

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

APPROVED MINUTES

Advisory Council Public Health Committee  
1:30 p.m., Monday, May 19, 2003  
Rodeo Senior Center, 189 Parker Avenue, Rodeo, California

1. **Call to Order – Roll Call. 1:33 p.m. Quorum Present:** Brian Zamora, Chairperson, Elinor Blake, Linda Weiner. Absent: Ignatius Ding, Jane Kelly. Also present: Victor Torreano.
2. **Public Comment Period.** There were none.
3. **Approval of Minutes of April 14, 2003.** Ms. Blake moved approval of the minutes; seconded by Ms. Weiner; carried.
4. **Receipt of Community Input on Optical Sensing Emissions Monitoring and Data.** Chairperson Zamora stated the Committee has met twice to discuss the optical open path monitoring system at the ConocoPhillips refinery fence line. It has received presentations from the equipment vendor and the staff of the Contra Costa County Health Services (CCCHS) department. Today community input will be received on the utility of the data generated by the monitoring system.

Several individuals came forward and offered their comments as follows:

*Howard Adams  
Shoreline Environmental Alliance  
Crockett, California*

- At a Crockett high school two miles east of the refinery, the California Air Resources Board (CARB) installed a monitor that provides real-time data within three to four hours of initial measurement. Fenceline data from an April 5, 2002 flare event showed an increase in nitric oxide (NOx) from 300 parts per billion (ppb) to 400 ppb. The CARB monitor showed an increase in NOx from 0 to 4 ppb and in hydrocarbons (HC) from 200 ppb to 260 ppb. After the July 10, 2002 flaring event no data was recorded at the CARB monitor due to westerly winds, but the north fenceline monitors recorded a sharp increase of butane emissions.
- Monitoring system data can be cumulatively reviewed on a daily, monthly or annual basis. This is helpful in trend analysis. The data is generated independently of community member complaints and can be of additional use in Air District enforcement actions. MTBE has been measured at the refinery fenceline, but it was traced to the adjacent Shoreline Terminal facility. Thus, the data optical monitoring data can assist in locating other sources of air pollution.
- This monitoring data could be used in anticipating a release by being integrated with the local Community Warning System. This type of arrangement would require County authorization.
- The fence line and CARB monitors indicate low levels of emissions from a wide variety of chemicals. Both the community members and the refinery should find such data reassuring.

*Andy Mechling  
Selma, Oregon*

- While he was a Crockett resident in the 1990's, he negotiated with the refinery on the selection and siting of the monitoring equipment. He gained expertise in both the technology and evaluating the data that it generates. Every page of data is in response to community concerns.
- There is no quality assurance plan governing the optical monitors at the refinery.
- Within the last four years monitoring data reports have been issued monthly. The posting of real-time data on a Contra Costa County website is anticipated in the near future. The Environmental Protection Agency (EPA) has inexplicably set aside its rules regarding data quality assurance even though it will be posted on-line. This matter requires resolution.
- The type of UV monitor at the refinery fence line is no longer manufactured or technically supported. The scientist who developed it now questions its accuracy.
- There are some problems with where the monitors are sited. The optical pathways are too long to be practical. If they were somewhat shortened they would be more dependable.
- The list of chemicals measured by the monitors is too extensive and should be shortened. Regulatory agency scientists could provide criteria for truncating them. Over the seven years that the monitors have operated, as many as 15-20 chemicals have never registered even a single measurement. Also, a tunable diode laser on each fenceline always reads zero.
- An incident on March 17, 2000 in which a junior high school principal smelled a noxious odor and called a shelter-in-place was confirmed by fence line data reviewed two months later showing the single highest release of butane in two years. Had this principal had access to a computer screen to read the data, this shelter-in-place might have been initiated even earlier.
- Since the monitors were installed in 1997, none of the fenceline monitors have registered a high alarm. However, no major release incident has occurred either. The monitors may constitute a deterrent against major releases since they provide useful emissions data that can be tracked.
- The utility of the optical monitoring system data is not at issue. The central concern is the lack of attention given to the data by professional scientists. In the initial phase (1997-99) of this project, regulatory agency attention was largely absent. Although agency participation has somewhat increased since then, the question remains whether regulatory agencies are willing to increase their dedication to gathering, interpreting and disseminating this optical monitoring data. It contains significant chemistry. Moreover, in the absence of a mandate from regulatory agencies, there is little market incentive for developing and installing technologically improved equipment that detects pressure relief valve leaks or monitors stack emissions.

*Jay Gunkleman  
Crockett, California*

- The agreement between the refinery and the community allowed a community member with a computer screen connected to the system to "generally characterize" the data for three days after its initial posting. This was in response to community member requests. This data will soon be available on the County's website and no longer confined to a few computer screens.
- The computer screen at the Bay Area AQMD that reads the optical monitoring data is not connected to the refinery. It should become operational and read by trained District staff.

