Bay Area Air Quality Management District
939 Ellis Street
San Francisco, California 94109

APPROVED MINUTES

Advisory Council Public Health Committee Meeting
1:30 p.m., Monday, March 10, 2003

1. **Call to Order – Roll Call. 1:30 p.m.** Quorum Present: Brian Zamora, Chairperson, Elinor Blake, Ignatius Ding, Linda Weiner**.** Absent: Jane Kelly.

2. **Public Comment Period.** There were no public comments.

3. **Approval of Minutes of February 10, 2003.** On page two, Ms. Blake requested the addition of "and he was not aware of any community uses of it" to the end of the sentence of item E, and "of" prior to "refinery" in Item G and moved adoption of the minutes as amended; seconded by Ms. Weiner; carried unanimously by acclamation.

4. **Open Path Gas Monitors at the ConocoPhillips Rodeo Refinery Fenceline.** Randall L. Sawyer, Accidental Release Prevention Program Supervisor, Hazardous Materials Program, Contra Costa County Health Services department (CCCHS) stated that after an accidental release of Catacarb at what is now the ConocoPhillips Refinery in Rodeo, California in 1994, Optical Open Path Monitors were in-stalled as part of a "Good Neighbor Agreement" in July of 1997. Three different types of monitors were placed along the refinery's north and south fencelines: Fouier Transform Infrared, Ultraviolet and Tunable Diode Laser. About one kilometer separates the monitors from the reflectors.

   Data from the monitoring system was shared with Communities for a Better Environment (CBE), the Shoreline Environmental Association (SEA) and the Rodeo Citizen's Association (RCA). However, due to resource limitations, the abundant real-time data were not being fully evaluated. Therefore, these groups requested the assistance of regulatory agencies. In the latter part of 1998, the CCCHS, SEA and CBE applied for an Environmental Protection Agency (EPA) Environmental Monitoring for Public Access and Community Tracking (EMPACT) grant. Its purpose was to analyze and evaluate the optical remote sensing data through the formation of a working group, develop recommendations on real-time monitoring data by the industry, community and govern-ment, and educate and involve community members in the understanding and use of the data.

   A working group was formed which included technical advisors from the California Department of Health Services, Occupational Health Branch and Environmental Health Laboratory Branch, EPA Region IX's Quality Assurance Section, Air Enforcement Section and Laboratory, as well as the refinery and the Air District. It evaluated the monitoring system technology, the types of compounds to be measured, the data produced, instrumentation oversight by the refinery, as well as data from the Air District's point monitors in the refinery. It recommended that the monitoring data be placed on a website and monthly reports on the data issued. The CCCHS subsequently worked with the SEA, ConocoPhillips, Petris (ConocoPhillips contractor responsible for the different monitors), the EPA, and an EPA contractor to develop the website that collects and posts the monitoring data. The data is quality assured and is approximately six weeks old.

Mr. Sawyer displayed pages from the website that provide background and introductory information, as well as the basis on which compounds have been selected to be monitored. The website also allows the user to research data for one or both fencelines, at varying time intervals and for maximum or average concentrations. Summary reports are also provided identifying different chemicals, their number of detection and type of detection alarm levels, and the maximum, average and minimum concentrations for detections. Acute exposure levels of concern for each substance were obtained from the Office of Occupational and Environmental Health Hazard Assessment (OEHHA). In some cases the federal government uses these same thresholds for acute emergency guideline levels. Lower detection levels are used only for evaluating refinery operations. The website also provides information on the definition of a dose, what is considered toxic, alarm levels and odor thresholds. It has sections for feedback, equipment technical support, health information and county accident records. It posts links to such other agencies as the California Air Resources Board (CARB), the Air District's accident history and incident reports, OEHHA, CBE and SEA. The site also allows for archival research of historical monitoring data from the refinery.

