

Proposed National Ambient Air Quality Standard (NAAQS) for Fine Particulate Matter (PM_{2.5})

Mark Leath, Air Quality Planning Section

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MISSOURI
DEPARTMENT OF
NATURAL RESOURCES

Overview

- The proposed primary standards for PM
- The proposed secondary standard for $PM_{2.5}$
- Near-Roadway Monitoring Requirements
- Current monitoring values for Missouri and East St. Louis
- Implementation Timelines and Issues

Particulate Matter (PM) Primary NAAQS

PM₁₀

- Typical PM₁₀ sources:
 - agriculture (tilling), quarries, unpaved roads
- Currently one standard:
 - 24-hour (150 µg/m³)
- Proposal
 - Retain the current standard

PM_{2.5}

- Typical PM_{2.5} sources:
 - Industrial sources (power plants), open/residential burning, vehicles
- Currently two standards:
 - 24-hour (35 µg/m³)
 - Annual (15 µg/m³)
- Proposal
 - Retain the current 24-hour standard
 - Lower the annual standard:
Proposed range: 12 – 13 µg/m³

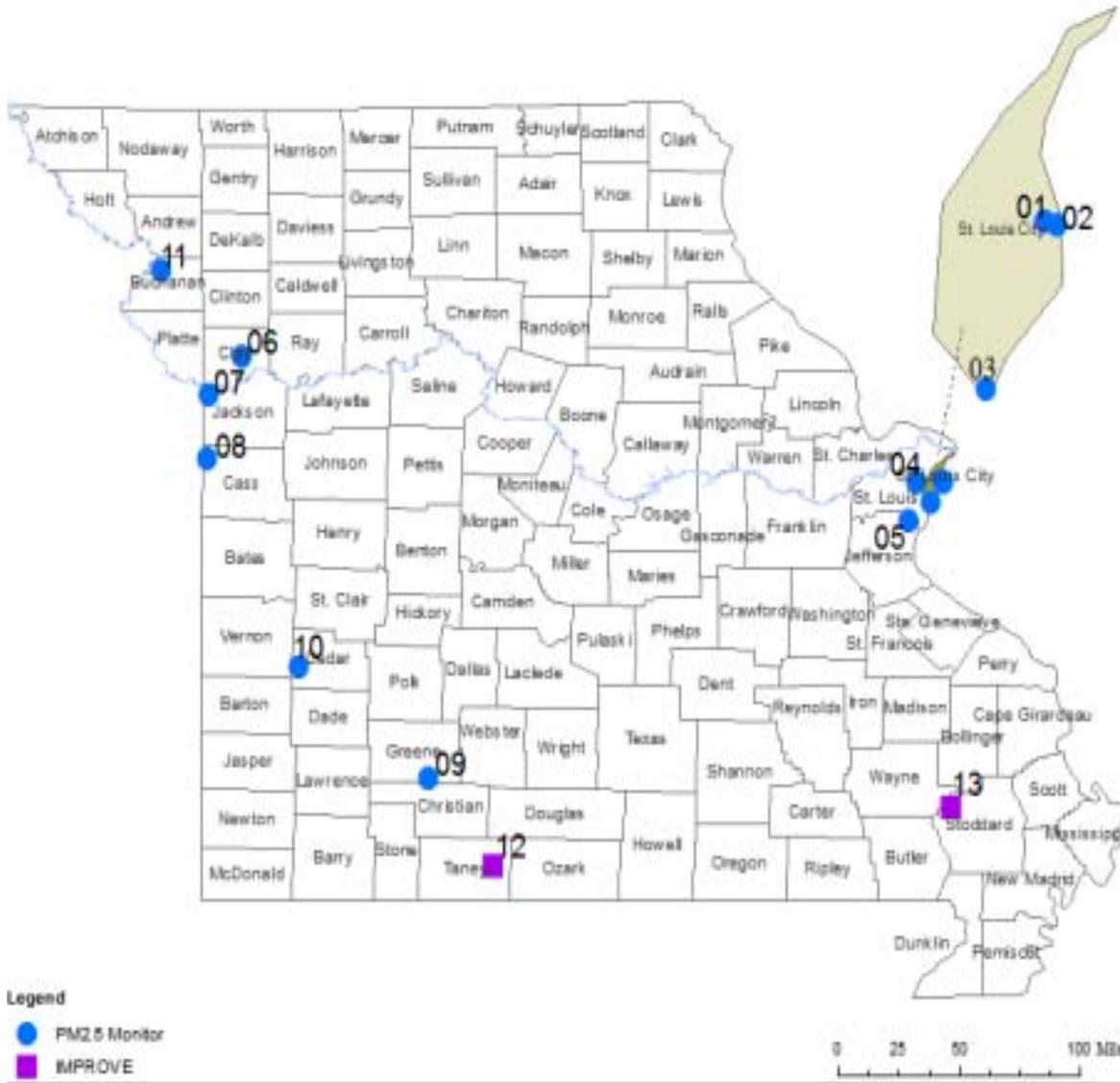
Proposed Secondary PM_{2.5} NAAQS

- Based on visibility (measured in deciviews)
- Deciviews are calculated using relative humidity and PM_{2.5} speciation data
- The proposed rule includes two options for the standard: 28 or 30 deciviews
- Design value is determined by the annual 90th percentile of 24-hour values averaged over 3 years

Near Roadway Monitoring

- Similar to the recent Carbon Monoxide and Nitrogen Dioxide monitoring requirements
- States with metropolitan areas with greater than 1 million population will be required to have one near roadway monitor

Missouri PM_{2.5} Monitoring Network



St. Louis Area

- 01 Blair Street
- 02 Branch Street *
- 03 South Broadway
- 04 Ladue
- 05 Arnold

* Note: Middle scale monitor not to be compared to the Annual PM_{2.5} NAAQS

Kansas City Area

- 06 Liberty
- 07 Troost
- 08 Richard Gebaur-South

Springfield Area

- 09 Missouri State University

Outstate Area

- 10 El Dorado Springs
- 11 St. Joseph Pump Station
- 12 Hercules Glades **
- 13 Mingo **

** Note: IMPROVE Sites (visibility index)

Kansas City, Springfield and Outstate Missouri 2009 – 2011 Design Values

Area	Monitor	2009 – 2011 Design Value
