



EXTREME OZONE ATTAINMENT DEMONSTRATION PLAN

SUMMARY OF COMMENTS AND RESPONSES MADE OR SUBMITTED DURING PUBLIC REVIEW OF THE DRAFT EXTREME OZONE ATTAINMENT DEMONSTRATION PLAN FOR THE SAN JOAQUIN VALLEY AIR BASIN

September 7, 2004

The San Joaquin Valley Unified Air Pollution Control District (District) released the Draft *Extreme Ozone Attainment Demonstration Plan* (OADP) for public review on July 30, 2004. In conjunction with releasing the plan, the District announced a series of three workshops to be held on the Draft *Extreme OADP* on August 12 and 13, 2004. The District mailed about 1200 notices to the ozone plan mailing list announcing plan availability and workshop dates, and also used the notice as a legal advertisement that appeared in the eight major San Joaquin Valley newspapers. District staff conducted the workshops in person in the Central Region (Fresno), and via video-teleconference links to Bakersfield and Modesto. About 27 people attended the first day of workshops (August 12, 2004) and about 20 attended the second day workshop (August 13, 2004). The August 12 workshops were held at 1:00 pm and 6:30 pm, and the August 13th workshop was held at 10:00 am. The evening workshop on August 12th was a community meeting geared toward simplified presentations and discussions of the topics. The comment period for the *Draft EOADP* ended on August 27, 2004. Participants at the three workshops made over fifty verbal comments, and several other stakeholders submitted written comments.

The District has paraphrased most comments for the sake of brevity, and has consolidated comments when participants raised similar concerns, questions, issues, and suggestions. The comments received (in their entirety) are available upon request at the District's Central Office. The following is a summary of the comments received, and responses prepared by District staff. To facilitate finding a particular comment or idea expressed in a comment, Verbal Comments are organized by Draft *Extreme OADP* chapter title. Comments that did not fit cleanly within a particular chapter are noted at the end of "Verbal Comments" as "Miscellaneous Comments." The section entitled "Verbal Comments" includes comments made at the workshops as well as comments made during stakeholder meetings after the workshops. Written comments are organized by the name of the organization submitting the comments. Comments appear only once in this Summary and are not repeated under the major headings of "Verbal Comments" and "Written Comments." Also, if a commenter provided the same comment verbally and in writing, the written version is used for the response. No formal written comments were received from the U.S. Environmental Protection Agency (EPA), the California Air Resources Board (ARB), or the San Joaquin Valley Air Basin (SJVAB) Transportation Planning Agencies.

VERBAL COMMENTS

Chapter 1 Purpose of the Plan and Plan Development

1. **Comment:** Will the plan only be used for the next 12 months or so?
Response: The Plan itself may have a limited life due to EPA's planned revocation of the federal 1-hour ozone standards, but the control measures in the *Extreme OADP* will be used to help demonstrate attainment for the federal 8-hour ozone standards, and thus will continue to be viable air quality improvement tools in the future.
2. **Comment:** How does this program mesh with the 8 hour standard?
Response: The Draft *Extreme OADP* addresses only the federal 1-hour ozone standards. In collaboration with ARB and the other north-central California air districts, the District has begun work on developing the 8-hour ozone attainment demonstration plan. This plan is due to EPA on June 15, 2007.
3. **Comment:** This plan does not focus on sub-regional modeling and is focusing on stationary sources of air pollution. Since stationary sources are more heavily located in the Southern Valley, the District controls are mainly in the South Valley, which may not help improve air quality in the North Valley. Also, this approach may not be the most efficient way of controlling air pollution.
Response: In this plan the District control measures primarily address the source categories for which the District has authority to control, which is stationary sources. Emissions reductions from ARB control measures supplement those of the District, and do address source categories outside District's authority. In addition, the District has listed areas of future study that primarily target sources outside of the District's authority to control (mobile sources). As the District noted in the responses to comments for the January 2004 workshops, sub-regional modeling was not conducted for the 1-hour ozone modeling conducted for plans in 2003 and 2004. The focus for the 1-hour ozone modeling conducted during 2003 and 2004 was on model selection, episode selection, model performance evaluation, incorporation of data from the Central California Ozone Study, and running the model to produce results in time for regulatory deadlines and air quality plan submittals. This baseline level of technical work has to be accomplished before more advanced topics such as sub-regional modeling can be studied and conducted. For the SJVAB, the time available to do modeling for the *Extreme OADP* was consumed by developing a working episode for the plan, such that no time was available for investigating the more advanced topics. Sub-regional modeling will be explored for the 8-hour ozone attainment demonstration plans due in 2007. The District and the ARB believe that the modeling that was done for this plan does meet all EPA requirements for modeling. Also see the Addendum to these comments.

Chapter 2 San Joaquin Valley Air Quality

4. **Comment:** In the rule development process there are steps the District takes in determining if a rule is feasible, such as a socioeconomic analysis; the District needs to include a health impact assessment to determine feasibility.

Response: Because most District activities are directed towards attaining health-based air quality standards in the SJVAB, protection of public health is the driver for District activities. Therefore, the rule development process does not ignore human health. If a particular rule is determined to be not feasible for reasons including socioeconomic factors, then the emissions reductions from that rule are obtained using controls on other sources, such that human health is protected in accordance with the overall emissions reductions identified in the plan triggering the rule. On the other hand, socioeconomic factors drive many public and private development projects, which is why many states and the federal government have passed laws such as the California Environmental Quality Act and the National Environmental Policy Act to ensure that human health is considered in decisions involving these types of projects.

Chapter 3 Emissions Inventory

5. **Comment:** California legislation signed into law in 2003 that regulates agricultural sources of air pollution eliminates agricultural burning in 2010 yet does not eliminate controlled or prescribed burning by federal and state land management and forestry agencies. Yet information from the District shows that emissions from prescribed burning can be a large part of the inventory. How does the District handle this in the inventory?
- Response:** Future inventories will reflect control measures implemented to comply with state law, such as the phase out of agricultural burning, because the District must pass rules to reduce emissions when so directed by state law. The amount of emissions for prescribed burning in the inventory represents the amount that the land management agencies have told the District that they would like to accomplish on an average day in the SJVAB. The District does control prescribed burns on a case-by-case basis, and prohibits them from taking place on days of marginal or poor air quality. Because of this District's control and other complicating factors that the land management agencies must consider, the land management agencies have not been able to burn as much acreage as they have told the District that they would like to accomplish. Land management agencies assert that prescribed burning and mechanical thinning to maintain fuel loadings in forests at desirable levels offer air quality benefits over no or limited prescribed burning that lets biomass accumulate and makes forested lands susceptible to large wildfires that can have significant air quality impacts.
6. **Comment:** In the table on page 3-7 of the Draft Ozone Attainment Demonstration Plan, for the years 2000, 2008 and 2010, the District has 1.5 tpd of NOx coming from petroleum refineries. Did the District factor in the closing of the Shell refinery, which would cut those numbers in half? Will there be any consideration of this closure because it is very significant, and if so does the District plan to do this before locking in these numbers? Shell is scheduled to close this refinery before the end of this year.
- Response:** For the plan the District used a version of the Air Resources Board (ARB) emission inventory (CCOS, Version 2.11) that did not reflect the anticipated closure of the Shell refinery. If the Shell refinery is closed, then future inventories developed after this plan will capture the emissions reductions from this closure. The District and ARB must submit the *Extreme OADP* to EPA by November 15, 2004, and thus the inventory in this *Extreme OADP* will not show the effects from the closure of the Shell refinery.