While the goal of the system is to capture real-time data, the continuous evaluation of constant data streams into the website is cost-prohibitive. However, the working group agreed that jpg files would be created of the computer screen that will provide real-time information. It is updated every five minutes and contains data for optical measurements of 30 chemicals, along with meteorological data and hydrocarbon data from six point source monitors. The website posts a disclaimer that states the data readouts on the jpg's have not been quality assured. The data takes six weeks to verify. The jpeg files are stored for 4-6 weeks during which it can be recalled. Telephone numbers and an email address are provided for those seeking either further information or wishing to report an emergency and contact the Hazardous Materials Incident Response Team. The website for the historical should be operational in April 2003 and for real-time data information in May 2003. Thereafter the real-time data will be used in a six-month pilot program.

Fenceline monitoring data can be used for public information, emergency response, historical research, analysis of fugitive emissions from seals, valves and pumps, and identifying emissions-related problems at the refinery. No correlation has so far been found between fenceline data and the occurrence of an accidental release and no alarm has been triggered since 1997, though a number of incidents have occurred since then. A plume could have gone above the fenceline monitor after having been emitted from a high stack or been blown in another direction by the wind. In an accidental release of hydrogen and methane, both are lighter than air and immediately ascend and go over the fenceline monitors. Also, the monitoring system was down for maintenance during one previous accidental release.

In reply to questions, Mr. Sawyer noted that optical open path monitors are being used with an accepted quality assurance protocol elsewhere in the United States. EPA staff can provide information on where this is taking place. There is a protocol in place at the ConocoPhillips refinery. However, all the signatories to the Good Neighbor Agreement have not yet formally endorsed it.

With regard to what the public derives from the monitoring system, it is provided with an additional way to obtain monitoring data for routine operations and critical events. However, only a few individuals have looked further into what insights the data provides into refinery operations or to conduct further studies. A member of SEA has worked extensively on the quality assurance issue.

The refinery uses quality assured real-time data chiefly for evaluating accidental releases rather than for regulatory work or planning. The placement of the optical monitors based on modeling

comparable with hazardous materials modeling was the subject of a separate EMPACT grant. This study took meteorology and terrain into account, but the results proved inconclusive.

As to whether it would be useful for the District to post on its upgraded website the data from its stationary source monitors, Mr. Sawyer observed this would provide an historical perspective even though the data were not in real-time. The District works cooperatively with CCCHS in assisting with sample analysis and in sharing diverse air quality information. The coordination on the District's website of all of the region's monitoring data, including data from the California Air Resources Board air quality study currently underway in Crockett, would be very worthwhile.

With respect to whether the optical monitoring system should be installed at the remaining Bay Area refineries, it has some advantages and potentially new uses but its benefit has not yet been demonstrated. The equipment cost the refineries nearly $1 million, excluding programming, installation and maintenance. Considerable further study would need to be conducted on the benefits derived from the system in assessing fugitive emissions.

In reply to a question on whether an early warning mechanism exists for the detection of a flaring incident, Gary Kendall, Director of Technical Services, replied that flare visibility is one means of detection, although this occurs during rather than before the flaring itself. The flaring event of July 10, 2002 is the kind of release that community members are most concerned about. Flaring results in the emission of large quantities of hydrocarbons at an altitude of 240 feet. The resulting buoyant plume rises are difficult to capture at the refinery fenceline. The District does have the ability to take canister field samples from its mobile monitoring van in areas downwind from the plume.

The Committee agreed that at the next meeting it would invite District staff and representatives from environmental and community groups near the ConocoPhillips Refinery and other Bay Area refineries to discuss their interests in, and impressions of, the optical monitoring system.

5. **Committee Member Comments/Other Business.** There were none.

6. **Time and Place of Next Meeting.** Monday, April 14, 2003, 1:30 p.m., 939 Ellis Street, San Francisco, California 94109.

7. **Adjournment.** 2:30 p.m.

James N. Corazza
Deputy Clerk of the Boards