

# ***Welcome to CAAAC, Thanks for Attending!!***

**Welcome and Introductions**

**CAAAC Member Survey Results**

**Regulatory Update**

**Billings SO<sub>2</sub> Redesignation: What Happened, What's Next?**

**---- Break ----**

**Ozone Research Project**

**Looking Forward into our Big Sky**

**Questions and Feedback**



# Welcome!!

- **Montana's Clean Air**

*"Big Sky Country"*

- **Responsibility Partnership**

*Facilitated through...*

- **Engagement**

*Represented here at CAAAC*



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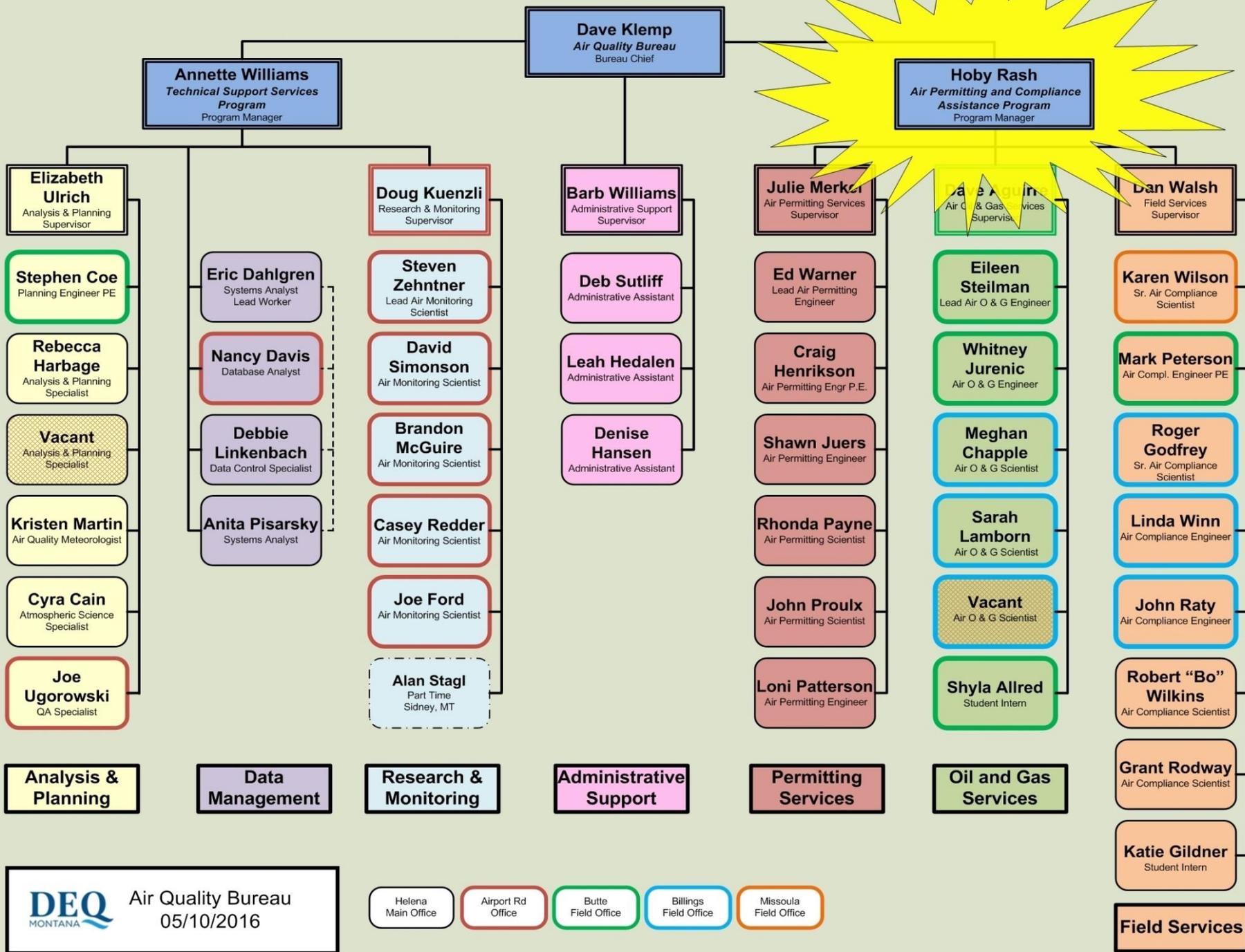
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(Best results might be achieved by using a browser other than MS I.E.)



