

Deer Park Community Advisory Council

Summary of August 24, 2009 Meeting

CAC Learns about Indoor Air Quality

After 19 years of meetings on outdoor (ambient) air quality, the Deer Park Community Advisory Council (DPCAC) recently looked at what pollutes the indoor air and how outdoor air relates to indoor air. Dr. Angela Harris, a senior toxicologist with the Center for Toxicology and Environmental Health, gave a thought-provoking presentation that generated numerous questions and observations.

Soot in a prehistoric cave and an igloo shows that indoor air pollution has been with us since humans first sought shelter. Harris said indoor air matters because statistics show most people spend the majority of their time inside buildings and in transit, perhaps as much as 98%.

Outside air leaks into a house not only from windows and doors but also from kitchen fan and dryer vents and electrical outlets. Indoor air leaks out of a house from plumbing stacks and bathroom fan vents, attic hatches, and recessed lights. The rate at which outdoor air replaces indoor air is the air exchange rate. Outdoor air is the reason for about 10% of poor indoor air quality. More than half of indoor air quality problems are attributed to inadequate ventilation from tight houses that are good for conserving energy but not for air exchange.

Indoor chemical air pollutants come from sources such as paint, mothballs, fresh dry cleaning, carpeting, plywood, curtains, gas ranges, fireplaces, foam padding, asbestos insulation, heating, disinfectants pesticides, cleaners, solvents, aerosol, and glues.

The chance of exposure to benzene is 3-10 times greater indoors than outdoors. Smoking is the primary indoor benzene source. Other sources include gasoline, glues, paints, and stored gas. Harris's statistics showed outdoor air is the source of only 3% of the benzene to which people are exposed. DPCAC tracks member plant benzene trends in its annual emissions report.

Indoor odors come mainly from body odor but also from tobacco smoke in the air, biological sources such as animals and mold, air fresheners, deodorants, and perfumes. Harris said that "new car smell" comes from several chemicals, including volatile organic compounds, which can take up to two years to dissipate.

Regarding health effects, Harris said the most important indoor pollutants are, in order, airborne bacteria and viruses; airborne allergens; combustion products from heaters,

smoking, and grilling; and household products such as cleaning products, solvents, and paints.

Asked how to learn more about indoor air, Harris recommended two National Institutes of Health websites (<http://toxtown.nlm.nih.gov/> and <http://hpd.nlm.nih.gov/>) and www.epa.gov/iaq.

The CAC is tracking the status of EPA's school air monitoring program at two Deer Park schools. EPA is providing updates at [www.epa.gov/school air](http://www.epa.gov/schoolair).

DPCAC will meet again on Monday, September 28 for the annual report on air emissions and the Deer Park air monitor operated at the group's recommendation since 1992. For details, contact Chris Hext at 832/260-7738. More information about the CAC may be found at www.deerparkcac.org.