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However, the 2006 PM10 Plan, the 2007 8-hour Ozone Attainment Demonstration Plan, and the 2008 PM2.5/Regional Haze Plan will all use updated inventories, so if the Shell refinery does indeed close at some future date, then the emissions reductions from this closure will likely be reflected in inventories used in one or more of these plans.

7. **Comment:** Table 3-2 on page 3-15 shows a positive number for the growth factor for refineries. Since the refinery industry is in a downturn, how did the District get a positive growth factor? For example, since 1980 there have been about 30 refineries shut down statewide, including two in the Valley, and the Shell refinery is due to close this year.

Response: District staff researched the Table 3-2 growth rate information for refineries and confirmed that it is reported correctly in Table 3.2 as a growth factor of 0.1% for stationary source combustion. This information comes from the California Air Resources Board's California Emission Forecasting System. It should be noted that Table 3-2 only compares NOx emissions for the year 2000 with the year 2010, such that the growth rate reflects projected growth for this decade for fuel combustion at refineries. Any refinery downturn in the 1980 to 2000 time period would already have been reflected in the 2000 baseline.
8. **Comment:** On pages 3-25 of the plan, it indicates that the plan is based on two types of inventories: a planning inventory and a modeling inventory. When a control measure is built into the plan and enters the rule development process, the District's practice has been to send out a survey and request information from stakeholders. This allows the District to refine emissions inventory for a particular rule. How does that information get incorporated into the planning and modeling inventories?

Response: The District sends new information on emissions from particular source categories to ARB, and the ARB evaluates the information for possible inclusion in future emissions inventories. The modeling inventory used in the attainment demonstration is a day-specific inventory, so and new information would be incorporated into this inventory as appropriate for the affected source category and the day of interest. To go from the planning inventory to the modeling inventory, District and ARB staff also spatially allocate the emissions for the day of interest and also subdivide the volatile organic compound emissions into reactivity class for use by the photochemical model.
9. **Comment:** Are the ARB reductions given in the control measure workshop presentation of 90 tons per day of reactive organic gases and 140 tons per day of nitrogen oxides the total reductions from the state, or are the new ARB reductions for the Extreme OADP in addition to these totals?

Response: The 90 tons per day of ROG and 140 tons per day of NOx are reductions from measures that have long since been adopted; the 15 tons per day of ROG and 20 tons per day NOx are from new ARB measures to be adopted by 2010.
10. **Comment:** What is the proportion of the problem caused by stationary sources versus mobile sources?

Response: Emissions from mobile sources account for about 60% of the ozone precursor emissions; the other 40% is accounted for by area and stationary sources. That's why an integrated solution is needed. The District only controls 40% of emission sources and ARB and the U.S. Environmental Protection Agency have authority over mobile sources.

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11. **Comment:** The rapid decrease in the on-road motor vehicle emission source category shown in Table 3-1 for 2000, 2008 and 2010 appears optimistic and undoubtedly is based on an assumed rate of vehicle turnover (these numbers did correlate with independent runs of CARB's EMFAC 2002 model, though). How do these data account for significant on-road life and limited vehicle population turnover?
Response: This is based on fleet turnover assuming people will buy new vehicles and the fleet and engines will turn over (i.e., new, cleaner burning engines will replace older engines that emit more air pollutants). The benefits of cleaner burning engines are assumed to phase in over time after a new standard becomes effective. Vehicle buy back programs and alternative vehicle registration programs that are discussed in Chapter 4 of the Extreme OADP help encourage fleet turnover. The buy-back program provides funds for people to scrap older, high emitting vehicles in lieu of newer cleaner burning vehicles. The alternative registration programs either prohibit registration of older vehicles (as Phoenix, Arizona has done through legislation) or increase the cost of registering higher polluting vehicles relative to the cost of registering low emitting vehicles.
12. **Comment:** Table 3-2, page 3-15 shows that the source category of Food and Agricultural Processing has a large inventory yet only has a control factor of 10.1%. It seems like the District could obtain large emissions reductions from this source category that would help improve air quality.
Response: It is important to note that Table 3-2 only reflects emissions changes relevant to ERC calculations for NOx for the years 2000 and 2010. Thus the 10.1% control factor reflects only additional controls for this time period; all of the emissions controls already placed on this source category prior to the year 2000 do not show up in the 10.1% because they are already reflected in the year 2000 emissions that for the baseline for computing the additional controls in the 2000—2010 time frame.

Chapter 4 Control Strategies

13. **Comment:** What percentage of the emissions reductions needed for attainment address mobile source emissions and what percentage addresses stationary source emissions?
Response: The State of California has authority to regulate mobile sources, and most of the reductions in the plan that address mobile sources come from the state (ARB) measures. As noted in the workshop presentation on state control measures, the state has already achieved large emissions reductions in the SJVAB (see Comment Number 9 above). About 40% of the new additional emissions controls identified in this plan as needed for attainment can be attributed to ARB (see Chapter 5).
14. **Comment:** As far as Smart Growth and transportation, what is happening with the Indirect Source Rules (ISR)?
Response: The District continues to work on revising the internal draft rule based on comments provided during the spring 2004 public meetings; more information will be available within the next two months.

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15. **Comment:** How is the District going to deal with the North American Fair Trade Agreement (NAFTA)? The large amount of trucks coming into our air basin per day will slow traffic down and cause air pollution to go up.
Response: Research is being done by ARB on how much pollution is caused by trucks coming into California due to NAFTA, especially trucks based in Mexico. The ARB is developing this information, and plans to have it available for the 8-hour ozone attainment demonstration plans that are due to EPA in 2007. The air quality impacts from NAFTA trucks are not considered in this Plan because the Supreme Court decision allowing trucks to enter California happened too late in the Plan development process, and because very little information is available regarding emissions from NAFTA trucks in California.
16. **Comment:** What is the District currently doing with Smart Growth?
Response: Elements of smart growth are currently considered in the District's programs related to land use, including the development of Indirect Source Rules, the District's review of development projects under the California Environmental Quality Act, and the District's guidance documents such as Guidelines for General Plans currently under revision.
17. **Comment:** There are air impact fees in some communities now, which are pretty hefty on each home being built; where do these fees go, and are they used to reduce pollution?
Response: The District is working on an Indirect Source Rule, which has not been adopted yet, so the District is not collecting any fees at present to account for the air quality impacts from new homes. The City of Bakersfield is assessing fees on new homes, and the process for deciding how this money gets spent is still being set up. The District is working with parties involved in the Bakersfield new housing impact fee to ensure that the money is spent on projects that actually generate emission reductions; however the District does not have authority over funds are spent, and can only provide advice and information.
18. **Comment:** Is the District required to control emissions from mobile sources? If mobile sources are 60% of the cause, how does your plan line up with sources?
Response: See Comment Number 13 above. The District has only limited regulatory authority over mobile sources, whereas ARB does have authority and consequently most of the responsibility for mobile sources. Two control measures shown in Table 4-1 reflect the District's rules for reducing mobile source emissions: school bus fleets and indirect source rules (combined reductions of 4.1 tons per day of NO_x in 2010). Because the District has limited regulatory authority to reduce emissions from mobile sources, it uses incentive programs to assist in providing emissions reductions (see Section 4.4 in the Draft *Extreme OADP*). For example, the District has provided incentive funds for the purchase of light duty vehicles that use hybrid technology to reduce emissions, and it provides funds for reducing emissions from heavy-duty engines currently in use. In addition, Section 4.3.1 of this plan presents ideas for controlling mobile source emissions in the future; the District and others will examine these for viability as future measures to reduce mobile source emissions.