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MONTANA 05/23/2016

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- Airport Rd Office
- Butte Field Office
- Billings Field Office
- Missoula Field Office

***Please Introduce  
Yourself...***



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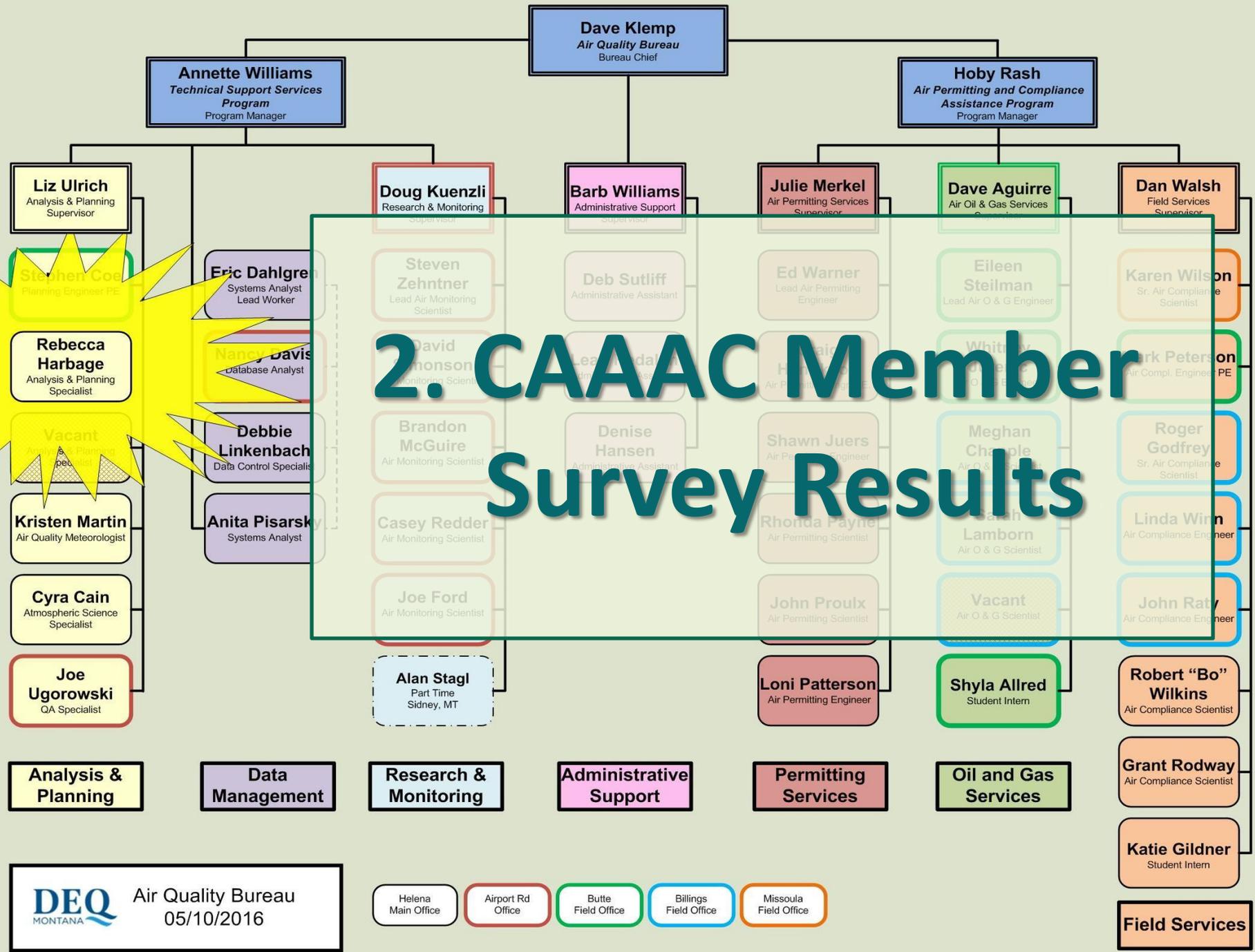
**---- Break ----**

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**Looking Forward into our Big Sky**

