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Benjamin H. Grumbles
Director

JUL 13 2009

Ms. Laura Yoshii, Acting Regional Administrator
U.S. Environmental Protection Agency, Region IX
Mail Code: ORA-1
75 Hawthorne Street
San Francisco, CA 94105

RE: Maintenance of the PM₁₀ NAAQS and Limited Maintenance Plan design values for the Bullhead City PM₁₀ maintenance area – 2004 - 2008

Dear Ms. Yoshii:

The purpose of this letter is to provide EPA 2008 monitoring data for the Bullhead City PM₁₀ maintenance area in order to:

1. Demonstrate that the area continues to meet the PM₁₀ national ambient air quality standards (NAAQS), and
2. Demonstrate that the area continues to meet the design value criteria for a Limited Maintenance Plan (LMP).

On February 7, 2002, the Arizona Department of Environmental Quality (ADEQ) submitted a LMP for the Bullhead City PM₁₀ nonattainment area and a request for redesignation to attainment. Effective August 26, 2002 (67 FR 43020; June 26, 2002), EPA redesignated Bullhead City to attainment for the 24-hour and revoked annual PM₁₀ NAAQS. As part of the LMP, ADEQ committed to monitor the area's air quality and submit annual reports to EPA regarding the air quality status of the Bullhead City area.

The accompanying analysis demonstrates that the Bullhead City PM₁₀ maintenance area continued to meet the LMP design value criteria in 2008 (see Enclosure 1). The ambient air concentrations, attached as Enclosure 2, demonstrate that the Bullhead City PM₁₀ maintenance area continued to meet the 24-hour PM₁₀ NAAQS in 2008. This analysis is based on five years of monitoring data beginning in 2004 and ending in 2008. Bullhead City continues to qualify for a LMP.

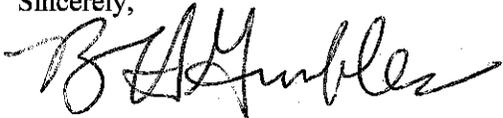
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Ms. Yoshii
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If you have any questions regarding this submittal, please contact Nancy Wrona, Director, Air Quality Division, at (602) 771-2308 or Diane L. Arnst, Air Quality Planning Section Manager, at (602) 771-2375.

Sincerely,



Benjamin H. Grumbles
Director

Enclosures (2)

cc: The Honorable Tom Sockwell, Chairman, Mohave County Board of Supervisors
The Honorable Jack Hakim, Mayor of Bullhead City
Colleen McKaughan, EPA Region IX
Wienke Tax, EPA Region IX
Susan Betts, City of Bullhead City
Ron Walker, Mohave County

**Bullhead City 2004-2008 PM₁₀ Design Values and
Demonstration for Continued Eligibility of Limited Maintenance Plan**

Arizona Department of Environmental Quality
Air Quality Division
1110 West Washington
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June 23, 2009

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Summary

EPA's *Limited Maintenance Plan (LMP) Option for Moderate PM₁₀ Nonattainment Areas* guidance requires an annual demonstration of the 24-hour PM₁₀ Design Value (DV) for each LMP area to determine if the area continues to meet the eligibility requirements for an LMP rather than a full maintenance plan.

Data from the five year period 2004-2008 were used to determine continued eligibility for the Bullhead City PM₁₀ Maintenance Area. Data from this period demonstrate that Bullhead City continued to meet EPA's 24-hour PM₁₀ Standard in 2009.

Procedure

The Air Quality System (AQS) database is checked to verify that sample data for each year of the selected period have been reported to the AQS. To satisfy EPA requirements, data completeness for each calendar quarter must be 85 percent or greater. If data completeness is between 45 percent and 85 percent for any quarter, a substitution procedure may be followed to enable use of the data for LMP compliance demonstration (see EPA's *Guideline on Exceptions to Data Requirements for Determining Attainment of the Particulate Matter Standards.*)¹

Calculations should be based on the most recent five years of monitoring data. Data from this period are then categorized into three-year periods, in this case 2004-2006, 2005-2007, and 2006-2008. To determine eligibility, data completeness for each of the three-year periods must be verified. After completeness has been verified, the highest 24-hour sample for each calendar quarter is identified. The highest sample of the four calendar quarters is then identified. Next, the highest sample for each year in the three-year period is identified. The highest of the three samples is then identified as the period's DV and selected for testing against the LMP limit, 98 ug/m³.

If the DV is equal to or less than 98 ug/m³, the maintenance area continues to qualify as an LMP. If the DV exceeds this limit, then the site-specific Critical Design Value (CDV) must be calculated (see Attachment A of the LMP guidance). If the DV is less than the CDV, the maintenance area still qualifies as an LMP.

Results

The most recent five year period of PM₁₀ data used to demonstrate continued LMP eligibility for the Bullhead City PM₁₀ Maintenance Area was 2004-2008. All data collected by ADEQ during that period were reported to the AQS database. The AQS database was checked for data completeness. The first quarter of 2005 had data completeness of 73%, requiring use of the substitution procedure. The highest value of the first quarter of 2006 was used to substitute four missing values in the first quarter of 2005.

The highest 24-hour PM₁₀ values for each three-year period are listed in Table 1. The DV for the 5-year period of record is 72 ug/m³, below the 98 ug/m³ criteria used to qualify for a LMP. Therefore, Bullhead City remained eligible for LMP status in 2008.