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19. **Comment:** For the record, language should be included in this plan stating that the SJVAB's attainment of the federal 1-hour ozone standard is contingent upon implementation of EPA and ARB emission control measures, especially for mobile sources.
Response: Chapter 5 of the Draft *Extreme OADP* clearly shows that ARB emissions controls are needed to demonstrate attainment of the federal 1-hour ozone standard in the SJVAB. Typically the type of wording referenced in the comment is included in the resolution adopting a plan. For example, the District Governing Board resolution requesting EPA to reclassify the SJVAB as extreme nonattainment for the federal 1-hour ozone standard (Resolution Number 03-12-10) contains the following language: "The Governing Board expects the ARB and EPA to continue to actively pursue mobile source emissions reductions in the SJVAB." Similar language will be considered for the resolution adopting the *Extreme OADP*.
20. **Comment:** The District should consider using natural sources as buffer zones to capture some of these ozone emissions after they have been released. The uses of buffer zones have already been examined by cities and industry. The District should look at planting extremely fast growing trees with deep root systems of hardwood that will improve air quality.
Response: See similar comment under Written Comments. The District will add a future study measure regarding the role of urban landscape management in improving air quality.
21. **Comment:** On page 4-3 of the plan there is no column with total reductions. The reductions in Table 4-1 do not add up to the 300 tons per day that the District has previously identified as being needed to attain the federal 1-hour ozone standard. Where will the additional reductions come from?
Response: The 300 tons per day emissions reduction target was derived from an old inventory in an old plan, and was based on a different modeling process and a different model. The information that is presented to the public today is better. It uses the Central California Ozone Study (CCOS) information that was gathered through the year 2000, as well as updated and more sophisticated meteorological and photochemical models. So the District is moving away from the old number and replacing it with the new information and analyses that are in this extreme plan. The prior estimate of 300 tons per day was developed around 2001/2002. Using the information in this Draft *Extreme OADP* to compare 2002 emissions (Chapter 7) with the 2010 emissions needed to demonstrate attainment (Chapter 5) shows that the reductions needed are still about 300 tons per day.
22. **Comment:** In Table 4-2 (Potential Control Measures Requiring Further Study) the District is looking at future measures and their feasibility. If a control measure is determined not feasible, the District may decide to drop it. What is the time frame for these decisions, between now and when the plan goes to the Governing board, or is this between now and 2007?
Response: For some of the control measures the District is already looking at the emissions inventory and what the feasibility is, for others it may be a year or two, but it will not be something the District will be deciding between now and the Governing Board hearing on October 8, 2004. The District may commit to these measures in a future plan, such as the reassessment of the PM10 Plan in 2006 or the 8-hour Ozone Plan in 2007 .

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23. **Comment:** In regards to integrated solutions to air quality, the School Bus Fleet Rule is a very specific way to reduce emissions. What is the status of the rule currently?
Response: The District held workshops on August 25th and 26th, 2004, to present, discuss, and receive comments on draft rule 9310. This rule is listed in Table 4.1 and is estimated to result in a NO_x reduction of 0.1 tons per day in 2010.
24. **Comment:** In looking at the Carrying Capacity chart (Figure 5-5), the line is drawn at 125 ppm for VOC. How do these levels compare with limits established in District permits for NO_x?
Response: The limits that are shown in the graph are ambient air quality limits, and represent concentrations of ozone in the ambient air. Ozone is formed in the air by chemical reactions between volatile organic compounds and nitrogen oxides, and the District's permit conditions address limits of nitrogen oxides or VOCs. Concentrations given in permits usually refer to the level of the pollutant in the exhaust gas, and the concentrations referred to in Figure 5-5 refer to the ambient air.
25. **Comment:** Control strategies are still across the board, yet there are different inventory mixes in the regions. The District may find you need more NO_x reduction one area and more VOC in another. The District may find sub-regional control is a big leap from the way it has been doing things. When the District writes plans, sub-regionalization is not in there as anything more than an idea. How can the Valley get a plan that does this, and if the 1-hour is a placeholder how does sub-regionalization get into the 8-hour plan?
Response: The District is working to get the modeling done early to drive the plans, and then staff can run different types of scenarios before the District completes a draft plan. As indicated in the response to Comment Number 3 above, insufficient time was available in the *Extreme OADP* schedule for this type of work once the episode used was finally ready.
26. **Comment:** Has the District examined emissions from dairies and crops?
Response: Rule development is underway for dairies and for open burning, as indicated by Table 4-1. Also, emissions from plants are included in the biogenic inventory used in the modeling inventory.
27. **Comment:** Was there any numerical credit taken for emissions reductions for all of the "Integrated Solutions" presented at the workshop? Did the District take numerical credit for the mobile source incentives?
Response: The District did not take emissions reductions credit for all of the "Integrated Solutions" listed in the workshop presentation; most of the reductions in the Draft Extreme OADP come from stationary and mobile source control measures, and some from fleets and land use policies (principally indirect source rules).
28. **Comment:** How do you determine the impact of a specific rule? How do you determine the impact on ozone?
Response: The impact of a rule shows up in the planning inventory by an emission reduction, but even there the magnitude of the reduction and the number of significant figures used in the inventory play key roles in whether the reductions from the rule will show up. For example, if the inventory is expressed to the nearest 0.1 tons per day, and a rule achieves a reduction of 0.04 tons per day, it may not show up from one inventory to another. Typically

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only large emissions reductions of tens of tons per day show up in ozone levels predicted by a gridded photochemical model. The ultimate judges are the monitors at that future date saying whether or not you made it.

29. **Comment:** There appears to be less VOC/NO_x control in District Control Measure Schedule (Table 4-1) than are claimed for new District measures in SJVAB Federal 1-hour Ozone Attainment Concept (Table 5-1, p 5-11). What is the source of the difference?
Response: As noted in the footnotes to Table 5-1, a variety of data sources are used to demonstrate attainment, one of which is the post-PM₁₀ Plan measures presented in Table 4-1. Table 4-1 only reflects reductions from control measures under District Control. Reductions from District incentives and from ARB control measures are also used to demonstrate attainment, but are not shown in Table 4-1. Also, the reductions from PM₁₀ Plan measures are used as given in the *Amended PM₁₀ Plan*, which was approved by EPA effective June 25, 2004. The footnotes in Table 5-1 clearly identify all data sources used in the attainment demonstration. The District will add additional text cautioning against the comparison of Table 4-1 with Table 5-1.