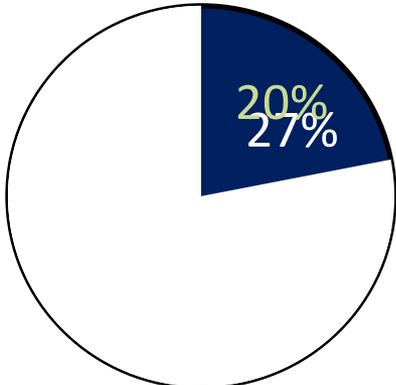
**Member Questions and Feedback**



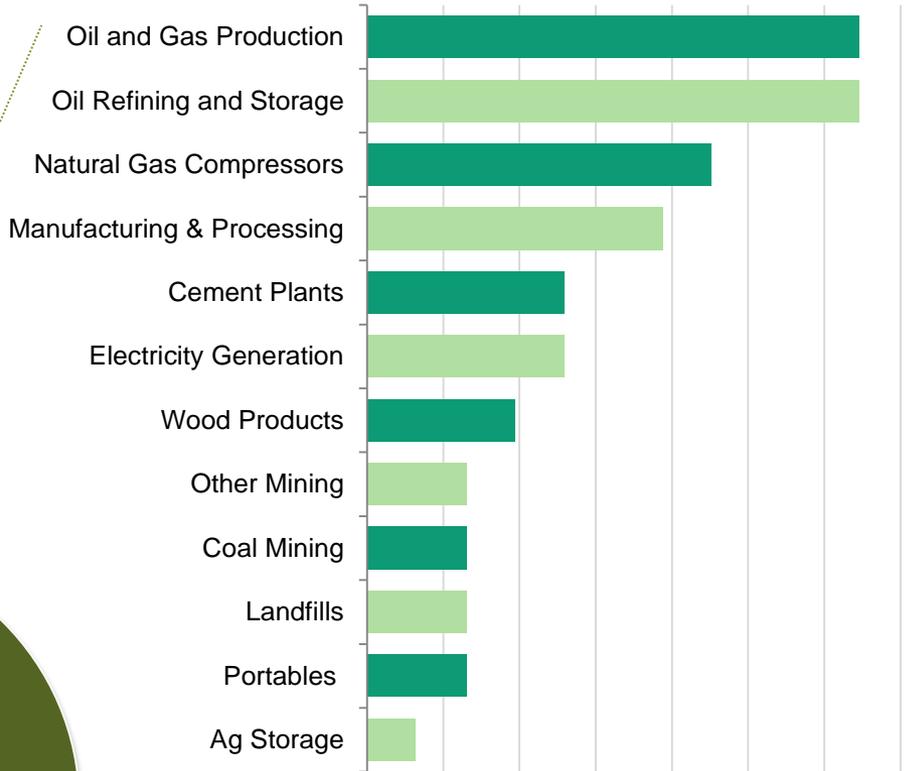
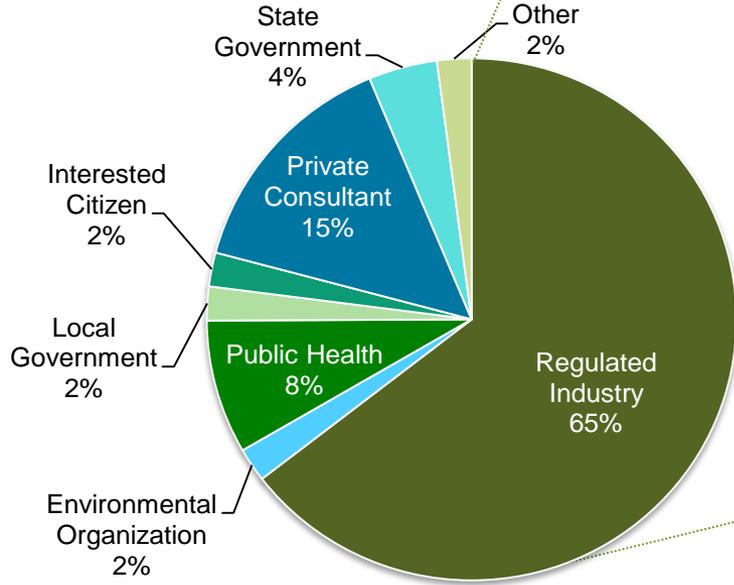


