



Ambient Air Quality Standards (NAAQS): Developments Affecting the Northwest
Or
New Fine Particle (PM_{2.5}) and Ozone Standards:
To what extent will they create new non-attainment areas in Washington?

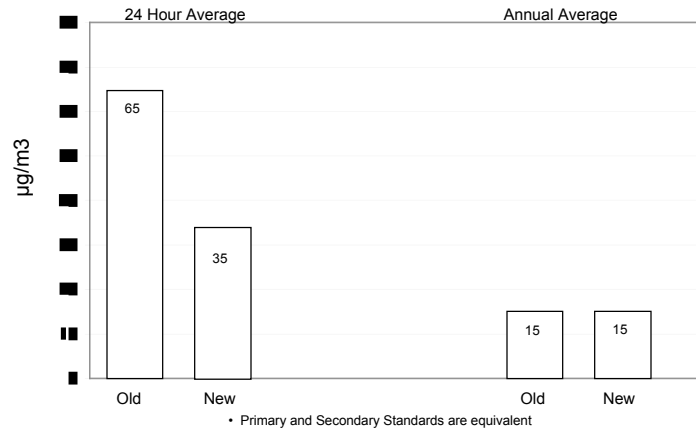


Fine Particle Standards: PM_{2.5}

- **What are the new federal PM_{2.5} standards?**
- **How are they measured?**
- **When do they go into effect?**



What Are The New Federal PM_{2.5} Standards?



How Are The New PM_{2.5} Standards Measured?

When EPA establishes a standard, EPA must define the method for monitoring compliance with the standard. The Federal Reference Method (FRM) for PM_{2.5} measures the mass (or weight) of PM_{2.5} deposited on a filter over a twenty four hour period. Only the FRM can be used to determine attainment (meets the standard) and nonattainment (fails to meet the standard).

Washington also uses “unofficial” continuous methods that give similar results to the filter-based FRM.

- Continuous monitors give both hourly levels and 24-hour averages.
- Useful for calling burn bans/air quality episodes.
- Much less expensive for investigating levels relative to the standard.



How When Do The New PM_{2.5} Standards Go Into Effect?

The revised standard went into effect on December 18, 2006.



Fine Particle Standards: PM_{2.5}

How does Washington State's air quality compare to the new standards?

What are the significant contributors to PM_{2.5} pollution in Washington State?

What are the schedule and process for responding to areas that do not meet the new standards (nonattainment areas)?



How Does WA. Air Quality Compare To The New Standards?

- *The previous $PM_{2.5}$ standard was $65 \mu\text{g}/\text{m}^3$.*
- *Washington met the previous standard everywhere we monitored.*

- *It is harder – much harder -- to meet the new standard of $35 \mu\text{g}/\text{m}^3$.*
- *For Washington, compliance primarily depends upon the interaction of winter-time inversions that trap pollution and the amount of particulate emissions.*

- *We have one area that is definitely nonattainment: Tacoma.*
- *We have several near the standard that may become nonattainment.*



What Are The Significant Contributors To $PM_{2.5}$ Pollution In WA?

Depends on place and time.

- *Woodstoves and fireplaces.*
- *Outdoor burning.*

Prescribed fires, landclearing, residential and agricultural burning may contribute substantially.



What Are The Schedule And Process For Responding To Areas That Do Not Meet The New Standards (Nonattainment Areas)?

Designation of Nonattainment Areas

- **December 18, 2007:** State must recommend nonattainment areas.
- **August 20, 2008:** EPA responds to states (if EPA has issues).
- **December 18, 2008:** EPA designates. Effective up to 120 days later. (EPA's decision)
- (Optional) Potential second round of designations if EPA does not have enough information to determine attainment status.



Development Of Clean-Up Strategies (State Implementation Plans)

- **Spring 2012:** Attainment plans due 3 years after designation.
- **Spring 2014:** Attainment of the PM_{2.5} standard

Optional Attainment Dates Possible

- The existing PM_{2.5} implementation rule gives options for meeting the standard from as expeditiously as practicable up to meeting the standard no later than Spring 2019.
- More controls and review of progress are required for plans that meet the standard more than five years after designation.



