

**Clean Air Act Advisory Committee**  
**July 15, 2010**



**Implementation of Revised  
National Ambient Air Quality  
Standards**

**Ozone / Nitrogen Dioxide / Sulfur Dioxide**

# NAAQS Revision Schedule

---

- **NAAQS: EPA must establish NAAQS for pollutants considered harmful to public health and welfare / environment (CAA §108)**
  - NAAQS limit allowable pollutant concentration in ambient air (the air we breathe)
- **EPA is required to review and, as necessary, revise each NAAQS every 5 years (CAA §109)**

# Anticipated NAAQS Revision Milestones

Pollutant	NAAQS Promulgated	Gov. Designation	EPA Designation	SIPs Due	Attainment Demo	Attainment Date
Pb	10 / 2008	10 / 2009	6 / 2011	10 / 2011	6 / 2012	11 / 2015
NO <sub>2</sub>	1 / 2010	1 / 2011	2 / 2012	1 / 2013	8 / 2013	2 / 2017
SO <sub>2</sub>	6 / 2010	6 / 2011	7 / 2012	6 / 2013	1 / 2014	7 / 2017
O <sub>3</sub>	8 / 2010	1 / 2011	8 / 2011	8 / 2013	12 / 2013	12 / 2017
CO	5 / 2011	5 / 2012	6 / 2013	5 / 2014	12 / 2014	5 / 2018
PM <sub>2.5</sub>	7 / 2011	7 / 2012	8 / 2013	7 / 2014	8 / 2016	8 / 2018
NO <sub>2</sub> (secondary)	3 / 2012	3 / 2013	4 / 2014	3 / 2015	10 / 2015	N / A
SO <sub>2</sub> (secondary)	3 / 2012	3/2013	4 / 2014	3 / 2015	10 / 2015	N / A

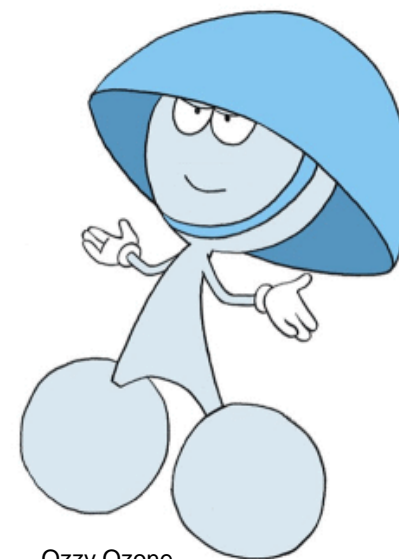
Current and/or very near-term implementation issues

Source: Bill Harnett USEPA

# Proposed Primary Ozone (O<sub>3</sub>) NAAQS Revision

---

- **Current O<sub>3</sub> NAAQS (2008):**
  - 75 parts per billion (ppb)
- **Proposed NAAQS Revision:**
  - Between 60-70 ppb
  - Final rule August, 2010