Kansas City	Liberty	9.5 $\mu\text{g}/\text{m}^3$
Kansas City	Troost	10.5 $\mu\text{g}/\text{m}^3$
Kansas City	Richard Gebaur-South	10.2 $\mu\text{g}/\text{m}^3$
Springfield	Missouri State University	10.1 $\mu\text{g}/\text{m}^3$
Outstate	El Dorado Springs	10.8 $\mu\text{g}/\text{m}^3$
Outstate	St. Joseph Pump Station	11.1 $\mu\text{g}/\text{m}^3$

St. Louis Area PM_{2.5} Annual Design Values (Missouri and Illinois)

State	Monitor	2008 – 2010 Design Value	2009 – 2011 Design Value
Missouri	Blair Street	12.3 µg/m ³	12.0 µg/m ³
Missouri	South Broadway	12.3 µg/m ³	12.0 µg/m ³
Missouri	Ladue	*	11.0 µg/m ³
Missouri	Arnold West	10.8 µg/m ³	10.3 µg/m ³
Illinois	Alton	12.0 µg/m ³	11.3 µg/m ³
Illinois	Wood River	11.7 µg/m ³	11.5 µg/m ³
Illinois	Granite City	13.8 µg/m ³	13.0 µg/m ³
Illinois	Gateway	13.5 µg/m ³	13.5 µg/m ³
Illinois	East St. Louis	12.4 µg/m ³	12.5 µg/m ³
Illinois	Swansea	12.4 µg/m ³	**

* Note: Ladue Monitor had less than one full year of data in 2008.

** Note: Swansea monitor was discontinued in 2011.

Missouri's Visibility Indexes

(Proposed Secondary Standard: 28 or 30 deciviews)

County	Visibility Index (deciviews)
Cedar	22
Clay	24
Jefferson	25
St. Louis City	27
Stoddard	23
Taney	22

Based on EPA estimates calculated with speciation data obtained from PM samplers in Missouri from 2008 - 2010

Implementation Timelines

- The final rule is expected to be published by December 14, 2012 (court ordered deadline)
- States get one year to submit designation recommendations to EPA (December 2013)
- EPA finalizes designations December 2014
- Nonattainment area SIPs would be due December 2017

Issues/Key Points

- Area designations will be based on either 2010 – 2012 or 2011 – 2013 monitoring data.
- The highest two design values for Missouri monitors are located in the St. Louis area ($12.0 \mu\text{g}/\text{m}^3$)
- Illinois has two monitors with design values at $13.0 \mu\text{g}/\text{m}^3$ or above and one at $12.5 \mu\text{g}/\text{m}^3$
- If EPA determines that Missouri sources have a significant impact on the violating monitors in Illinois, Missouri counties could also be designated nonattainment even if no monitors in Missouri are violating.

Questions?????