Texas Commission on Environmental Quality Response to Public Comments

May 2014 Acrolein

24-Hour Ambient Air Monitoring Comparison Value (AMCV)

Vicki Wolf, Executive Director, Citizens League for Environmental Action Now (CLEAN) submitted comments dated August 28, 2014, on the May 2014 24-Hour Ambient Air Monitoring Comparison Value (AMCV) for Acrolein. The Texas Commission on Environmental Quality (TCEQ) appreciates the effort put forth by CLEAN to provide comments on the proposed 24-hour AMCV for acrolein. The comments from CLEAN are provided below, followed by TCEQ responses.

Comment No. 1:

Regarding your proposal to change the 24-hour AMCV for acrolein, did you know that acrolein was used in World War I as a chemical warfare agent for the purpose of killing people?

The 24-hour AMCV is a new value developed for acrolein to evaluate air monitoring samples that are collected for 24 hours (e.g., canister samples of ambient air). Air monitoring comparison values (AMCVs) for acrolein were previously developed for evaluating air monitoring samples collected over a shorter period of time (e.g., 1 hour) and a longer period of time (e.g., at least one year). The 24-hour AMCV adds to our ability to evaluate air monitoring samples/data collected over several different periods of time. The AMCV does not allow increased or decreased emissions of acrolein. The AMCVs are health- and welfare-based comparison values that the Toxicology Division uses to evaluate air samples.

Yes, the Toxicology Division was aware that acrolein (along with many other chemicals) was used in World War I as a tear gas by the French beginning in 1916. It is a potent lachrymator (causes tears to form in the eyes) and respiratory irritant. It was introduced as a filling for artillery gas shells and gas grenades. It was not successfully used as a chemical warfare agent, because it is unstable when exposed to air. More recently, acrolein in ambient air comes from many sources including burning of organic matter, cigarettes, and the burning of fuels such as gasoline or oil. Acrolein is used as a chemical intermediate, an herbicide, and indoors can result from off-gassing from wood and cooking.

Comment No. 2:

Have you considered the fact that acrolein is a chemical warfare agent in the proposal to allow increased public exposure with the 24-hour AMCV changes for acrolein?

The 24-hour AMCV is a new value established to evaluate air monitoring samples collected over a period of 24 hours. Its previous use as a chemical warfare agent does not influence the development of the 24-hour AMCV. This 24-hour AMCV does not allow for increased or decreased emissions of acrolein.

Comment No. 3

Have you informed the public that the changes in AMCV for acrolein will result in increased exposure to a chemical warfare agent?

The development of a 24-hour AMCV for acrolein will not result in increased exposure to the public. It is a value developed to more accurately evaluate air monitoring samples for acrolein collected over 24 hours.

Acrolein CAS Registry Number: 107-02-8
24-hour Ambient Air Monitoring Comparison Value
August 28, 2014

Submitted by
Vicki Wolf
Executive Director
Citizens League for Environmental Action Now (CLEAN)

Regarding your proposal to change the 24-hour Air Monitoring Comparison Value (AMCV) for acrolein, I have the following questions:

1. Do you know that acrolein was used in World War I as a chemical warfare agent* for the purpose of killing people?
2. Have you considered the fact that acrolein is a chemical warfare agent in the proposal to allow increased public exposure with the 24-hour AMCV changes for acrolein?
3. Have you informed the public that the changes in AMCV for acrolein will result in increased exposure to a chemical warfare agent?

Considering the toxicity of acrolein and the fact that it has been used as a chemical warfare agent, I urge you reconsider the changes in the 24-hour Ambient Air Monitoring Comparison for Acrolein. Please do not allow increased exposure to this dangerous chemical.

* Augustine M. Prentiss, *Chemicals in War: A Treatise on Chemical Warfare* (McGraw Hill, 1937) p. 139