

BOARD MEETING DATE: June 5, 2015

AGENDA NO. 27

PROPOSAL: Potential Serious Area 24-Hour PM2.5 SIP for the South Coast Air Basin

SYNOPSIS: While the long term trend of 24-hour PM2.5 in the South Coast Air Basin (Basin) supported targeting attainment of the 2006 24-hour PM2.5 National Ambient Air Quality Standards in 2015, analysis of recent (2013-2014) particulate measurements and preliminary 2015 data indicate that attainment may not occur as projected. Severe drought conditions during the late fall and winter months have impacted the frequency and number of observed high PM2.5 days that exceed the standard. Failure to attain the standard in 2015, or receive a one-year extension to 2016 from the U.S. EPA, will result in the Basin being reclassified as “serious nonattainment,” thereby requiring a Serious Area 24-hour PM2.5 SIP submittal. While the data is still preliminary, staff is proposing to include a Serious Area SIP as a component of the 2016 Air Quality Management Plan (AQMP) to be submitted to U.S. EPA only if the Basin fails to attain in 2015 or receive the extension to attain in 2016. This action is to direct staff to include a PM2.5 24-hour Serious SIP in the 2016 AQMP.

COMMITTEE: No Committee Review

RECOMMENDED ACTION:

Direct staff to include a Serious Area 24-hour PM2.5 SIP as a component of the 2016 AQMP, to be submitted to CARB and U.S. EPA in the event that the Basin fails to attain the 2006 24-hour Average PM2.5 NAAQS by 2015 or receive an extension to 2016.

Barry R. Wallerstein, D.Env.
Executive Officer

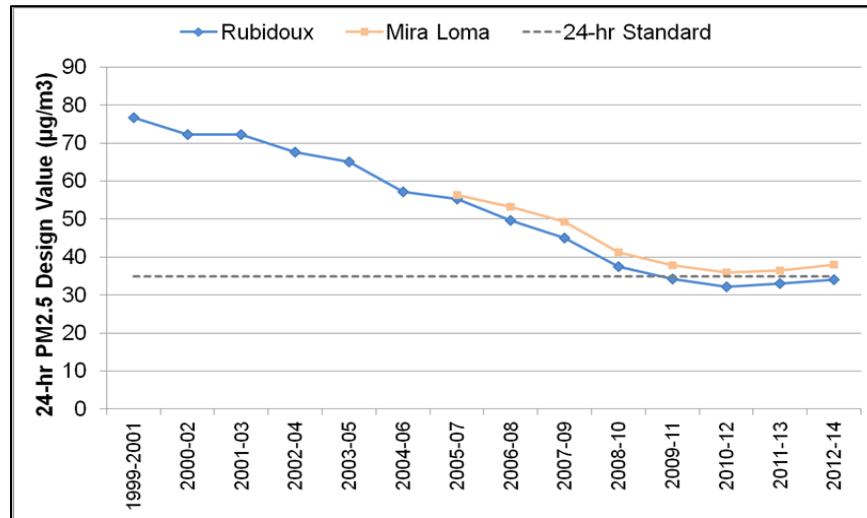
Background

At its February 2015 meeting, the Board approved the "Supplement to 24-Hour PM_{2.5} State Implementation Plan for the South Coast Air Basin" which updated the 2012 AQMP attainment demonstration for the 2006 24-hour PM_{2.5} National Ambient Air Quality Standard (NAAQS) (35 µg/m³) with an attainment date of 2015. The supplement, which was submitted to the California Air Resources Board (CARB) and U.S. Environmental Protection Agency (U.S. EPA) was in response to a court decision (Natural Res. Def. Council v. EPA, 706 F.3d 428 (D.C. Cir. 2013)) which compelled U.S. EPA to evaluate the 24-hour PM_{2.5} SIP under CAA, Title 1, Part D, Subpart 4 (hereafter "Subpart 4") requirements specific to particulate matter. Subpart 4 provides for an attainment year of 2015 for "Moderate" areas, one year later than the ongoing attainment year in the 2012 AQMP (2014). Subpart 4 requirements allow for an additional "extension" year to attain the standard (2016) provided that the single year (2015) ambient 98th percentile PM_{2.5} air quality meets the 24-hour PM_{2.5} NAAQS concentration level of 35 µg/m³. Since the supplement was approved by the Board, analysis of the final 2014 ambient PM_{2.5} air quality data indicates that the South Coast Air Basin (Basin) did not meet the 2006 24-hour PM_{2.5} NAAQS by the end of 2014. At this time, the preliminary PM_{2.5} data for the first quarter of 2015 are not promising for attainment due to the continuing extreme drought conditions that are impacting not only the Basin, but the entire western United States.