Chapter 5 Future Ozone Air Quality

30. **Comment:** The way the modeling is set up, when data is given to District staff developing the control strategies, could the District do sub-regionalization to link the sources to impacts of control measures on ozone levels?
Response: In the model, staff can remove emissions in any portion of the region and take a look at the model sensitivity. The District has done some exploratory work on this and has seen some changes in predicted ozone levels. This can be done, but is not required. Sub-regionalization is one of our goals, but as noted above in Comment Number 3, it was not pursued for this particular *Extreme OADP*. Most of the modeling was done by ARB. For the 8-hour Ozone Attainment Demonstration Plan, the District is planning to and encouraging its partners to look at doing different things, such as more expansive modeling of different episodes, and looking at regional variations. Since the information necessary to do this type of modeling was not available in the Draft *Extreme OADP*'s timeframe, the District decided to direct this effort to the 8-hour plan and not pursue it for the 1-hour plan due to the limited time available.
31. **Comment:** Is there a modeling inventory in the Appendices and is it broken down into source categories.
Response: As noted on page 3-6 of the Draft *Extreme OADP*, the modeling inventory is not included with the plan because of its complexity and volume. It is not suited to presentation in either tabular or text form.
32. **Comment:** Referring to the photochemical modeling presentation, the slide entitled Model Performance Zones shows numbers on a map; what do the numbers in the grid represent?
Response: They represent individual areas with source receptor relationships that were set up to evaluate model performance.

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33. **Comment:** Did the District take biogenic emissions out of the inventory to show attainment?
Response: No, they were removed to test the model, biogenic emissions are hard to quantify, so staff wanted to see if uncertainty in biogenics emissions had a large effect on predicted ozone levels. Biogenic emissions are included in the modeling inventory used as input to the production of the carrying capacity diagram.
34. **Comment:** In the carrying capacity diagrams, do any sources of NO_x come from natural sources?
Response: Yes, there are some natural sources of NO_x that are included in the modeling inventory that is used to ultimately produce the diagrams.
35. **Comment:** Do the biogenics stay the same for the model in the future?
Response: When staff runs the model, they keep the biogenics the same for the Base case and for future cases, so that it is consistent.
36. **Comment:** What do the ozone monitors record in the atmosphere after control measures are implemented?
Response: District and state control measures reduce emissions, and emission reductions improve air quality. Chapter 2 presents a number of graphs that show improving ozone air quality in the SJVAB due to emissions reductions and other factors. The weather and geography of the SJVAB can combine to sometimes mask the effects of these emission reduction programs, or to sometimes show significant improvements in air quality. It is important to remember that the relationship between ozone precursor emissions reductions and ozone formation in the atmosphere is not one to one. A given reduction in emissions can produce drastically different ozone responses in different air basins or in the same air basin at different times.

Chapter 6 Outreach

37. **Comment:** The District doesn't have anything in the plan about partnering with other agencies, such as the USDA being able to cost share diesel engines, possibility of cost sharing mobile diesel engines and the other cost-share programs that are available to facilitate cleaner air?
Response: Yes, the district does have incentive programs for heavy-duty diesel engines. The District has tried to partner in the past with the USDA and others on cost sharing the replacement of older dirtier engines with cleaner engines, and will continue to do so in the future where possible. With the changes to agricultural operations and regulations the legislature has passed legislation to allow those funds to still be available for those sources, and other sources, such as school buses, but the bill has not yet been signed. The District is looking at replacing a lot of the older school buses with cleaner buses that have fewer emissions. The District is looking for funding opportunities for those sources.
38. **Comment:** This plan is so important for the Valley and the comment deadline is only ten days. Why wasn't more time allowed for the public to participate in this plan? What will happen if the plan is not submitted on time?
Response: The District held the first workshop for this plan on July 23, 2003, so the total time for the public to be involved in plan development is about 18 months. The Draft *Extreme OADP* was released for public review on July 30,

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2004, and the comment period closed on August 27, 2004. The approximately 30-day public review period is consistent with prior District actions of this type, especially since much of the plan's contents has been available for 6-18 months. For example, the control measures consist of *PM10 Plan* measures that have been available since March 2003, and new District and State measures that have been available since January 2004 (and many of the District measures have been developed in a very public process in response to state legislation passed last year). Modeling results were first shared in January 2004. The process of incorporating voluminous CCOS data into a multi-agency, highly technical SIP modeling process has been extremely involved, and consumed a large part of the project schedule. EPA staff has indicated to District staff that EPA would issue a "Finding of Failure to Submit" if the Extreme OADP is not submitted to EPA by November 15, 2004. Furthermore, this finding is also likely to trigger sanction clocks and a federal implementation plan clock, both of which the District, ARB, and stakeholders are trying to avoid.

39. **Comment:** The overall plan development schedule may not allow enough time for the District to provide meaningful responses to comments and to make corresponding plan revisions. Even though most of the control measures in the Plan have been available for public review for some time, members of the public may want to suggest new control measures or other things they want added to the plan; will there be time to add these?

Response: The District's schedule allows time for responding to the comments and for making necessary plan revisions. Appropriate new ideas for control measures will be considered for inclusion in the Plan, most likely as areas for future study that will lead to control measures for the next ozone plan.

40. **Comment:** Do you have anything in the plan that works toward educating the public to get their buy-in?

Response: The District has an active Public Education program to outreach to the public, to do community events, and to provide clean air materials in multiple languages. Examples are the Spare the Air Day, and lawn mower exchanges and billboard and radio advertisements. See Chapter 6 of the Draft *Extreme OADP* as well as Section 4.4.

41. **Comment:** Is there a way to adequately inform the public of upcoming workshops?

Response: The District currently publishes workshop notices in eight major newspapers throughout the San Joaquin Valley. The notices are located in the Public Notice sections of the Classified Advertisements. The District's website (www.valleyair.org) that offers a listing of upcoming workshop notices and materials. The website also offers materials and handouts from past workshops. The website is frequently publicized in the District's radio and television advertisements.

Chapter 7 Rate of Progress

42. **Comment:** What is the total emissions inventory that will support attainment of the federal 1-hour ozone standard in the SJVAB?

Response: As shown in Table 5-1, the emissions inventory that demonstrates attainment of the federal 1-hour ozone standard is about 85% of

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the 2010 VOC inventory (or about 312 tons per day of VOC), and about 86% of the NOx inventory (or about 346 tons per day).

Chapter 8 California Clean Air Act

43. **Comment:** Will the state requirements change with the Federal 1-hour standard going away?
Response: No, the state will keep its 1-hour ozone standard of 0.09 ppm and will also implement an 8-hour standard, currently proposed at 0.07 ppm.