# 2. CAAAC Member Survey Results

# Who Responded?



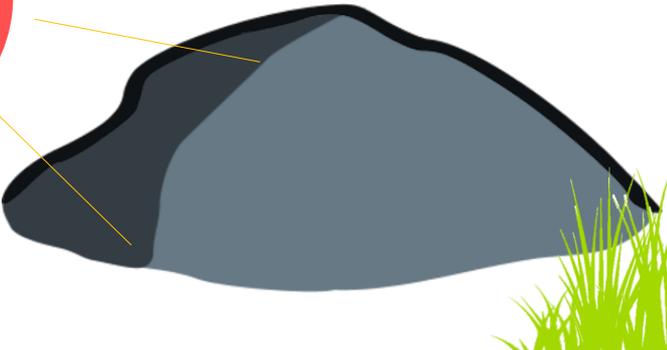
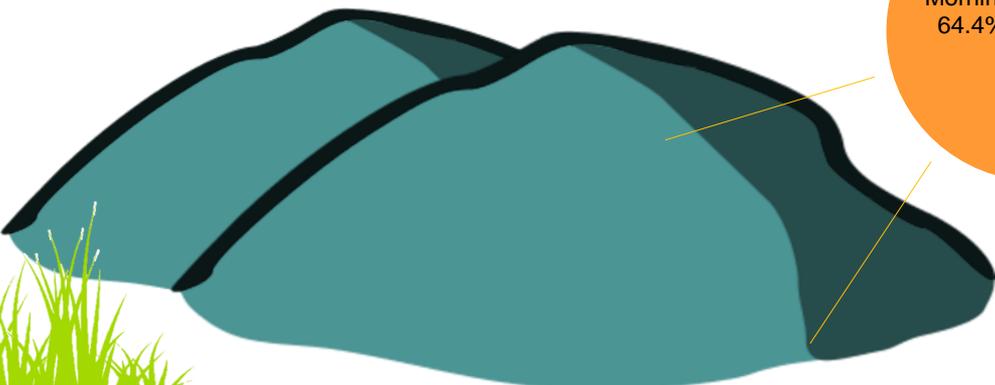
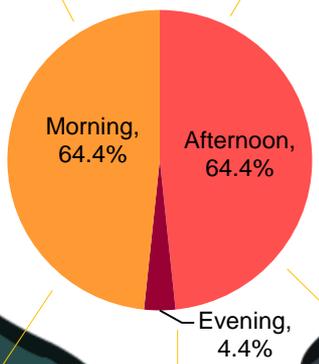
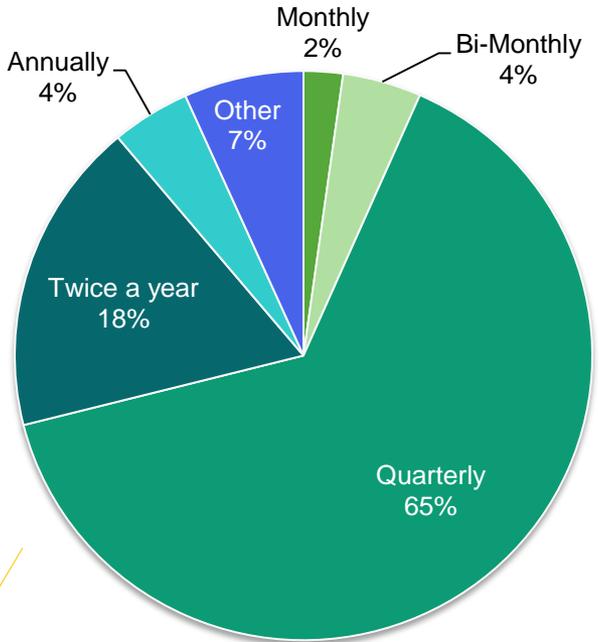
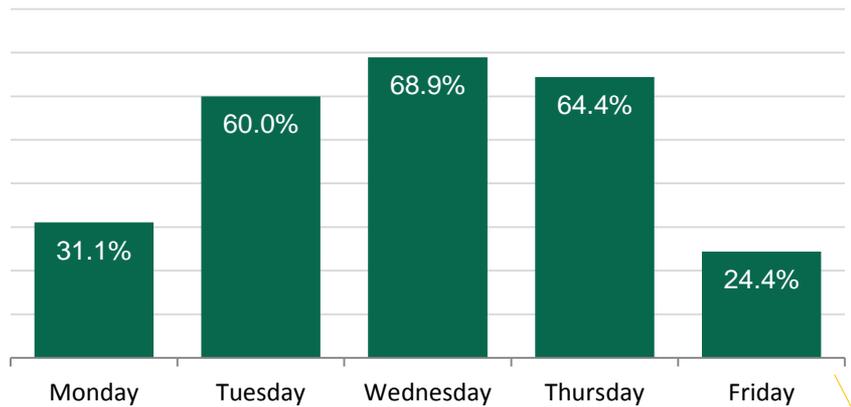
44 Complete Responses



