or vegetation effects would not be expected to occur as a result of short- or long-term exposure to the reported levels of these chemicals.

If you have any questions about this evaluation, please contact me at (512) 239-1306 or angela.curry@tceq.texas.gov.

Attachment A

Target VOC Analytes in Canister Samples

1,1,2,2-Tetrachloroethane	Bromomethane	Methyl Chloroform (1,1,1-Trichloroethane)
1,1,2-Trichloroethane	Carbon Tetrachloride	Methylcyclohexane
1,1-Dichloroethane	Chlorobenzene	Methylcyclopentane
1,1-Dichloroethylene	Chloroform	N-Butane
1,2,3-Trimethylbenzene	Chloromethane (Methyl Chloride)	N-Decane
1,2,4-Trimethylbenzene	Cis 1,3-Dichloropropene	N-Heptane
1,2-Dichloropropane	Cis-2-Butene	N-Hexane
1,3,5-Trimethylbenzene	Cis-2-Hexene	N-Nonane
1,3-Butadiene	Cis-2-Pentene	N-Octane
1-Butene	Cyclohexane	N-Pentane
1-Hexene+2-Methyl-1-Pentene	Cyclopentane	N-Propylbenzene
1-Pentene	Cyclopentene	N-Undecane
2,2,4-Trimethylpentane	Dichlorodifluoromethane	O-Ethyltoluene
2,2-Dimethylbutane (Neohexane)	Dichloromethane (Methylene Chloride)	O-Xylene
2,3,4-Trimethylpentane	Ethane	P-Diethylbenzene
2,3-Dimethylbutane	Ethylbenzene	P-Ethyltoluene
2,3-Dimethylpentane	Ethylene	Propane
2,4-Dimethylpentane	Ethylene Dibromide (1,2-Dibromoethane)	Propylene
2-Chloropentane	Ethylene Dichloride (1,2-Dichloroethane)	Styrene
2-Methyl-2-Butene	Isobutane	Tetrachloroethylene
2-Methylheptane	Isopentane (2-Methylbutane)	Toluene
2-Methylhexane	Isoprene	Trans-1-3-Dichloropropylene
2-Methylpentane (Isohexane)	Isopropylbenzene (Cumene)	Trans-2-Butene
3-Methyl-1-Butene	M-Diethylbenzene	Trans-2-Hexene
3-Methylheptane	M-Ethyltoluene	Trans-2-Pentene
3-Methylhexane	M/P Xylene	Trichloroethylene
3-Methylpentane		Trichlorofluoromethane
4-Methyl-1-Pentene		Vinyl Chloride
Acetylene		
Benzene		