Miscellaneous Comments

44. **Comment:** Certification may be an alternative to permitting; there may be other options available.
Response: The District always considers alternatives to the typical command and control. Certification or registration is worth considering for large numbers of sources for which the administrative costs of permitting, source testing, and/or inspecting would be prohibitively expensive.
45. **Comment:** Are Brandy producers aware that a control measure has been proposed?
Response: The district has been working with the Wine Institute and has consulted with all the major brandy producers.
46. **Comment:** Why would Brandy Production be considered as a new Control measure?
Response: Brandy production is a significant source of VOC emissions, perhaps even higher than wineries. New control measures could be designed to reduce VOC emissions created during the production of brandy, including distillation, aging and bottling.
47. **Comment:** Will portable stationary IC (agriculture) engines be listed under potential Control Measures Requiring Further Study?
Response: The District is waiting for ARB to finalize Air Toxic Control Measures (ATCM'S), and then the District will look at measures in this area for all portable engines.
48. **Comment:** What does Control measure N (Water heaters, 0.075-2.0 MMBtu/hr) include?
Response: This rule could include new commercial, industrial or institutional units. Emissions will be reduced mostly by new units, based on furnace incentives for replacement of unit (see page 4-21 of the Draft *Extreme OADP*). This will be a one for one replacement; the facility will not be required to change all units over at the time of the first replacement.

WRITTEN COMMENTS

**Comments submitted by Western State Petroleum Association (WSPA),
August 25, 2004.**

49. **Comment:** In regards to the potential Control Measures Requiring further study (Table 4-2) WSPA believes all of the future control measures identified be subject to an open review during the consultation, development, and review phase. Since the list of future control measures was based on other districts' measures that may have potential application in the SJVAPCD planning process, it is important to note that because these measures work in one district they may not work in another. Each of the future measures must undergo rigorous scrutiny as to applicability and effectiveness given the uniqueness of each air district.
Response: The process described above is consistent with what happens during the District's rule and plan development process. The District does not merely adopt another district's rules.
50. **Comment:** Section 5.6 indicates that the additional 5 tons per day of NOX and 5 tons per day of VOC's will be obtained through an unknown control measure (i.e., 'Black Box'), which will be identified in 2007 and implemented by 2010. Will the black box be effective since the modeling will be basin-wide, with no sub-regional analysis? Sub-regional control measures may get a bigger reduction. WSPA understands that nothing can be done for this OADP. It is crucial that such modeling be included in the 8-hour Plan. WSPA intends to hold the District to this commitment.
Response: See responses to verbal comments regarding sub-regional analyses. The District will relay these points to ARB, who will be primarily responsible for conducting the modeling for the 8-hour ozone plans.
51. **Comment:** Section 4.3.2 discussed the consideration of new concepts in air quality planning under the title of Sustainable incentives. WSPA believes the District should go even further in this section of the OADP and include Alternative Emission Reduction Programs as a viable and proactive approach to future air quality planning. WSPA feels this is the key to future air quality planning and strongly recommend that Section 4.3.2 be amended to include this approach.
Response: The District will investigate alternative approaches and will add some text to the section.
52. **Comment:** WSPA is concerned that there may be a potential for a double cap on ERC credits. The baseline has been moved to Year 2000. However, ERC's are already massively discounted. WSPA believes the combination of discounts and Federal limits essentially caps the ERC's. The addition of a cap in the OADP further restricts an already heavily discounted program.
Response: The District agrees with WSPA that emission reduction credits (ERCs) are discounted as they are generated and used in the District's permitting program, but we do not agree that discounting can be considered to be a cap on allowed ERC-use, even when coupled with the comparison to time-of-use federal discounting requirements.

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If the District fails to demonstrate that the existing District offsetting program is equivalent to the federal time-of-use requirements, there is a specific end result (the “hammer”) already contained in the District’s New and Modified Source Review (NSR) rule - the District must require that new major sources and major modifications use only federally acceptable offsets (those that are surplus at the time of their use). There is no cap, in the current NSR rule, on the quantity of federally acceptable offsets that can be used for new major sources and major modifications, and in fact, there are no limits at all on ERCs that can be used to offset non-major projects.

Therefore the District does not agree that the OADP’s cap on pre-baseline ERC usage is a “double cap”.

53. **Comment:** WSPA hopes that the 8-hour Ozone Plan will incorporate the comments made here with regard to detail and accuracy. The 8-hour should provide more accurate emissions inventories, refined air quality modeling (including sub-regional modeling), reliable traditional emission control measures and alternative emission reduction programs (including sub-regional measures and programs).
- Response:** Planning is underway with ARB (who develops modeling emissions inventories and conducts the photochemical modeling for the 8-hour plans) and with adjacent districts to develop the framework for producing all of the north-central California 8-hour ozone SIPs that are due to EPA by June 15, 2007. All of the above points have been conveyed to the working group that is developing this framework, and every effort within the resources available will be made to make sure the 8-hour plan development process is an improvement over the process used to develop the 1-hour plan. See also response to comment number 3 and the addendum to these comments.

Comments submitted by The California Building Industry Association (CBIA)

54. **Comment:** The letter summarized CBIA’s previous comments on the draft rules presented earlier this year and includes the following statements: There was lack of balance in the District’s proposed rules, citing the scant emission reductions that are out of proportion with the cost and administrative burden needed to implement the regulations. Comments also cited the incompleteness of the District’s proposed program, identifying the inadequate modeling capability to estimate project emissions as well as reductions in emissions attributable to control measures accurately. Finally, CBIA’s comments called to the District’s attention its failure to recognize and take into account the shrinking emission reductions over time as cars become cleaner.
- Response:** It should first be recognized that the indirect source control measure has already been approved in the 2003 PM10 Plan and rule development have been started. In addition, plan control measures are general, and rules cover specifics. The previous comments listed above were on a first draft rule that in no way should be considered complete. The draft provided an opportunity to identify areas of the program that needed more support and documentation. The District has been working over the last several months to gather information needed to respond to previous comments and to revise the rule to address issues.

The District has a history of adopting rules that minimize administrative burden and maximize efficiency. The emission reductions expected from the indirect

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source program are relatively large compared to rules adopted by the District on other emission sources and are needed to attain the ozone and PM10 air quality standards by 2010. The District disagrees that the modeling capability is inadequate and the proposed model is currently being upgraded to increase its accuracy. Although tailpipe emissions per vehicle are declining, growth in travel related to new development is projected to cause an additional 25 tons/day of NOx emissions that would not be emitted if the growth did not occur. This means that the mobile source program is inadequate to do the job by the mandated 2010 attainment date and that additional reductions are needed. The indirect source program can provide some of the emission reductions to offset growth