# What did we Learn?



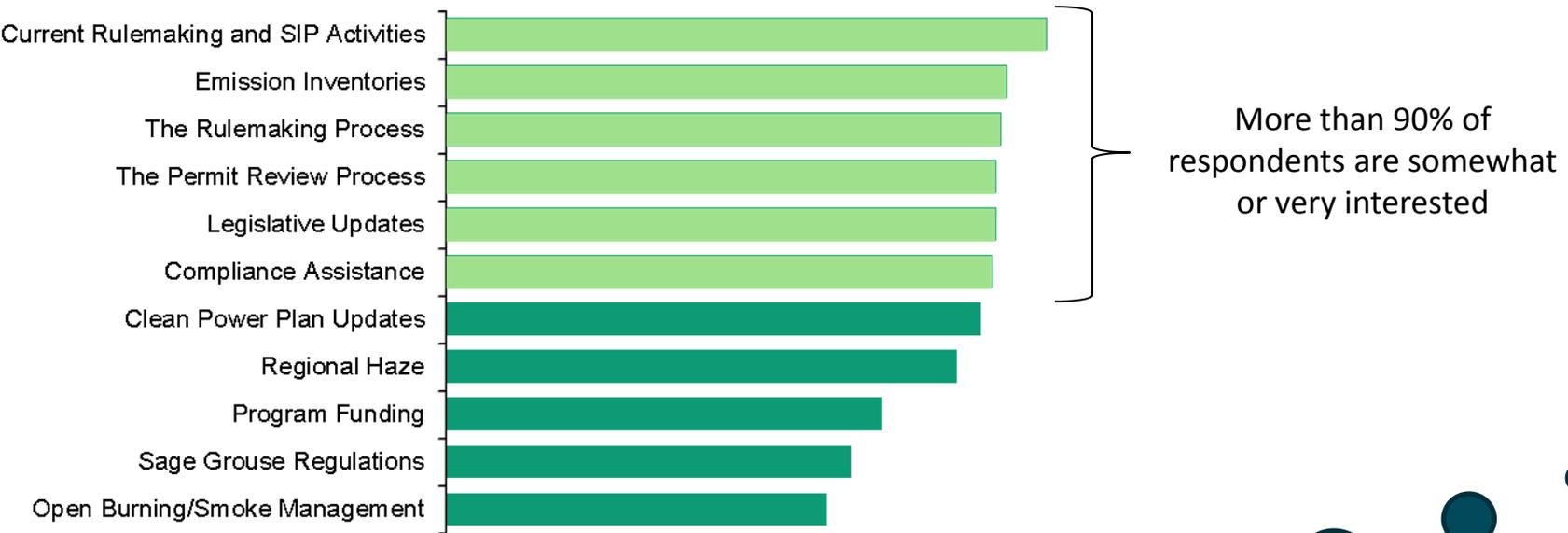
# What did we Learn?



# What did we Learn?



# What did we Learn?



Upcoming Regulations

Registration vs. Permitting

NAAAQS Implementation

Title V of the Clean Air Act

Compressor Stations

Methane Regulation

Voluntary Source Testing

Flaring

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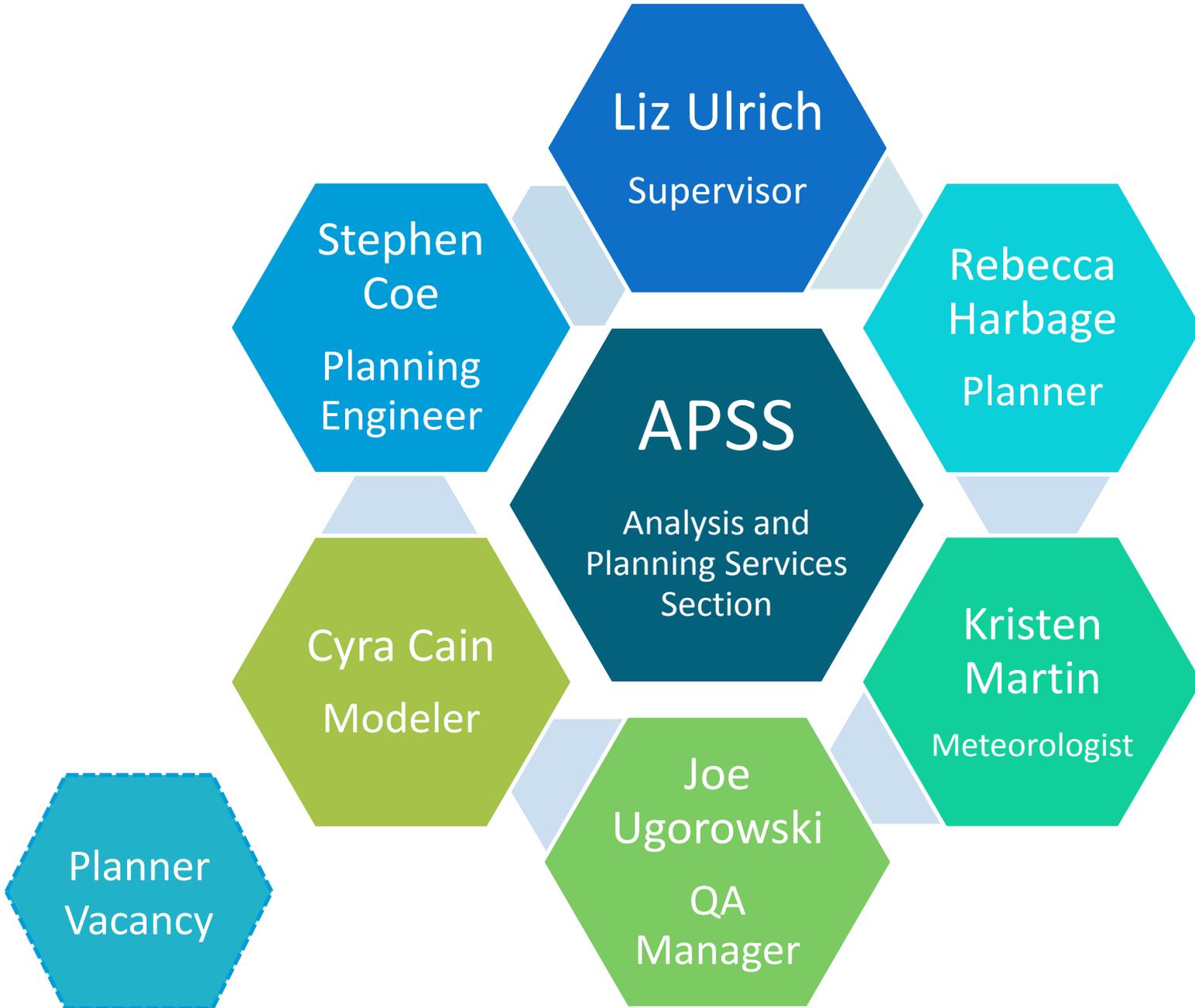
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# Regulatory Update

