

Clarification on Table 6-1 headings

Pollutant	Interval	Ambient Impact Statistic	Last 3 Columns statistic	Question or verification	Response
PM10 No dry	Annual	Not a design value, however is a PSD - see question	Not provided	Question - Is the ambient statistic the average of the 3 annual averages (2009 to 2011) or the highest single yearly average over the 3 years modeled	Maximum annual result averaged over three years
	24 hr	Design value - 4th highest value over 3 yr period (i.e., not to be exceeded more than once per year on average over 3 years)	3 highest values over the 3 year period (values can occur in same model year)	Verify both ambient and last 3 columns statistics	Correct
PM10 Dry	Annual	Not a design value, however is a PSD - see question	Annual average for each of the individual modeled years 2009-2011	Question - is the ambient statistic the average of the 3 annual averages (2009 - 2011) or the highest single yearly average over the 3 years modeled Verify last 3 columns statistic	Maximum annual result averaged over three years Maximum annual result in the corresponding year (note that the maximum 3-year average and each maximum 1-year average may occur at different receptors) Correct
	24 hr	Design value - 4th highest value over 3 yr period (i.e., not to be exceeded more than once per year on average over 3 years)	3 highest values over the 3 year period (values can occur in same model year)	Verify both ambient and last 3 columns statistics	Correct
PM2.5	Annual	Design value - Annual mean averaged over the 3 year period	Not provided	Verify ambient statistic	Correct (Maximum annual result averaged over three years)
	24 hr	Design value - 98th percentile, averaged over 3 years	98th percentile for each of the individual modeled years	Verify last 3 columns	Correct
NO2	Annual	Design value - Annual mean - see question	Not provided	Question - is the ambient statistic the average of the 3 annual averages (2009 to 2011) or the highest single yearly average over the 3 years modeled. Note - the design value is for a single year	Maximum average across 3 yearly values (Period average, see note 1 below)
	1 hr	Design value - 98th percentile, averaged over 3 years	98th percentile for each of the individual modeled years	Verify last 3 columns	Correct
	Annual	Not a design value, however is a PSD - see question	Not provided	Question - is the ambient statistic the average of the 3 annual averages (2009 to 2011) or the highest single yearly average over the 3 years modeled. Note - the PSD value is for a single year	Maximum average across 3 yearly values (Period average, see note 2 below)
	24 hr	Not a design value, however is a PSD - see question	Not provided	Question - is the ambient statistic the average of the 3 annual maximum values (2009 to 2011) or the highest single year maximum over the 3 years modeled. Note - the PSD value is for a single year	High 1 st high over any single calendar year
	3 hr	Design value - not to be exceeded more than once per year - see question	Not provided	Question - is the ambient statistic the average of the 3 annual maximum values (2009 to 2011), or the highest single year maximum over the 3 years modeled. Note - the design value is for a single year	High 1 st high over any single calendar year
SO2	Annual	Design value - 99th percentile of 1 hr daily maximum, averaged over 3 years	99th percentile of 1 hr daily maximum for each of the individual years modeled	Verify last 3 columns	Correct

CO	8 hr	Design value - not to be exceeded more than once per year - see question	Not provided	Question - is the ambient statistic the average of the 3 annual maximum values (2009 to 2011) or the highest single year maximum over the 3 years modeled. Note - the design value is for a single year	High 1 st high over any single calendar year
	1 hr	Design value - not to be exceeded more than once per year - see question	Not provided	Question - is the ambient statistic the average of the 3 annual maximum values (2009 to 2011) or the highest single year maximum over the 3 years modeled. Note - the design value is for a single year	High 1 st high over any single calendar year

Notes:

- For NO₂ the pollutant/averaging specification in the AERMOD control pathway provides a US EPA 1-hr NAAQS option in order to output the 98th percentile according to the 1-hour NAAQS format. In the Lakes AERMOD View software, this option is only compatible with selection of the period average (not the annual average). The period averages were therefore computed to avoid dual model runs. It should be noted, however, that the period average of 1.5 µg/m³ reported in Table 6-1 ensures that the modeled annual average would have been far below the maximum allowable annual average of 100 µg/m³ for NO₂. Assuming the model had predicted a peak annual average at the standard of 100 µg/m³. The minimum possible 3-year period average would be achieved if the annual averages for the other two years were zero. This would calculate to a minimum period average of $(100 + 0 + 0)/3 = 33.3 \mu\text{g}/\text{m}^3$, more than 20 times higher than the period average of 1.5 µg/m³ reported in Table 6-1. Therefore, by inference the annual average must be below the standard by factor of 20 or greater
- For SO₂ the pollutant/averaging specification in the AERMOD control pathway provides a US EPA 1-hr NAAQS option in order to output the 99th percentile according to the 1-hour NAAQS format. In the Lakes AERMOD View software, this option is only compatible with selection of the period average (not the annual average). The period averages were therefore computed to avoid dual model runs. It should be noted, however, that the period average of 0.2 µg/m³ reported in Table 6-1 ensures that the modeled annual average would have been far below the allowable PSD Class II increment of 20 µg/m³ for SO₂. Assuming the model had predicted a peak annual average at the standard of 20 µg/m³. The minimum possible 3-year period average at that receptor would be achieved if the annual averages for the other two years were zero. This would calculate to a period average of $(20 + 0 + 0)/3 = 6.67 \mu\text{g}/\text{m}^3$, more than 30 times higher than the period average of 0.2 µg/m³ reported in Table 6-1. Therefore, by inference the annual average must be below the PSD increment by a factor of 30 or greater.