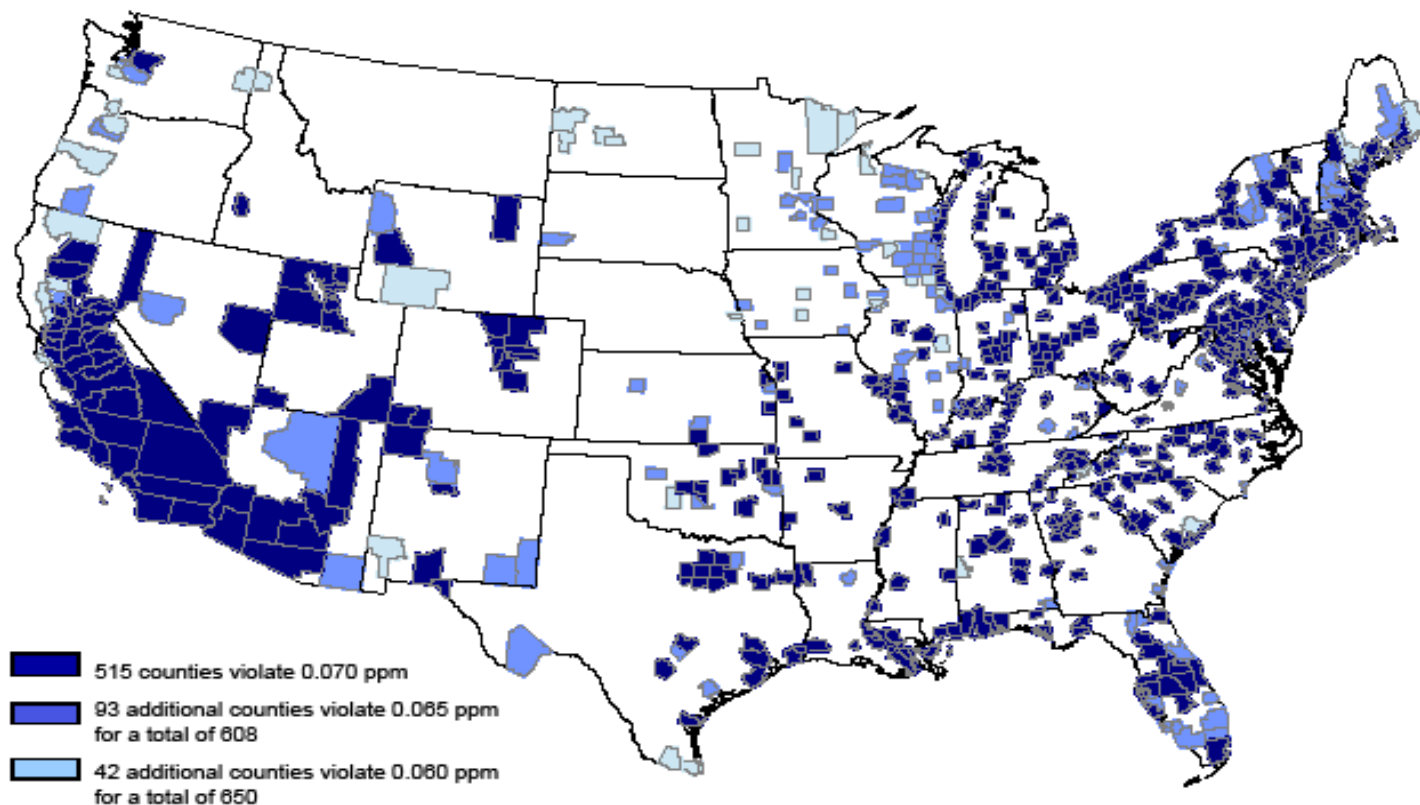


Ozzy Ozone

## Counties With Monitors Violating Proposed Primary 8-hour Ground-level Ozone Standards 0.060 - 0.070 parts per million

(Based on 2006 - 2008 Air Quality Data)

EPA will not designate areas as nonattainment on these data, but likely on 2008 - 2010 data which are expected to show improved air quality.



### Notes:

1. No monitored counties outside the continental U.S. violate.
2. EPA is proposing to determine compliance with a revised primary ozone standard by rounding the 3-year average to three decimal places.

# Where Do We Stand? Montana Monitored O<sub>3</sub> Concentrations

<b>Monitoring Station/Years Monitored</b>	<b>Monitored Concentration (ppb)</b>	<b>Proposed NAAQS (ppb)</b>	<b>Anticipated NAAQS Designation</b>
<b>Billings 2005-2007</b>	<b>59</b>	<b>60-70</b>	<b>Attainment</b>
<b>Missoula 2001-2002</b>	<b>56*</b>	<b>60-70</b>	<b>Unclassifiable</b>
<b>Sidney 2009</b>	<b>58*</b>	<b>60-70</b>	<b>Unclassifiable</b>
<b>Glacier NP 2007-2009</b>	<b>57</b>	<b>60-70</b>	<b>Attainment</b>

\* Represents incomplete Design Value (3-yr rolling avg of the annual 4th highest 8-hour average). Design Value used to determine NAAQS compliance status.

