



Deer Park Community Advisory Council

Summary of August 22, 2016 Meeting

DPCAC LEARNS ABOUT PROTECTION FROM WORKPLACE HAZARDS

Deer Park Community Advisory Council (DPCAC) members recently invited Andy Britt, Manager, Gulf Coast Industrial Hygiene Services for the Center for Toxicology and Environmental Health (CTEH), to help them understand industrial hygiene, a program in plants that aims to protect workers from workplace hazards.

Britt explained how hazards are identified and risk is assessed to determine what industrial hygiene measures are needed. He said that the standard industry approach to addressing airborne hazards has three steps. The first step is to identify potential hazards. This is accomplished by identifying the group of chemicals to which workers could potentially be exposed. Once exposure possibilities are identified, facilities then need to determine chemicals that might warrant further investigation based upon their frequency of detection in the air, for example, or their concentration in air compared to an applicable screening value. Chemicals with known toxicity are reviewed first.

The second step is to conduct a hazard assessment, which includes identifying general work patterns and then assessing the location, duration, and frequency for each activity conducted. As part of the hazard assessment, potential points or pathways of exposure are also identified. For example, how often and how long are trucks hooked up to certain tanks to transfer materials? What points in the process could fail and cause exposure? Additionally, as part of hazard assessment, the reasonable maximum concentration of a chemical that a worker could likely be exposed to must be determined. Conducting air dispersion modeling measures concentrations at given points relevant to workers' breathing zones, including for a worst case release. For example, if a vent on a tank opens, what is the concentration of the chemical that could be released? Exposure point concentrations are then compared to applicable screening values such as occupational exposure limits (OELs). If concentrations do not exceed screening values in the worker breathing zone, they can then be removed from further analysis.

The third step is to control hazards in order of priority. Hazard control methods include the elimination or substitution of the hazardous agent, engineering controls, administrative controls, and personal protective equipment. Britt said the use of personal protective equipment should be the last method used to control hazards.