55. **Comment:** ISR fails to establish a nexus between development and the emissions that homebuilders and homebuyers the Plan proposes to tax.
Response: The indirect source program is being designed to account for all air mitigation activities that affect a development project and to provide flexibility and efficiency for developers in meeting their obligation to implement all feasible measures to reduce air quality impacts. Any mitigation fee collected will be used for projects that reduce the air quality impacts of the development project in keeping with nexus requirements, and is in no way a tax. The plan control measure is consistent with EPA requirements and any rule submitted to EPA to implement the indirect source control measure will meet all federal Clean Air Act requirements.
56. **Comment:** ISR has no direct connection between payer and emitter.
Response: Many precedents exist for using mitigation fees. When used to mitigate other impacts, mitigation fees have been found to be a good public policy solution for problems that cannot be solved by the individual developer who is creating an impact. For example, regional transportation impact fees enable a jurisdiction to collect funds from all new development that is contributing to impacts on the regional transportation system just as an indirect source mitigation fee would fund projects that mitigate regional air quality impacts.
57. **Comment:** ISR has exaggerated, speculative emission benefits. In the purported benefits of the Plan's indirect source program are based on a rough estimate of how much money the District could amass if all future projects paid an indirect source fee to avoid mitigation requirements. Since no fee amount has yet been proposed, this calculation is speculative at best.
Response: The emission reductions are based on reasonable estimates of the potential reductions achievable from the program. The reduction estimates are based on emission reductions and cost-effectiveness of projects that the District has successfully completed through its grant and incentive programs. Details will be provided during the next phase of the rule development process.
58. **Comment:** While the District is on record that it prefers on-site mitigation of all future development, the emission reduction estimate in the Plan is not based on actual emission reductions that could be reasonably expected from on-site mitigation.
Response: On-site measures will be credited toward reducing the mitigation fee on a proposed project. The combination of on-site mitigation and off-site mitigation will be equivalent to a project that mitigated emissions solely through paying the mitigation fee. Therefore, the actual reductions will be the

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same whether developers include on-site measures in their project or pay the mitigation fee.

59. **Comment:** Due to the speculative manner in which potential emission reductions are calculated, it is doubtful that the measure in the Plan can achieve the emission reductions claimed, leading to an emission reduction shortfall. The potential emissions reduction shortfall can lead to transportation conformity problems and the inability to program federal transportation funding.
Response: The reductions are based on over a decade of experience in quantifying air quality projects funded by District grant and incentive programs and provide a reasonable estimate of the program's potential benefit. Air quality plans contain estimates of reductions that are expected from each control measure. Control measures are necessarily less detailed than rules that implement the control measures. The District commits to the total emission reductions in the plan. If a shortfall in any one measure occurs this can be made up with other rules that achieve higher emission reductions than were anticipated in the plan or by adopting other measures to achieve the needed reductions. The District works closely with the Transportation Planning Agencies to ensure that any needed changes are made in a timely manner that prevent transportation conformity problems and sanctions from occurring.
60. **Comment:** ISR fails to meet Federal Clean Air Act requirements. The measure described in the Draft Extreme Ozone Attainment Plan does not meet the Federal Clean Air Act test for surplus, quantifiable, enforceable, permanent and adequately supported reductions in air emission, as set forth in 42 U.S.C. Section 7410 (a)(2)(F).
Response: The commenter appears to have quoted an incorrect code section. The section referred to relates to stationary source monitoring and reporting requirements. The rules being developed for the indirect source program will meet all federal requirements.
61. **Comment:** The expected emissions benefits are not quantified. There is no documentation of assumptions and calculations.
Response: Air quality plans do not typically provide emission calculation documentation in the plan text. The District submits supporting documentation as needed to EPA for their review. Detailed calculations will be accomplished during the rule development process based on the content of the rule. The District will provide the calculation methods used to estimate the plan reductions with the plan submittal.
62. **Comment:** There is no discussion of whether the emissions are surplus. URBEMIS is not able to identify new trips only associated with development.
Response: The indirect source program will not overlap with existing rules. It will dovetail and compliment other rules such as Regulation VIII and with TPA commitments. Projects committed to as TCM RACM for the ozone plan will not be eligible for indirect source funds. The District is designing the program to only address new trips that would not otherwise occur and will demonstrate this during rule development.

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63. **Comment:** The proposed Indirect Source Mitigation Program does not contain an enforceable commitment. No legal nexus between the proposed mitigation requirements and fee and individual development projects has been established.
Response: The District has committed that the indirect source program will provide a clear nexus between the project's impacts and any fees collected by the program to reduce the impact. The nexus analysis cannot be completed until more program specifics have been developed. However, the impact of new development on air quality is well documented and the air quality benefits of projects being proposed to mitigate the impacts are well accepted.
64. **Comment:** There is no finding that the benefits of the proposed measures will be permanent.
Response: The proposed measures used for indirect source program will comply with all applicable federal regulations. Specific findings are not required for plan control measures.
65. **Comment:** The proposed Indirect Source Mitigation Program is not adequately supported. The Plan provides no information on the commitments from other agencies that are necessary to implement the various measures. There is no discussion regarding the availability of funding to implement the land-use activities. Likewise, there is no information that other government agencies with jurisdiction to pursue these strategies will cooperate. Finally, there is no indication that the proposed requirements have been or will be integrated into local development plans.
Response: No commitments from local agencies are needed to implement the indirect source program since the District has authority under the Health and Safety Code. Although the District encourages local agencies to participate in the indirect source program, the program is being designed to operate independently if needed. The District disagrees that there is no indication that local agencies are interested in land use changes that improve air quality. The Landscape of Choice that was prepared with the participation of the Building Industry Association and adopted by all cities in Fresno County is an excellent example of the desire to plan and build projects to minimize air emissions consistent with the goals of the indirect source program.
The August 27, 2004 comment letter also included copies of comment letters on draft rule 9510 and 3180 that were submitted in April 2004. The District is in the process of addressing all concerns voiced over the initial draft rules. The next version of the rules will incorporate suggested changes and will include a response to all comments received in writing and during the workshop process. The District has been doing the necessary research to provide a complete response and has delayed the release of the next draft to ensure that all issues are addressed before continuing the rule development process.

Comments submitted by the Kern Oil and Refining Co., August 27, 2004.

66. **Comment:** Table 3-1 indicates refinery emission levels have remained constant and are projected to do so. These levels should be changed to reflect the recently adopted NOx controls on refinery equipment and the pending Bakersfield Shell Refinery closure.
Response: Forecasted inventories for this category and others do need to be updated for future use and this is acknowledged in this plan in our discussion of what is included in the planning and modeling emission inventories that

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were used. Controls adopted and implemented by early 2002 were already included in the inventory and no additional reductions in the inventory would appear due to those controls in the period 2002-2010. Controls adopted in the latter part of 2002 or later were not in the inventory, and would not show up in the 2010 inventories for planning or modeling. These reductions that were not yet part of the inventory were taken as part of the "after-model" adjustments as described in the plan. Most of the refinery controls were effective either by 2000 and included in the inventory or were after 2002 and were taken as adjustments to the model. Therefore, the earlier reductions were accounted for in the planning and modeling inventories, and since the inventory did not include the reductions after 2002 in Table 3-1, it appears that we did not give credit for the additional controls. They were credited as "after-model" adjustments.