- The UV monitors are unreliable and should be replaced with the most up-to-date equipment.
- The community believes that the monitoring system provides useful information regarding events independently of the refinery as the sole source of information. This is important given some past difficulties with the refinery failing to fully inform the community of a release.
- Regulatory agencies should use optical monitoring, as it is superior to point source monitoring.
- Carbon disulfide is a neurotoxin that, like lead, cumulatively leads to damage to the nervous system. It should be monitored during refinery releases, particularly in nearby communities.

*Bill Concannon  
Crockett, California*

- The optical monitoring system provides the community with useful on-going data. Community member contact with the refinery in connection with the observance of high readings, or the lack thereof, can help in tracking down the source of an odor incident. This occurred when foul-smelling emissions were traced to a sewage treatment plant rather than to the refinery. Screen shots are taken of the computer screen every five minutes and will soon be uploaded to the County website. In addition to chemical measurements, the screen provides data on wind direction which is also critical to tracking releases through a given period of time.
- A school principal in Crockett has expressed interest in accessing the real-time data. From the outset, a Rodeo resident should have had a computer screen with access to the monitoring data.
- The true gauge of refinery activity is the level of butane emissions.
- The system needs to be refined and upgraded where possible and applied to other refineries.

*Julia May  
Communities for a Better Environment  
Oakland, California*

- She participated with the community and refinery in the process of selecting monitoring equipment. At the time of its purchase the original UV equipment was innovative. However, it has since been discovered that it is unable to handle the cross-sensitivities of certain gas concentrations that must be measured at low levels and within good detection limits.
- The refinery will soon produce low sulfur diesel fuel. This will increase sulfur emissions at the refinery. The UV monitors measure sulfur compounds and must therefore be reliable. The refinery is willing to discuss this matter. The Advisory Council could also review this issue and make recommendations as appropriate regarding the upgrading of the UV monitors.
- Most refineries have hydrogen sulfide, sulfur dioxide, carbon monoxide and NOx point source monitors. However, optical monitors measure many other chemicals in real-time and have a better chance to capture emissions than point source monitors. Optical monitors should be installed along the fencelines of the other refineries in the Bay Area.
- While the optical monitoring system data has not yet been used to refute refinery statements about facility emissions, fenceline measurement data combined with wind direction indicators has helped to guide the deployment of the community's bucket brigade during a refinery release. The information gathered by the brigade was provided to the refinery.

- The system provides data relevant to odor complaints well in advance of inspector arrival.
- Bayo Vista residents in Rodeo, who are primarily from minority and low-income groups, were not provided with a computer screen to read the data. This environmental justice (EJ) problem will be solved when the optical monitoring system data is posted on the County's website. The Committee should keep the District's EJ policies in mind as it reviews these issues.

Chairperson Zamora inquired as to whether studies of long-term health effects were conducted on those exposed to refinery releases in the Crockett and Rodeo area. Ms. May replied that a survey was recently conducted by CBE in the Bayo Vista community which revealed that 60% of the children in the project have asthma. A non-random study of households conducted by a CBE youth organization reported one person in each Bayo Vista household has asthma. A UCLA study compared the health of citizens downwind of refineries with other residents not exposed to refinery emissions but with higher exposure to smog. It found that those downwind of refineries showed a greater decrease in lung capacity. Contra Costa County also conducted a study of complainants near the former Pacific Refinery in Hercules, and found that Air District data supported the finding of a correlation between refinery releases and complaints and health problems.

Mr. Mechling added that in the wake of the 1996 Catacarb incident a Good Neighbor Clinic was also created. About 66% of the patients complained of ocular problems and 40% suffered from asthma. A follow-up study of those citizens who moved out of Crockett would likely reveal many health problems, but this cannot take place because all the data from the health clinic was returned to UNOCAL, which operated the refinery at the time. Mr. Adams noted that the members of many families that left Crockett had developed various chemical sensitivities after the Catacarb release. Mr. Gunkelman added that some residents suffered dry eye syndrome due to alkaline burn and required tear duct implants. Immune response and neurological problems were also reported. Ms. May indicated that during flaring events many residents report eye irritation and skin rashes.

The community representatives agreed with the following summary provided by Ms. Weiner: the monitoring system provides the community with a sense of empowerment as well as with useful data but requires refinement and updating. Quality assurance protocols must be developed and the UV monitors upgraded. The Air District should establish a working connection to the fenceline monitoring data. Regulatory agency science should interface appropriately with this system.

- 5. Committee Member Comments/Other Business.** There were none.
- 6. Time and Place of Next Meeting.** 1:30 p.m., Monday, June 9, 2003, 939 Ellis Street, San Francisco, California 94109.
- 7. Adjournment.** 2:57 p.m.

James N. Corazza  
Deputy Clerk of the Boards