ATTACHMENT E

DESIGNATION VALUES

AND

EXPECTED PEAK DAY CONCENTRATIONS

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ATTACHMENT E

DESIGNATION VALUES AND EXPECTED PEAK DAY CONCENTRATIONS

This attachment tabulates the Expected Peak Day Concentrations and Designation Values for various pollutants. The Expected Peak Day Concentration (EPDC) represents the concentration that statistically is estimated to recur once per year. In the area designation process, measured concentrations that are higher than the calculated EPDC, after the EPDC is rounded to the precision of the relevant State standard, are identified as affected by an extreme concentration event and are not considered violations of the State standards. Designation Value (DV) refers to the highest measured concentration (rounded to the precision of the relevant State standard) remaining at a given site after all measured concentrations affected by extreme concentration events are excluded. In the calculations of EPDCs, concentrations affected by exceptional events or unusual concentration events are not excluded. However, measured concentrations that are identified as affected by an exceptional event or unusual concentration event are excluded from being considered as the DV. If the highest DV within an area does not exceed the State standard, and all other criteria are met, then the area can be considered in attainment for that pollutant.

For example, if the calculated ozone EPDC for a site is 0.096 ppm, and the four highest measured concentrations are 0.125, 0.113, 0.102, and 0.094 ppm, then the DV is equal to 0.10 ppm. This is because the EPDC of 0.096 ppm would be first rounded to 0.10 ppm (consistent with the precision of the ozone standard which is two decimal places), and 0.10 ppm is the highest measured concentration equal to or lower than the rounded EPDC. The measured concentrations of 0.125 ppm (rounded to 0.13 ppm) and 0.113 ppm (rounded to 0.11 ppm) are higher than the rounded EPDC of 0.10 ppm and are excluded as extreme concentrations and are not considered as the DV.

The EPDCs and DVs listed in this attachment are based on air quality data collected during 1997 through 1999. This is the most recent three-year period for which air quality data are available and is the same three-year period used in reviewing the area designations described in the text of this staff report. The EPDCs and DVs are listed for each site in the State with appropriate data. Concentrations are listed for ozone, carbon monoxide (one-hour and eight-hour averages), nitrogen dioxide, suspended particulate matter or PM_{10}, and hydrogen sulfide. The data for sulfur dioxide, sulfates, lead, and visibility reducing particles are not presented because there were no violations of the relevant State standards or the data are insufficient for determining the appropriate EPDCs and DVs. Complete data for all pollutants, except visibility reducing particles, will be available in electronic compact-disc form, entitled, "California Ambient Air Quality Data (1980-1999)," in November 2000. To obtain a copy of the compact disc, please visit our web site at: http://www.arb.ca.gov/aqd/order/orderform.htm, or send an e-mail request to *aqdcd@arb.ca.gov*, or contact the Air Quality Data Branch at (916) 322-6076.

Because some sites listed in this attachment may not have representative or complete data, this attachment provides additional information for a review of the degree of data completeness at each site. In the tables under the heading “Valid,” a “Y” indicates that the EPDC for that site is valid, and a “N” indicates that the EPDC is not valid. The validity of the EPDC is based on the “high-day coverage” for each of the three years, also shown in the tables. The high-day coverage is the percentage of “expected high days” that are complete during the year. The expected high days are those days specific to each given site that historically have daily maximum concentrations in the top ten percent of all daily maximum concentrations, based on data for the seven years through 1999.

The tables list the high-day coverage for all years with air quality data, regardless of the level of the coverage. A zero high-day coverage indicates that some air quality data are available for that year but for less than one percent of the expected high days. A blank entry under the high-day coverage heading indicates that no air quality data are available for that year.

The EPDC is calculated using only the data for the year(s) where the high-day coverage is at least 50 percent, i.e., not necessarily using all years where a high-day coverage is shown in the table. An EPDC is not calculated, as indicated by a blank entry under the EPDC heading, if the high-day coverage is less than 50 percent for each of the three years.

A value listed under the EPDC heading does not necessarily indicate that there is a valid EPDC for that site. The calculated EPDC is considered “valid” only if the data meet one of the following three conditions: (1) if the high-day coverage is at least 75 percent for each of the three years; (2) if the high-day coverage is at least 75 percent for each of two years and the EPDC is less than or equal to 75 percent of the applicable State standard; or (3) if the high-day coverage is at least 75 percent for one year and the EPDC is less than or equal to 50 percent of the applicable State standard.

When the EPDC is not calculated or the calculated EPDC is not considered valid, the EPDC is not used in determining the DV. In these cases, the DV is simply the highest measured concentration (rounded to the precision of the relevant State standard) at the site during the specified three-year period, after excluding data affected by exceptional events and unusual concentration events, if any.

Finally, the EPDC is the same indicator that the Air Resources Board endorsed for the air pollution control and air quality management districts to use as an indicator in reporting their progress toward attainment of the State standards, as required by the Health and Safety Code sections 40924(b) and (c). The use of the EPDC is described more fully in the document titled: "Guidance for Using Air Quality-Related Indicators in Reporting Progress in Attaining the State Ambient Air Quality Standards" (Air Resources Board, September 1993).