

Arkansas Department of Health
Review of Hydrogen Sulfide Air Monitoring Data in Crossett, AR

Special Data Review Announcement: November 23, 2015

Continuous hydrogen sulfide (*or*, H₂S) air quality monitoring has been conducted by the TRC Environmental Corporation (TRC) on behalf of the Georgia-Pacific Crossett Mill in Crossett, AR. Arkansas Department of Health (ADH) has reviewed the air quality monitoring data from the TRC database and determined that higher than average readings occurred from approximately 2:00 a.m. to approximately 5:30 a.m. on November 23, 2015. The continuous air quality monitoring data suggests this was an isolated (single) event, since average hydrogen sulfide readings have returned to background levels.

Personnel from the Georgia-Pacific Crossett Mill notified ADH of the higher than average readings the morning of November 23, 2015. A 24-hour calibration process was used in order to validate these data. According to Georgia-Pacific personnel, the cause for the increase in the hydrogen sulfide readings is thought to be from an imbalance of pH in one of the lines used for pulp. The plant experienced lower than normal pH levels in the wastewater treatment system due to the mill running at approximately half of the normal pulping rates. The lower pH levels released hydrogen sulfide into the air. Until pulping rates returned to normal and the pH was back in range, the plant adjusted the pH to normal levels by adding a small amount of 22% sodium hydroxide to the sewer.

The health screening levels used in this review apply to the general public, including sensitive individuals, such as people with asthma or other chronic respiratory conditions. The screening values are intended to provide health-based standards for interpreting air monitoring data. Monitoring data may be used as a tool to help determine whether a facility is controlling hydrogen sulfide releases. See the figure below for a picture of the higher concentration spike reported from the air quality monitoring data as compared to the screening value.

The higher concentrations of hydrogen sulfide detected at the monitoring station happened in an early hour of the morning when many people may have been indoors. The possible health effects were likely to have been temporary and more likely to have occurred in sensitive individuals, such as people with asthma and other chronic respiratory conditions. Should anyone feel they are experiencing possible health effects related to this event, please contact a physician or health care professional.

Hydrogen sulfide is a heavier-than-air, colorless gas with an odor of rotten eggs. Odors can alert people that something may be harmful, but generally you can smell many chemicals before they are at levels that are harmful to your health. People usually can smell hydrogen sulfide at low concentrations in air, usually at levels much lower than the health screening levels set to determine health effects.

It is important to note that hydrogen sulfide exposures at low levels have not been shown to result in any lasting health effects. Hydrogen sulfide is not known to cause cancer.

For more information, see the Agency for Toxic Substances and Disease Registry (ATSDR) Hydrogen Sulfide fact sheet [linked to this website]. For inquiries related to the hydrogen sulfide air quality monitoring, contact the ADH Office of Health Communications and Marketing at (501) 280 – 4768.