67. **Comment:** Table 4-1 and 4-2 Control Measures are too focused on stationary source controls. The District should acknowledge that the traditional command-and-control strategy of controlling the same stationary sources, in particular oil refineries, will not lead to attainment of the federal ambient air standards. Such facilities should be deemed Adequately Controlled and efforts must be made to look beyond the District's traditional span of control to uncontrolled stationary sources and mobile sources.
Response: The District is responsible for controlling emissions from stationary and areawide sources, so effective, economically feasible control measures on those facilities will remain one of the areas we must continue to focus on, but we have expanded controls to non-traditional types of sources in the last two plans. Staff welcomes suggestions, however, for measures that would generate emission reductions via non-traditional methods.
68. **Comment:** Table 4-1 does not list amendments to Rule 4623. During the public workshop, District staff indicated that the rule was not significant. Industry states that the changes are significant to industry.
Response: Rule 4623 is not included in Table 4-1 because the amendments are not proposed to generate significant emission reductions. Any significant impacts to industry will be examined during the rule development process.
69. **Comment:** Table 4-1 indicates the estimated emission reductions from the stationary sources. Industry comments that the total is far less than the amount required to reach attainment. They suggest that language be added to indicate that attainment cannot be reached without the mobile source reduction commitments of the USEPA and CARB.
Response: There are numerous references throughout the plan to the significant commitments that USEPA and CARB are making to mobile source emissions.
70. **Comment:** Section 4.3 lists Further Study Measures outside the typical stationary source measures pursued by the District. Industry suggests other measures could be added including:
- Gross Polluting Vehicles: More aggressive steps should be taken to identify, repair, and remove gross polluters. Make it a priority to fund the vehicle scrapping program.
 - Emissions from fires: Jointly develop forest management controls with state and federal agencies. Provide funds to fire departments to decrease response time and diminish loss of life and property.

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- Ultra-Low Sulfur Diesel (ULSD): Lobby CARB and EPA to require the train locomotives transiting the Valley use ULSD.
- Marine Vessels: Adopt rules similar to the SCAQMD for Marine Tank Vessels and Lightering Vessel Operations. Apply Carl Moyer Program funding to retrofit tugboat engines.

Energy Efficiency in new construction: Work with planning agencies to mandate renewable energy features and greater energy efficiency in new construction.

Response: The District is already involved with many of the suggested issues:

- Gross Polluting Vehicles: The District agrees with this suggestion and the plan already addresses further steps such as those suggested.
- Emissions from fires: The District currently works closely with forest management agencies to minimize impacts from proscribed and wildlife fires. Emissions from structural fires are small compared to other sources. Our understanding is that fire departments currently try to arrive at the fire as quickly as possible.
- Ultra-Low Sulfur Diesel (ULSD): The District, CARB, and others have urged the EPA to apply the ULSD standards to off-road. USEPA has already developed a schedule for those requirements.
- Marine Vessels: The Valley does not have the large marine tanker and lightering fleets common to the SCAQMD so similar rules would have minimal or no benefit. Staff is a member of the ARB cargo handling equipment regulatory working group. That group will examine inter-modal transfer sites such as ports. A tugboat at the Port of Stockton is eligible to apply under the Moyer Program for engine replacement.
- Energy Efficiency in new construction: District staff work with the various Valley planning agencies as part of the CEQA review process and recommend emission reduction possibilities for new construction projects. Building construction for energy efficiency, however, is outside the District's authority and expertise and is best left to the state and local building agencies, which currently promote green technologies such as solar cells.

Comments submitted by Dennis C. Tristao, Kings County City Representative on the Citizen's Advisory Committee, August 27, 2004.

71. **Comment:** The District should consider creating urban tree planting guidelines to facilitate the urban landscape's role in improving air quality.
Response: The District will add text to the plan regarding a measure for future study in the area of research, education and outreach regarding the role of urban landscapes and agricultural land use on ozone air quality.
72. **Comment:** The District should consider developing a horticultural biogenic emissions education program.
Response: See Number 71.
73. **Comment:** The District should consider opening up grant programs to fund programs that make landscape changes that improve air quality.
Response: See Number 71

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74. **Comment:** The District should consider an outreach program that encourages and promotes the beneficial effects of vegetation on air quality.
Response: See Number 71.
75. **Comment:** The District should consider funding additional research through CCOS on the air quality benefits of trees.
Response: See Number 71.

Comments submitted by Environment California, August 30, 2004

76. **Comment:** Can you accelerate the timeline for Rule 4702 by one year (from 2008 to 2007)?
Response: The current Rule 4702 amendment is governed by Section 40724 of the California Health and Safety Code, which calls for adoption no later than July 1, 2005. Given that this deadline is less than one year away, and that rule development is underway, accelerating the schedule for any significant time savings is not feasible. Furthermore, the compliance schedule for engines already covered by Rule 4702 is not affected by these amendments. Workshops for this rule began on August 30, 2004 (see www.valleyair.org).
77. **Comment:** The District should adopt a technology-neutral treatment for engines and turbines, with one pollution limit for both technologies that would help drive the market toward the cleanest forms of micropower.
Response: District rules address specific, existing inventories such as turbines, and not specific applications, such as micro-power generation. The District's New Source Review process, however, does consider Alternate Basic Equipment for new power generation projects and is a technology neutral review.
78. **Comment:** The Draft *Extreme OADP* references treatment for agricultural engines, something we strongly support. The turbine section refers to the CARB rule; however, the engine section does not.
Response: CARB has not adopted guidelines or rules for either agricultural engines or for compression ignition engines.

ADDENDUM
Inclusion of Prior Comments and Responses on
Photochemical Modeling

Chevron-Texaco submitted written comments on January 19, 2004 regarding preliminary photochemical modeling results shared at the January 6-7, 2004 workshops. Chevron-Texaco requested that those prior comments and responses be included with this package of comments and responses on the Draft *Extreme OADP*. Note that the photochemical modeling presented at the January 6-7, 2004 workshop is preliminary and is not the same as that used in the Draft *Extreme OADP*. Any reference to "current modeling" in these comments refer to an earlier version of the modeling.

WRITTEN COMMENTS

Chevron Texaco, January 19, 2004

1. **Comment:** The District should use modeling to examine strategy alternatives for not only the one-hour standard but also the 8-hour ozone standards. Assuming revocation of the one-hour standard in the next year or two, it is important that any strategy be effective for both.
Response: The District is focused on meeting regulatory requirements related to the 1-hour ozone attainment demonstration plan, but remains open to conducting appropriate analyses of the effects of emissions reductions on the 8-hour ozone standard where resources allow.
2. **Comment:** Due to the very real sub-regional nature of the ozone problem, the District should develop an overall strategy that takes into account sub-region differences rather than "one size fits all" approach in their plan.
Response: The District has conducted sub-regional analyses in the past. See response to Verbal Comment # 20. [This refers to Comment #20 from the January 2004 Workshop Comments and Status Report Public Review. The response to #20 is as follows: "As specified in the District's authorizing legislation, we will continue to implement control measures on a basin-wide basis. While some logic exists for implementing sub-regional control measures (as suggested above), their implementation could lead to possible disadvantages such as creation of "pollution pockets" with possible resulting environmental justice consequences." The District will investigate the issues associated with sub-regional modeling in the 8-hour SIP development effort.
3. **Comment:** If the District feels compelled to submit a plan based on modeling that demonstrates only minimally acceptable performance, the District should formally commit to revising the plan as better modeling becomes available, including revision of control measures if justified by the modeling. This would not be a mid-course correction, but a continuation of the ongoing effort.
Response: The District is focused on meeting regulatory requirements related to the federal 1-hour ozone standard, which in part call for the District to submit an ozone attainment demonstration plan to EPA no later than November 15, 2004. The best available information will be used to develop this plan; however, as better information is developed over time, it will be incorporated in future plan revisions. The District is committed to revisiting the

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federal 1-hour ozone attainment demonstration plan in 2007 (unless the standard is revoked as planned, in which case the District would focus on 8-hr ozone attainment), at which time the modeling will be repeated with new information, the emissions inventory updated, and long-term control measures identified.