¹ The AQS database provides annual statistics for each year in the AQS Quick Look report. AQS does not perform substitutions or summaries for multiple years.

Table 1 PM₁₀ 24-hour Design Values for Bullhead City	
3-Year period	24-hour Max (ug/m³)
2004-2006	72
2005-2007	72
2006-2008	72
2004-2008 DV	72

References

1. EPA. *Guideline on Exceptions to Data Requirements for Determining Attainment of the Particulate Matter Standards*, 1987.
2. Chu, Shao-Hang, "Attachment A. Critical Design Value Estimation and Its Applications", EPA Memorandum: Limited Maintenance Plan Option for Moderate PM₁₀ Nonattainment Areas.

**Bullhead City 24-hour PM₁₀ Standard Design Values
 Three-Year Period Summary Statistics
 AQS # 04-015-1003 AAAD # 16365**

Year	Quarter	No. of Days in Quarter	No. of Possible Samples	No. Of Actual Samples	% Data Completeness	Average PM ₁₀ (ug/m ³)	Max 24-hr. Sample	2 nd Highest Sample	No. of Actual Exceedances	3-year Annual Average	Max 24-hr Sample in 3-Year Period		
2004-2006 Design Values													
2004	1	91	15	15	100	10.0	30	17	0				
	2	91	15	15	100	24.7	39	32	0				
	3	92	16	16	100	27.4	49	38	0				
	4	92	15	15	100	11.1	21	18	0				
	Annual		61	61	100	18.3	49	39	0				
2004-2006 Design Values													
2005	1	90	15	15	100	12.6	30	30	0				
	2	91	15	15	100	23.9	41	34	0				
	3	92	15	14	93	28.1	48	48	0				
	4	92	16	16	100	16.1	37	33	0				
	Annual		61	60	98	20.2	48	48	0				
2004-2006 Design Values													
2006	1	90	15	15	100	14.5	27	26	0				
	2	91	15	15	100	22.9	48	42	0				
	3	92	15	15	100	26.8	72	49	0				
	4	92	16	16	100	13.3	29	28	0				
	Annual		61	61	100	19.4	72	49	0				
										2004-2006 Design Value =		19	72

For Q1, 30 ug/m3 from Q1 2004 substituted for 4 missing sample values

**Bullhead City 24-hour PM₁₀ Standard Design Values
 Three-Year Period Summary Statistics
 AQS # 04-015-1003 AAAD # 16365**

Year	Quarter	No. of Days in Quarter	No. of Possible Samples	No. Of Actual Samples	% Data Completeness	Average PM ₁₀ (ug/m ³)	Max 24-hr. Sample	2nd Highest Sample	# of Actual Exceedances	3-year Annual Average	Max 24-hr. Sample in 3 Year Period
2005-2007 Design Values											
2005	1	90	15	15	100	11.8	27	27	0		
	2	91	15	15	100	23.9	41	34	0		
	3	92	15	14	93	28.1	48	48	0		
	4	92	16	16	100	16.1	37	33	0		
	Annual		61	61	60	98	20.0	48	48	0	
2006	1	90	15	15	100	14.5	27	26	0		
	2	91	15	15	100	22.9	48	42	0		
	3	92	15	15	100	26.8	72	49	0		
	4	92	16	16	100	13.3	29	28	0		
	Annual		61	61	61	100	19.4	72	49	0	
2007	1	90	15	15	100	12.1	22	19	0		
	2	91	15	15	100	25.5	52	51	0		
	3	92	15	15	100	23.9	42	37	0		
	4	92	15	14	93	19.5	37	34	0		
	Annual		60	59	59	98	20.3	52	51	0	
2005-2007 Design Value =										20	72

For Q1, 27 ug/m³ from Q1 2006 substituted for 4 missing sample values

**Bullhead City 24-hour PM₁₀ Standard Design Values
 Three-Year Period Summary Statistics
 AQS # 04-015-1003 AAAD # 16365**

Year	Quarter	No. of Days in Quarter	No. of Possible Samples	No. Of Actual Samples	% Data Completeness	Average PM ₁₀ (ug/m ³)	Max 24-hr. Sample	2nd Highest Sample	No. of Actual Exceedances	3-year Annual Average	Max 24-hr Sample in 3-Year Period
2006-2008 DESIGN VALUES											
2006	1	90	15	15	100	14.5	27	26	0		
	2	91	15	15	100	22.9	48	42	0		
	3	92	15	15	100	26.8	72	49	0		
	4	92	16	16	100	13.3	29	28	0		
	Annual		61	61	100	19.4	72	49	0		
2007	1	90	15	15	100	12.1	22	19	0		
	2	91	15	15	100	25.5	52	51	0		
	3	92	15	15	100	23.9	42	37	0		
	4	92	15	14	93	19.5	37	34	0		
	Annual		60	59	98	20.3	52	51	0		
2008	1	91	16	16	100	13.7	34	27	0		
	2	91	15	15	100	25.7	44	43	0		
	3	92	15	15	100	25.0	46	35	0		
	4	92	15	13	87	18.1	31	28	0		
	Annual		61	59	97	20.6	46	44	0		
2006-2008 Design Value =										20	72