## Board of Environmental Review Meeting Dates

June 3

August 5

September 30

December 9

### Upcoming Rule Activity

#### June 3<sup>rd</sup> Meeting

- Initiate - 2015 Incorporation by Reference (IBR)
- Adopt - Permit Appeals Rule

#### August 5<sup>th</sup> Meeting

- Adopt – PM2.5 SMC Revision

#### September 30<sup>th</sup> Meeting

- Adopt – 2015 IBR



# Regulatory Update

## State Implementation Plan (SIP) & National Ambient Air Quality Standards (NAAQS) Activity

### Startup Shutdown & Malfunction SIP Call

- ARM 17.8.334 = emission standards for existing aluminum plants during startup and shutdown
- Rule has been repealed, now in process of removing from SIP

### 2015 Ozone NAAQS Implementation

- Initial designations due October 1, 2016



# Regulatory Update

## What Else is Happening?



SO<sub>2</sub> Redesignation



Wildfires



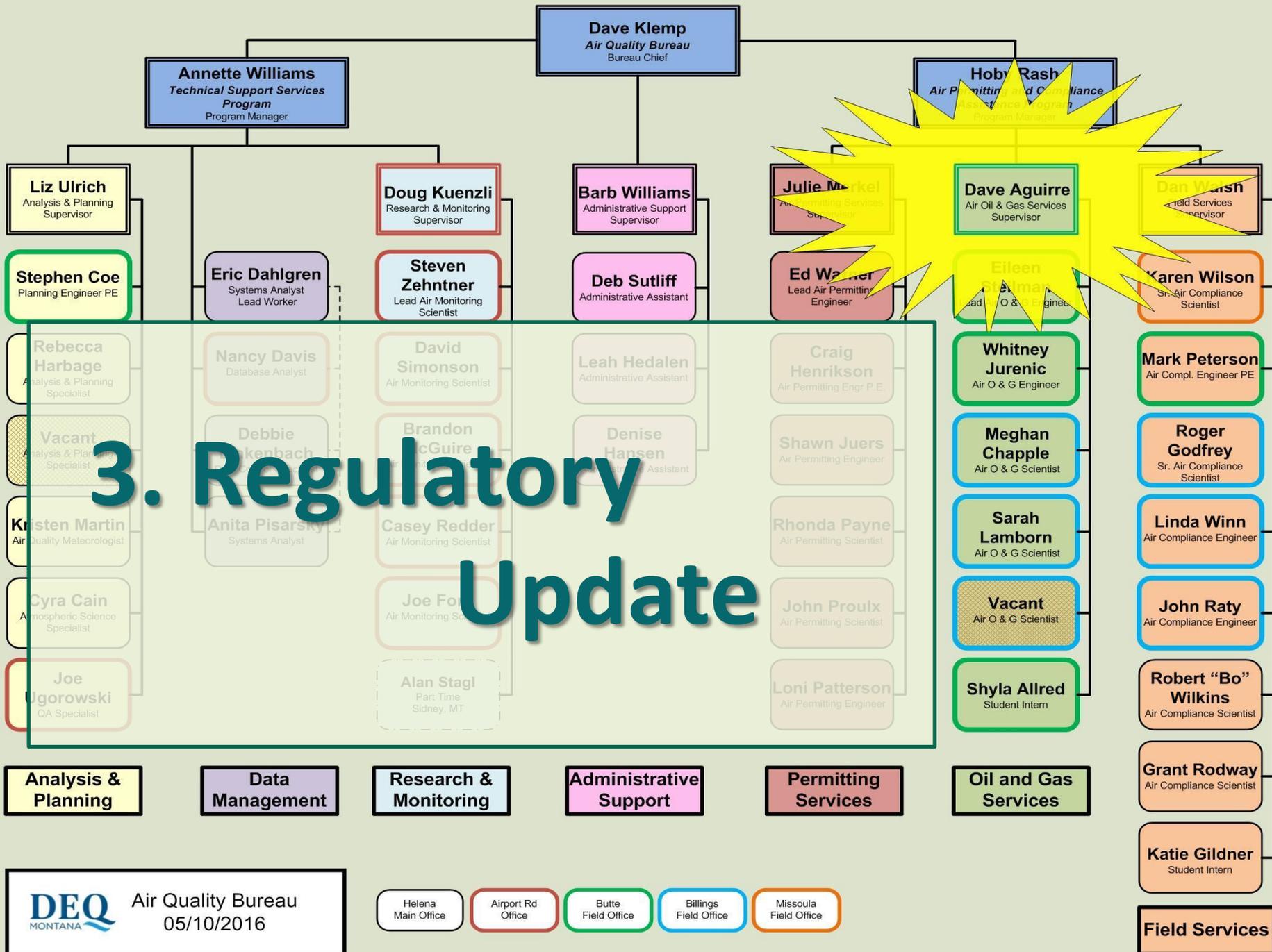


# Regulatory Update

## What Else is Happening?

**Recommendations for Outdoor Activities Based on Air Quality for Schools and Child Care Facilities**

Health Effect Category	Good	Moderate	Unhealthy for sensitive groups*	Unhealthy	Very Unhealthy/Hazardous
Visibility (miles)	13+	9-13	5-9	2-5	Less than 2
Particulate levels (µg/m <sup>3</sup> )	1 hr	34-51	51-89	89-201	Greater than 201
	8 hr	23-35	35-62	62-140	Greater than 140
	24 hr	13-20	20-35	35-80	Greater than 80
Recess or Other Outdoor Activity (15 minutes)	No limitations	No limitations	Make indoor space available for all children to be active, especially young children. If outdoors, limit vigorous activities and people with chronic conditions should be medically managing their condition.	Keep all children indoors.	Keep all children indoors.