4. **Comment:** As has been made clear in statements by District staff and others, the July-August 2000 episode is not a particularly good episode for planning purposes. The need for relative reduction factors to help predicted ozone levels agree with measured ozone levels, and the presence of large wildfires, create uncertainties in the viability of this episode for control program development. The District should only use the July-August 2000 episode as a fall back (and only then if the model performance can be improved), and should seriously consider other episodes such as September 2000 or July 1999.

Response: The District will base the federal 1-hour ozone attainment demonstration plan on the best available information. Data gathered during CCOS, which includes the July/August 2000 episode, will be used where possible. Due to issues such as disagreement between actual vs. predicted ozone levels and the presence of large fires in the episode, the District is examining other episodes for use in modeling to supplement the July/August 2000 episode. These alternative episodes under study include September 2000 and July 1999.

5. **Comment:** Performance of the CAMx model for the July/August 2000 episode is also of concern because the meteorology has been modified to improve results, and because even then the performance of the model is spotty in predicting ozone levels (modeling results meet EPA criteria in some subregions and do not in others). It should also be noted that the EPA performance metrics are not very stringent, and there are prior examples of modeling simulations that pass those metrics but still had identifiable and significant problems.

Response: The District strongly supports the need to analyze the results of the current modeling and identify the problems. The Technical Committee, districts and ARB are identifying and correcting issues associated with the modeling. The Technical Committee, districts and ARB are developing an overall schedule for modeling improvements and implementation. Modeling will be needed for the 8-hour SIP and the 1-hour update SIP (if needed) by September 2006.

6. **Comment:** Another modeling issue is the significant difference in shapes of the carrying capacity diagrams for Bakersfield/Edison vs. Fresno/Arvin, even though these areas are not far apart. The shapes of the Fresno/Arvin diagrams are similar to what was observed in previous SJVAB modeling exercises, and show that reductions in either VOC or NO_x emissions will lead to attainment. However, the diagrams for Bakersfield and Edison show that VOC is limiting in these areas, and the vertical pattern of the curves is substantially different than what would be expected, and also suggests that no ozone air quality improvements would result from NO_x controls in the Bakersfield area. A related issue is that the carrying capacity diagrams for Bakersfield/Edison contradict the findings of most of the previous ozone air quality data analysis for this area. This discrepancy raises a red flag with regard to model performance.

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Response: The District agrees that geographic differences in carrying capacity diagrams, as well as the departure of these new results from previous findings, warrant further study before the results are used in planning. See response to previous comment.

7. **Comment:** The carrying capacity diagrams presented at the workshop reflect the application of a relative reduction factor. When EPA developed the concept of the relative reduction factor, they assumed that application of the factor dealt with the non-linear nature of ozone formation over a small concentration range, and that this was acceptable. However, the current application is done over a much larger concentration range, and it is not clear whether the assumptions hold when doing this type of scaling. Based on some of the work done by Blanchard and Reynolds (JAWMA, Vol.53, 195 (2003)) to look at attainability of the 8-hour ozone standard in Central California, the efficiency of ozone production increases with reductions of NO_x at the lower concentrations currently predicted by the model, as compared to the higher observed concentrations. Thus, real thought should go into use of the relative reduction factor.
- Response:** Relative reduction factors were included in the preliminary modeling results presented at the workshop. The District and ARB continue to evaluate the appropriateness of using relative reduction factors for the SJVAB ozone modeling, and may decide to abandon the concept of relative reduction factors for the SJVAB ozone modeling.
8. **Comment:** Significant improvements have been made in the emissions inventory over the decade; however the recent top down analysis of the mobile source inventory for the Fresno sub-region of the modeling domain suggests that heavy-duty diesel NO_x emissions are underestimated by 60%. While top down analyses have uncertainties, an underestimate of this magnitude suggests a need to reexamine the inventory from the bottom up.
- Response:** The District and ARB recognize that a variety of uncertainties exist with respect to the emissions inventory, including the one mentioned above. The 1-hour ozone attainment demonstration plan will be developed using the best inventory available at the time. The District and ARB will work towards identifying and resolving these inventory issues in time for the 2007 update to the 1-hour ozone plan (if needed) as well as for the 8-hour plan to be developed in the same general time frame.
9. **Comment:** While the 1-hour plan is important, the District should also start looking at emissions reductions needed to attain the 8-hour standard. The work done by Reynolds and Blanchard indicates that while either VOC or NO_x might lead to reductions of the one-hour standard, NO_x reductions were much more effective in reducing 8-hour ozone (and the state one-hour ozone) standard. VOC reductions became ineffective below 100 ppb (8-hour average). Thus, the District needs to formulate a strategy that addresses both standards in an optimal fashion. To do so, it must look at the impacts on the 8-hour standard as part of this SIP.
- Response:** The District and ARB are focused on completing the 1-hour ozone attainment demonstration plan and submitting it to EPA by the deadline. Where possible, the modeling analyses will also look at the relationships between emissions rates and 8-hour ozone levels.

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10. **Comment:** The San Joaquin Valley may be a single air basin, but evidence exists of physical sub-regions within the district boundaries. At times these sub-regions may exhibit different emissions characteristics (e.g., the VOC emissions inventory fraction represented by mobile sources in Fresno vs. Bakersfield). Thus, “a one-size fits all” strategy may not always be appropriate. To prepare an effective one-hour (and 8-hour) emissions reduction strategy, the District should determine if different mixes of emissions reductions are the most effective means to address ozone concentrations in the north, central and southern sub-regions.
- Response:** As the CCOS data analyses that are now ongoing provide additional insights into ozone production and behavior in the SJVAB, the District and ARB will have an improved technical basis for identifying the existence of “sub-regions” and understanding their sources and fate of ozone pollution. At present, merely correlating emissions profiles with measured ozone levels at a particular location gives little attention to pollutant transport, which can be an important contributor; consequently, the District is reluctant to explore sub-regional controls at this time. However, the appropriate technical base may exist for the 2007 extreme plan revision and/or the 8-hour plan.
11. **Comment:** Based on currently available data, the District should minimize future rules controlling VOC emissions and instead focus on reducing NOx emissions (unless the VOC reductions are needed for attainment with the PM2.5 standard or for air toxics considerations). Otherwise, additional VOC reductions may satisfy the bookkeeping requirements for Rate of Progress plans, but be ineffective in an optimal ozone strategy that results in attainment of the 1-hour and 8-hour standards.
- Response:** Modeling results presented at the workshop, while preliminary in nature, do show that both NOx and VOC emission reductions reduce ozone levels in the SJVAB. The District will continue to pursue both VOC and NOx reductions for the 1-hour ozone plan.