Ozone

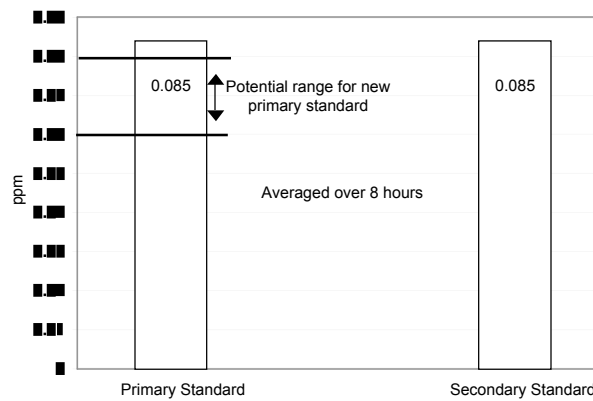
What are the current ozone standards?

What is the status of EPA's review of federal ozone standards and what is EPA proposing?

What is the schedule and process for setting a new ozone standard?



What Are The Current Ozone Standards?





What Is The Status Of EPA's Review Of The Federal Ozone Standard?

What is EPA proposing?

On June 20, 2007:

- EPA proposed primary standard between 0.070 and 0.075 ppm.
- EPA proposed two alternatives for a secondary standard to protect vegetation.
 - First, a cumulative standard based on ozone measurements between 8 am and 8 pm on the three consecutive calendar months with the highest cumulative ozone values.
 - Second, the usual approach – a secondary standard that is the same as the health based primary standard.



What Is The Status Of EPA's Review?

- EPA asked for comments on setting the primary health standard between 0.060 and 0.080 ppm. Comment period closed **October 9, 2007**
- EPA could set a final standard anywhere between 0.060 and 0.080 ppm.
- No matter where EPA sets the standard, it will be more stringent because the current standard of 0.08 ppm allows concentrations up to 0.085 ppm before it counts toward a violation.
- EPA's Clean Air Scientific Advisory Committee (CASAC) found that the current standard does not protect public health.
- CASAC recommended a standard between 0.060 and 0.070 ppm specified to the thousandth place.
- CASAC is established by the Clean Air Act to advise EPA on setting standards.
- Under a consent decree, **EPA must issue** final primary and secondary **standards** by **March 12, 2008**.



What Is The Schedule And Process For Setting A New Ozone Standard?

March 12, 2008: EPA adopts new standards

March 2009: States propose designations

March 2010: EPA designates nonattainment areas

March 2013? State Implementation Plans due.

March 2015? Attainment deadline.



How Does Washington State Air Quality Compare To The Current And Proposed Ozone Standards?

- Washington State meets the current standard of 0.08 ppm.
- Ozone in Washington depends upon the amount of pollutants being emitted and temperatures warm enough (90s) for ozone formation.
- Two areas may exceed a standard of 0.070 ppm (the bottom of EPA's proposed range): Central Puget Sound and Spokane.
- By the time of designations, none - 1 - 2 - 3???



What Are The Significant Contributors To Ozone Pollution In Washington?

Volatile Organic Compounds From:

- On-road vehicles – cars, trucks, buses.
- Non-road engines – marine, construction, rail.
- Industrial and commercial processes.

Nitrogen Oxides From:

- On-road engines.
- Non-road engines.
- Industrial combustion.



Other Pollutants

What are they?

What is underway or being considered regarding ambient standards for these pollutants?



What Are The Other Pollutants?

- Lead
- Nitrogen dioxide
- Sulfur dioxide
- Carbon monoxide



What Is Underway Or Being Considered Regarding Ambient Standards For These Pollutants?

- EPA is currently working on reviews of nitrogen dioxide, sulfur dioxide, and lead.
- First up is lead.



Lead Proposed Schedule And Findings

- **November 2007:** EPA staff paper and advanced notice of proposed rulemaking
- **March 2008:** Proposed lead standard
- **September 2008:** Final lead standard

Current thinking on level of new standard

- CASAC has found the lead standard should be substantially lowered to protect the health of children and adult populations.
- The current lead standard is 1.5 µg/m³. (Quarterly average)
- CASAC recommends a lead standard of 0.2 µg/m³ or less along with a change to monthly instead of quarterly averaging.
- While current monitoring is focused exclusively on point sources of lead, the major source would likely be resuspended road dust if the CASAC recommendation were adopted.



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