# Impact of Revised O<sub>3</sub> NAAQS?

## ■ State Implementation Plan / Designations

- All MT Counties Attainment and/or Unclassifiable?
  - Department/Industry opportunity to work together/maintain NAAQS
  - Maintain existing state regulatory oversight

## ■ Monitoring

- 2 to 3 new monitoring sites?
  - All MSAs (50-350K population) – Missoula, Great Falls, Billings
  - Non-Urban Monitoring Sites – Glacier NP, Micropolitan (<50K pop.)
  - Special purpose – NCore, Broadus, Birney, Sidney

## ■ Industry / Permitted Source Impacts

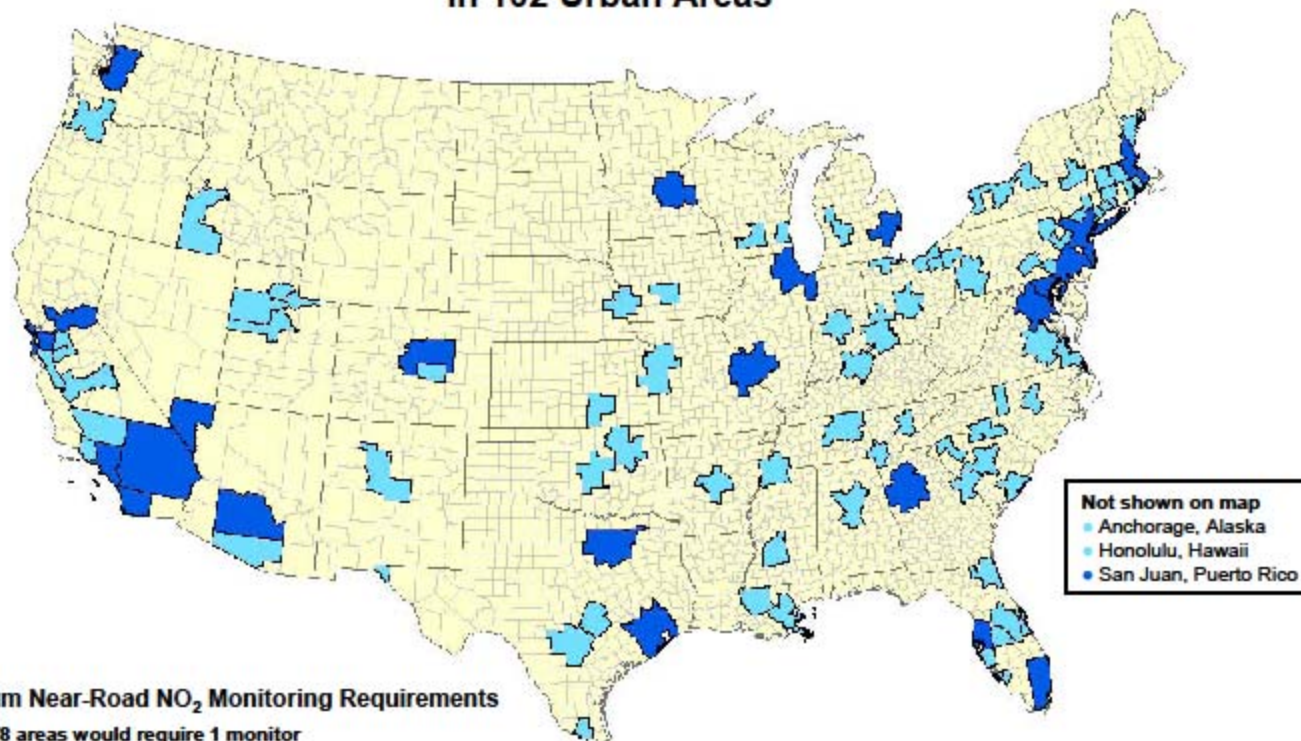
- Permitted sources must demonstrate compliance with the NAAQS in order to obtain a permit
- Highly complex modeling demonstration
- Registration Program applicability in NAA?

