

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

APPROVED MINUTES

Advisory Council  
Technical Committee Meeting  
1:30 p.m., Wednesday, August 4, 2004

1. **Call to Order – Roll Call.** 1:40 p.m. Quorum Present: Louise Bedsworth, Ph.D., Chairperson, Sam Altshuler, Bob Bornstein, Ph.D., William Hanna, John Holtzclaw, Ph.D., Norman A. Lapera, Jr. Absent: Stan Hayes.
2. **Public Comment Period.** Dr. Holtzclaw distributed for information the Air Quality Planning Committee's comments that it adopted yesterday on the District's Ozone Control Strategy.
3. **Approval of Minutes of June 3, 2004.** Dr. Holtzclaw requested that "Plan" be changed to "Plans" on line one of paragraph four on page three; and "Holtzclaw" to "Holtzclaw" on line one of the final paragraph on page 12. He moved the approval of the minutes as corrected; seconded by Dr. Bornstein; carried unanimously.
4. **District's Ozone Control Strategy.** Chairperson Bedsworth reviewed her July 7, 2004 memorandum entitled "Discussion of District Ozone Reduction Strategies and Planning." In discussion, Jean Roggenkamp, District Planning Division Director, and Phil Martien, Senior Atmospheric Modeler, proposed the following editorial suggestions to the memorandum:
  - a) Under *Ambient Trends* replace "significant" with "sufficient" in line six.
  - b) Under *District Modeling Efforts* in line two replace "is underestimating temperature, wind speed, and O<sub>3</sub>" with "underestimates wind speed in some areas of the Bay Area, but performs well for Bay Area O<sub>3</sub>." In line three, end the sentence at "disparities." Add a second sentence to read: "Based on comparisons to a fuel-based estimate, modeling inventories appear to underestimate VOC from on-road vehicles in the Bay Area." Append a new bullet to read: "The model underestimates temperatures and ozone in the San Joaquin Valley." In the next to last bullet, line two of page two, replace "affect" with "reduce and may even increase."
  - c) Under *EMFAC2002* insert "NO<sub>x</sub>" before "emissions" in line one and add at the end of that sentence "especially in the San Joaquin Valley. NO<sub>x</sub> emissions from heavy-duty diesel sources are not well represented." In line five, replace "weighted by reactivity" with "speciated by EMFAC." In line six, replace "Model" with "EMFAC."
  - d) Under *NO<sub>x</sub> Control Measures*, on line nine add to the third sub-bullet " , unless heavy-duty diesel is specifically targeted."
  - e) Under *Key Findings*, on line nine under No. 2(b) after "mobile sources" add "including light-duty mobile." Delete 2(c) entirely. End the first sentence of No. 5 "Monday." Replace "but it is not" with "it is" and replace "or" with "and" prior to "activity." Replace "are well understood" with "especially for heavy-duty diesel sources, need to be more accurately represented in modeling inventories on these days."

Chairperson Bedsworth called for public comment, and the following individual came forward:

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ChevronTexaco Energy Technology Company  
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stating it will be necessary to review the modeling simulations from the Central California Ozone Study (CCOS) and to assess the analyses of data relative to the ozone episodes before firm conclusions about the ozone control strategy can be reached. Smog algorithms can help to assess the benefits and disbenefits of each ozone precursor, along with ozone response surface runs on the base case to see how the model responds to the reduction of each precursor. While NO<sub>x</sub> concentrations decrease downwind it would be helpful to know what the active volatile organic compounds (VOCs) are downwind and if fresh NO<sub>x</sub> will react to them. These dynamics need further review.

In response to Committee member comments that the text should recognize improved model performance, Ms. Roggenkamp noted that while some information has been provided today, further work is needed for the technical analysis. Control measures for the ozone strategy will have to be based on the modeling results, but these have not yet been completed.

The Committee discussed the text and reached consensus on the following modifications:

Under *Relevant Meetings & Topics* add “on ozone planning within the last year” and include today’s meeting in the chronology.

Add a heading to immediately follow the above heading entitled *Committee Findings*.

Change *Ambient Trends* to *Observed Trends*. In the first bullet add “one hour” before “standard.” In the second bullet, recognize the District’s successful work in targeting the most reactive VOCs, in light of longer reaction times and the corresponding impact on inter- and intra-basin transport. Thematically combine the third and fourth bullets with their focus on temperature and include that in the sixth bullet on meteorological conditions, indicating: “Maximum ozone levels in the Bay Area are very close to the one-hour federal standard. Thus, attainment is highly susceptible to extreme meteorological conditions, such as extension of a sustained (2-3 days) inland regional high over the Bay Area that impedes on-shore breeze flow and results in higher than normal temperature, maximizes UV and lower mixing depth.” Delete the fifth bullet on design values.

Under *District Modeling Efforts* indicate that they are “reproducing observed ozone patterns during exceedances periods, but additional efforts are needed to understand all major interactions between emissions, modeling, and chemistry.”

Under *Control Measures*, incorporate the staff’s proposed edit on how certain NO<sub>x</sub> measures may increase ozone locally. Add a second sentence to indicate: “But, these measures could reduce ozone in the Central Valley.” In the third bullet delete “Need” and insert “Many further reductions”; and delete “that” prior to “are from sources under the jurisdiction of CARB and EPA.”

Place the text included under the *EMFAC 2002* heading under *District modeling efforts* with these modifications: (a) Add the new bullet suggested above by staff on fuel-based estimates. (b) To the end of the first bullet add “on-road heavy duty diesel vehicles.” (c) Conclude the second bullet at “2000.” (d) Replace “model” with “EMFAC” in the fourth bullet.

Change *NOx Control Measures* to *Control Measures*, and (a) delete the first bullet; (b) delete the second sub-bullet from the second bullet; (c) add a statement indicating that “previous modeling and data analysis indicates that, in the Bay Area, VOC reductions are more effective in reducing peak ozone concentrations than NOx reductions. However, ongoing modeling and data analysis will determine if this is still the case.”; (d) add: “Changes in NO:NO2 ratios in diesel vehicle exhaust could change the important of NOx reductions and ozone chemistry.” This will account for the need to distinguish nitrogen oxide (NO) from nitrogen dioxide (NO2) emissions as these relate to ozone formation from diesel engine after-treatment technology.

Replace *Findings* with *Recommendations for Further Study*, and note that these are based on the entirety of *Committee Findings* outlined earlier in the document. The text should read as follows:

*The District should continue to improve model performance, particularly in the following areas:*

- *More accurately represent emissions from heavy duty diesel vehicles,*
- *Characterize NO and NO2 emission fractions from diesel vehicles and hydrocarbon speciation more generally.*

*Apply the improved model to understand:*

- *Inter- and intra-basin transport issues,*
- *Emission reductions scenarios, with particular emphasis on the impact of the relative reduction of VOC and NOx emissions, and*
- *Impacts of various urbanization growth patterns.*

*Many of the “low hanging fruit” have been picked. The District needs to place continuing pressure on CARB and EPA to pass stringent regulations over sources outside the District’s jurisdiction.*

Mr. Hanna moved the Committee adopt the text as revised for forwarding to the full Council on September 8; seconded by Mr. Altshuler; carried unanimously.

- 5. Committee Member Comments/Other Business.** There were none.
- 6. Time and Place of Next Meeting.** 9:30 a.m., Tuesday, October 12, 2004, 939 Ellis Street, San Francisco, CA 94109.
- 7. Adjournment.** The meeting adjourned at 4:15 p.m.

James N. Corazza  
Deputy Clerk of the Boards

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