Physical Education Class (1 hour)	No limitations	Monitor sensitive groups and limit their vigorous activities.	Make indoor space available for all children to be active, especially young children. If outdoors, limit vigorous activities and people with chronic conditions should be medically managing their condition.	Conduct P.E. indoors. If outdoors, only allow light activities for all participants. People with chronic conditions should be medically managing their condition.	Conduct P.E. in a safe (good air quality) indoor environment.
Athletic Practice, Training (2-4 hours)	No limitations	Monitor sensitive groups and limit their vigorous activities.	People with chronic conditions should be medically managing their condition. Increase rest periods and substitutions for all participants to lower breathing rates.	Conduct practice and trainings indoors. If outdoors, allow only light activities for all participants. Add rest breaks or substitutions to lower breathing rates. People with chronic conditions should be medically managing their condition.	Conduct practice and trainings in a safe (good air quality) indoor environment.
Scheduled Sporting Events (2-4 hours)	No limitations	Monitor sensitive groups and limit their vigorous activities.	People with chronic conditions should be medically managing their condition. Increase rest periods and substitutions for all participants to lower breathing rates.	Consider rescheduling or relocating event. If outdoor event is held, have emergency medical support immediately available. Add rest breaks or substitutions to lower breathing rates. People with chronic conditions should be medically managing their condition.	Reschedule or relocate event.
Examples of light activities: Walking slowly on level ground Carrying school books Hanging out with friends			Examples of moderate activities: Skateboarding Slow pitch softball Shooting basketballs	Examples of vigorous activities: Running, jogging Playing football, soccer, and basketball	Please note that the intensity of an activity can vary by person and ability