# NO<sub>2</sub> Primary NAAQS Revision

- New 1-hr NAAQS = 100 ppb
- Annual NAAQS = 53 ppb
- Final Rule January 2010



## EPA Plans to Monitor NO<sub>2</sub> Concentrations Near Roads in 102 Urban Areas



### Minimum Near-Road NO<sub>2</sub> Monitoring Requirements

- ◆ 78 areas would require 1 monitor  
(≥ 500,000 population)
- ◆ 24 areas would require 2 monitors  
(≥ 2.5 million population or road segments with annual average daily traffic counts ≥ 250,000 vehicles)

126 total monitors

*Approximately 40 additional monitors will be placed in locations to help protect communities that are susceptible and vulnerable to NO<sub>2</sub>-related health effects*



# Impact of Revised NO<sub>2</sub> NAAQS?

## ■ State Implementation Plan / Designations

- Designations: Attainment or Unclassifiable all Counties?

## ■ Monitoring

- No monitoring required under revised NAAQS.
- O&G development concerns / BLM (Broadus, Birney, Sidney)
- NCORE (40 CFR 58)

## ■ Industry / Permitted Source Impacts

- Montana existing 1-hr NO<sub>2</sub> NAAQS
- New standard more stringent
- Major and minor permitted sources must demonstrate compliance with the NAAQS in order to obtain a permit (AERMOD)
- Need interim approach for defining significant impact levels (SILs) and increments
- Evaluating modeling guidance for minor sources
- Registration program rule change for 1-hr limits?

# SO<sub>2</sub> Primary NAAQS Revision

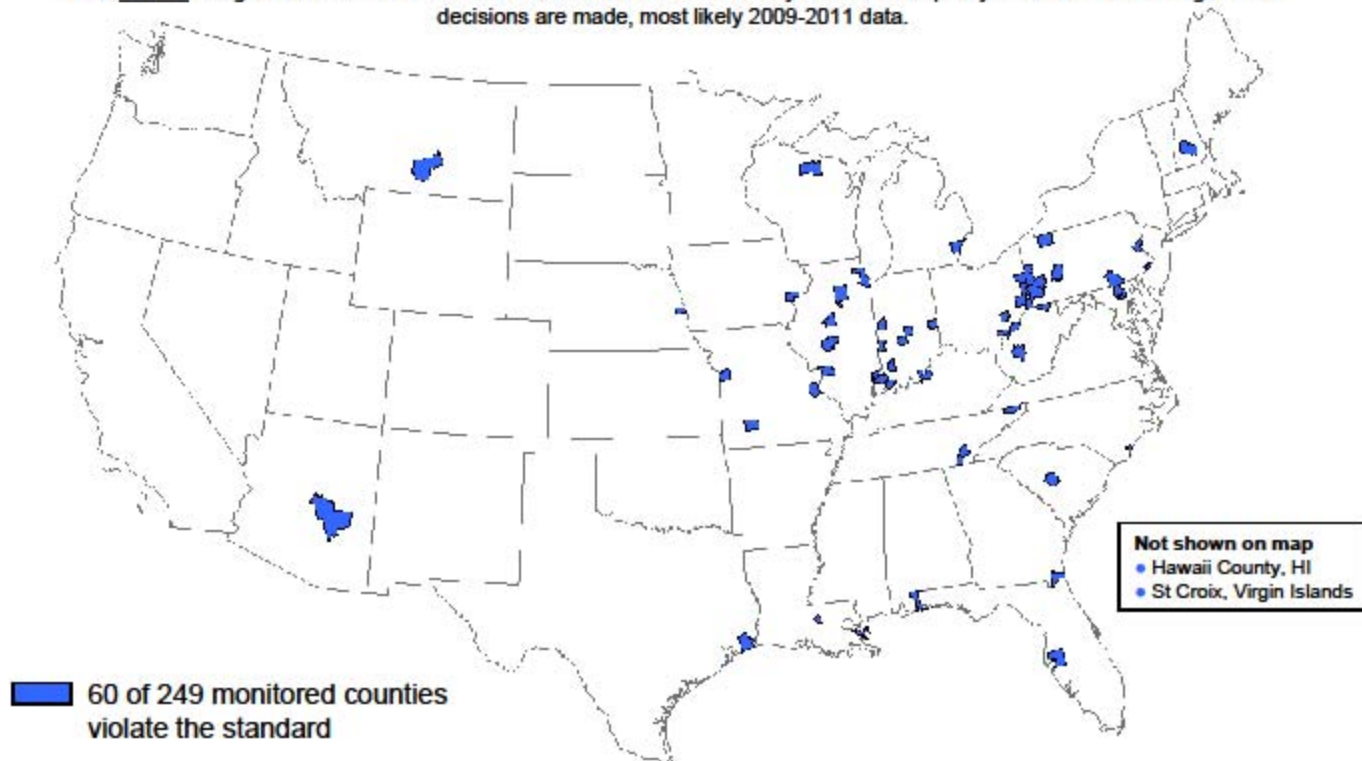
- **New 1-hr NAAQS = 75 ppb**
  - Final Rule June 2, 2010
  - Effective August 21, 2010
- **3-hr NAAQS = 500 ppb**
- **24-hr NAAQS = 140 ppb**
  - Repealed under current action
  - Applies in existing NAA
- **Annual NAAQS = 30 ppb**
  - Repealed under current action
  - Applies in existing NAA



