

TCEQ Interoffice Memorandum

To: David Van Soest, Regional Director

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

Date: September 2, 2016

Subject: Health Effects Review of 2015 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 2015. The TD evaluated summary results for VOCs collected at the Austin Webberville Road monitoring site on a 24-hour, every sixth-day schedule. TCEQ Region 11 monitoring site information is presented in Table 1 along with hyperlinks to detailed information regarding the monitoring sites and their maps. 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 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, the 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, benzene, and ethylene dichloride. Short-term or peak concentrations are not necessarily captured by 24-hour samples; thus, 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 on the Toxicology [AMCV](#) webpage.

Evaluation

The 2015 annual average concentrations of the 84 VOCs, and the 24-hour concentrations of 1,3-butadiene, benzene, and ethylene dichloride 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-
1,1,2-Trichloroethane	Carbon Tetrachloride	Trichloroethane)
1,1-Dichloroethane	Chlorobenzene	Methylcyclohexane
1,1-Dichloroethylene	Chloroform	Methylcyclopentane
1,2,3-Trimethylbenzene	Chloromethane (Methyl	n-Butane
1,2,4-Trimethylbenzene	Chloride)	n-Decane
1,2-Dichloropropane	cis-1,3-Dichloropropene	n-Heptane
1,3,5-Trimethylbenzene	cis-2-Butene	n-Hexane
1,3-Butadiene	cis-2-Hexene	n-Nonane
1-Butene	cis-2-Pentene	n-Octane
1-Hexene+2-Methyl-1-Pentene	Cyclohexane	n-Pentane
1-Pentene	Cyclopentane	n-Propylbenzene
2,2,4-Trimethylpentane	Cyclopentene	n-Undecane
2,2-Dimethylbutane (Neohexane)	Dichlorodifluoromethane	o-Ethyltoluene
2,3,4-Trimethylpentane	Dichloromethane (Methylene	o-Xylene
2,3-Dimethylbutane	Chloride)	p-Diethylbenzene
2,3-Dimethylpentane	Ethane	p-Ethyltoluene
2,4-Dimethylpentane	Ethylbenzene	Propane
2-Chloropentane	Ethylene	Propylene
2-Methyl-2-Butene	Ethylene Dibromide (1,2-	Styrene
2-Methylheptane	Dibromoethane)	Tetrachloroethylene
2-Methylhexane	Ethylene Dichloride (1,2-	Toluene
2-Methylpentane (Isohexane)	Dichloroethane)	trans-1,3-Dichloropropylene
3-Methyl-1-Butene	Isobutane	trans-2-Butene
3-Methylheptane	Isopentane (2-Methylbutane)	trans-2-Hexene
3-Methylhexane	Isoprene	trans-2-Pentene
3-Methylpentane	Isopropylbenzene (Cumene)	Trichloroethylene
4-Methyl-1-Pentene	m-Diethylbenzene	Trichlorofluoromethane
Acetylene	m-Ethyltoluene	Vinyl Chloride
Benzene	m/p Xylene	