Only one monitoring location in the Basin, Mira Loma, exceeds the 24-hr PM_{2.5} NAAQS. As depicted in the graph below, Mira Loma was on course to attain the standard by 2015. The 24-hr. PM_{2.5} standard is based on the three-year average of the 98th percentile concentration. The Basin 2013 design value (based on data from 2011-2013) at Mira Loma was 36 µg/m³. The drought's impact was apparent in 2014 when higher concentrations were measured during the winter months of January and February, typically months characterized by frequent rain events and good atmospheric dispersion. Based on final 2014 data, the 98th percentile concentration (8th highest) measured at Mira Loma was 40.1 µg/m³. PM_{2.5} 24-hour average concentrations measured beyond the 98th percentile dropped precipitously such that the 10th highest reading was 35.0 µg/m³. As outlined in the supplemental submittal, the 50+ year average number of rain events in the first and 4th quarters of the year totals 28. In 2014, the drought limited the number of rain events to 8 days in the first quarter (44 percent of normal) and 10 days in fourth quarter.

Much like the winter of 2014, weather patterns in January and February 2015 shifted expected storms away from California. January of 2015 saw only one-third of the average rainfall and the number of rain events was below normal. As a consequence, cold clear nights lead to strong low-level inversions and stagnation for most of January. Preliminary PM_{2.5} 24-hour average concentrations exceeded 35 µg/m³ on 10 days during the first three weeks of the year. Since the 8th highest preliminary PM_{2.5} 24-hour average concentration has already exceeded 35 µg/m³, attainment as well as

eligibility for the extension may be impossible if the data is finalized as-is. While this data is still preliminary, staff recommends being prepared for a potential “bump-up” to the “Serious” PM_{2.5} nonattainment classification if the final data for 2015 shows failure to attain the standard. 2014 data does indicate that the Basin continued to attain the 1997 annual PM_{2.5} standard of 15 micrograms per cubic meter, and so far, preliminary 2015 data does not threaten continued attainment of that standard.



Implications of Not Attaining the 24-hour NAAQS in 2015

There are several implications for not attaining the 3-year averaged 24-hour NAAQS in 2015 and the 2015 individual year 98th percentile concentration exceeding 35 µg/m³. When data is final and if it shows that the region cannot attain by 2015 or receive an extension, U.S. EPA will change the Basin to a classification of Serious nonattainment. This action will necessitate the development of a new Serious Area SIP including an attainment demonstration, with an attainment deadline as early as practicable but not past 2019. Furthermore, the Serious classification will likely lower the New Source Review (NSR) threshold for PM_{2.5} and precursor emissions from the 100 TPY year level to 70 TPY (potential to emit) level. In addition, the Serious Area SIP will require a Best Available Control Measure/Best Available Control Technology (BACM/BACT) SIP submittal and an updated Reasonable Further Progress (RFP) analysis.

Proposal

Staff is proposing to develop a Serious Area SIP for the 24-hour PM_{2.5} NAAQS as a component of the 2016 AQMP for potential submission to U.S. EPA, if measured PM_{2.5} data shows that the region cannot attain by 2015 or be eligible for extension of attainment date. The Serious Area SIP would address the expanded requirements outlined in the “Fine Particulate Matter National Ambient Air Quality Standards: State Implementation Plan Requirements; Proposed Rule” (FR, Vol. 80, No.55, March 23, 2015), as they are finalized by U.S. EPA. The plan would also incorporate early action items as recommended by the Board at the adoption hearing for the SIP Supplement in

February 2015, including emissions reductions gained from the shave of RECLAIM NOx, and other measures that emerge from the AQMP process.

Resource Impacts

Development of a Serious Area SIP would be concurrent with the development of the 2016 AQMP. This action would require revisions to the PM2.5 attainment demonstration, NSR thresholds, RFP and a new BACT/BACM analysis. In addition, the 2016 AQMP California Environmental Quality Act and Socioeconomic analyses will require contingency analyses to be included in the event the Serious Area plan is submitted. Staff requirements are projected to be adequate to meet this objective.