## Counties With Monitors Currently Violating the Revised Primary 1-Hour Sulfur Dioxide (SO<sub>2</sub>) Standard of 75 ppb

(Based on 2007 – 2009 Air Quality Data)

EPA **will not** designate areas based on these data but will use the currently available air quality data at the time designations decisions are made, most likely 2009-2011 data.



### Notes:

1. Data are shown for monitors that met the following criteria: 75% of the day has valid hourly values, 75% of the days in a quarter are valid, and all 4 quarters for each of the three years are valid as well as other applicable data handling conventions included in 40CFR50 Appendix T.



# Impact of Revised SO<sub>2</sub> NAAQS?

## ■ State Implementation Plan / Designations

### □ **Attainment: Requirements to designate**

- Monitoring data, enforceable emission limits, modeled compliance

### □ **Nonattainment: Yellowstone County?**

- SIP / Control Plans due early 2014
- Modeling / Source Apportionment
- Monitoring / High Impact
- SIP / Control Plan Development
- Meetings, meetings, meetings w/industry & other stakeholders

### □ **Unclassifiable: Counties with Sources > 100 tpy PTE?**

- Maintenance SIP due June 2013
- Modeling demonstration (AERMOD)
- Enforceable emission limits for 100 tpy sources
- Rosebud (Colstrip), Richland (MDU - Lewis & Clark), Cascade (MRC), Jefferson County (Ash Grove), Others?

# Impact of Revised SO<sub>2</sub> NAAQS (Continued)?

- **Unclassifiable: All Other Montana Counties?**

- 110(a) SIP adequacy demonstration due June, 2013
- Maintenance SIPs?

- **Monitoring**

- No additional monitor siting requirements / nonattainment area monitors
- Report hourly average and maximum 5-minute block average each hour
  - Begin reporting hourly 5-minute max concentration (9/2010?)

- **Industry / Permitted Source Impacts**

- Montana existing 1-hr SO<sub>2</sub> NAAQS
- New standard more stringent
- Major and minor permitted sources must demonstrate compliance with the NAAQS in order to obtain a permit (AERMOD)
- Nonattainment and Maintenance SIP requirement. Title V permits must include enforceable emission limits showing modeled compliance with NAAQS
- Registration program rule change for 1-hr limits?



# SO<sub>2</sub> NAAQS Path Forward

---

- **Near-Term Objectives / Activities (2010-2011)**
  - Technical evaluation / modeling demo (Yellowstone County & Unclassifiable Areas)
  - Governor designations / NAA boundary recommendations
  
- **Mid-Term Objectives / Activities (2012-2014)**
  - EPA designations
  - Board of Environmental Review
  - Maintenance and NAA SIP development
  
- **Overall Long-Term Objectives / Activities (2010-2017)**
  - Maintenance and NAA SIP Implementation
  - NAAQS attainment demonstration

# NAAQS Revisions On the Horizon

---

- **CO** – NAAQS Promulgation May, 2011
- **PM<sub>2.5</sub>** - NAAQS Promulgation July, 2011
- **NO<sub>2</sub> / SO<sub>2</sub>** – Secondary NAAQS Promulgation March, 2011

**M. Eric Merchant**  
**Air Policy and Planning Supervisor**  
**Air Resources Management Bureau**  
**Department of Environmental Quality**  
**(406) 444-1457**  
[emerchant@mt.gov](mailto:emerchant@mt.gov)