# Federal Oil & Gas Rule Activity

# Federal Oil & Gas Rule Activity

## Environmental Protection Agency (EPA)

### Final

1. Federal Implementation Plan (FIP) – Minor New Source Review (NSR)
2. Source Determination Rule (Aggregation)
3. Standards of Performance for New Stationary Sources (NSPS) – OOOOa

### Proposed

1. Control Technique Guidelines (CTGs)
2. Information Collection Request (ICR)

## Bureau of Land Management (BLM)

### Proposed

- Waste Prevention, Production Subject to Royalties, and Resource Conservation

# EPA Rule Activity - Final

**May 12, 2016**

**EPA announced final rules to be published in FR**

1. Federal Implementation Plan (FIP) to implement Minor New Source Review (NSR) on Indian Lands
2. Source Determination Rule
3. Standards of Performance for New Stationary Sources (NSPS), Subpart OOOOa

# (1) FIP/Minor NSR on Indian Lands

Federal Implementation Plan (FIP) replaces site-specific Minor NSR (permits)

Requires two-part registration

- 30-Days prior to construction
- 60-Days after start-up of production

Noteworthy

- Oil/natural gas (NG) production & NG processing segments
- Attainment/Unclassified
- True minor sources only (NSR)
- Threatened/Endangered species & historic properties
  - Federal agency or screening documents

Compliance with eight Federal standards

# The Eight Standards

## NSPS – Performance Standards

- OOOOa, Crude Oil and Natural Gas Facilities
- Kb, Volatile Organic Liquid Storage Vessels
- IIII, Compression Ignition Internal Combustion Engines
- JJJJ, Spark Ignition Internal Combustion Engines
- \*KKKK, Combustion Turbines

## Maximum Achievable Control Technology (MACT) – Air Toxic Standards

- HH, Glycol Dehydration Units
- DDDDD, Boilers & Process Heaters
- \*ZZZZ, Reciprocating Internal Combustion Engines

## (2) Source Determination Rule

### Oil/NG Production & NG Processing Segments

- Onshore only
- Major NSR & Title V Determinations

### Keeps Source Determination

- Standard Industrial Classification (SIC) Code, ownership/control, & contiguous/adjacent

### Defines Adjacent

- Proximity
  - Greater than  $\frac{1}{4}$  mile is separate source
  - Within  $\frac{1}{4}$  mile is same source, if:
    - Common sense notion of a plant = functional interrelatedness = shares equipment to process or store oil or NG

# (3) NSPS, Subpart OOOO/OOOOa

## OOOO Affected Sources

Natural Gas Wells

Compressors (Gathering & Boosting)

Pneumatic Controllers

Storage Vessels

Natural Gas Processing Plants

## OOOOa Additional Affected Sources

Oil Well Sites

NG Transmission Compressor Stations

Pneumatic Pumps

# New Requirements

## Across the board

- **Sets standards for methane**
- Detecting and repairing leaks
  - Optical gas imaging/Method 21/emerging innovative technologies

## Pneumatic pump requirements

- Oil & NG well sites
- NG processing plants

## Oil wells

- Same requirements as gas wells

## NG transmission compressor stations

- Same requirements as “gathering/boosting”

# EPA Rule Activity - Proposed

1. Control Technique Guidelines (CTGs)
  - November 17, 2015 - comment period closed
  - Expected final Spring 2016
  
2. Information Collection Request (ICR)
  - May 12, 2016 - EPA announced draft ICR to be published in FR



# (1) Control Technique Guidelines

- Guidance, not rule
- Existing sources
- Ozone (O<sub>3</sub>) nonattainment areas and O<sub>3</sub> transport region (NE states)
- State expectations/guidelines for regulating existing sources
- Models NSPS, OOOO(a)
  - Reasonably Available Control Technology (RACT) vs. Best Available Control Technology (BACT)

## (2) Information Collection Request

**First step in process to reduce methane emissions from existing sources under section 111(d) of federal Clean Air Act (CAA)**

- Seeks broad range of information to help EPA determine how to best reduce emissions
- CAA Section 114 authority, response required

### Timeline

May 12, 2016 – EPA announced draft ICR to be published in FR

- 60-Day public comment period

Second draft to be published in FR

- 30-Day public comment period

October 30, 2016 – Anticipated date for sending 114 letters

# The Draft ICR

## Part 1

### Operator Survey

- Onshore oil & gas production segment
- Readily available information regarding number and types of equipment
- 30 days to respond

## Part 2

### Facility Survey

- Onshore oil & gas production, gathering & boosting, processing, transmission (compression & pipeline), underground storage, and liquid natural gas storage, import & export
- Detailed information regarding emission sources and emission control devices/practices
- 120 days to respond

# BLM Rule Activity - Proposed

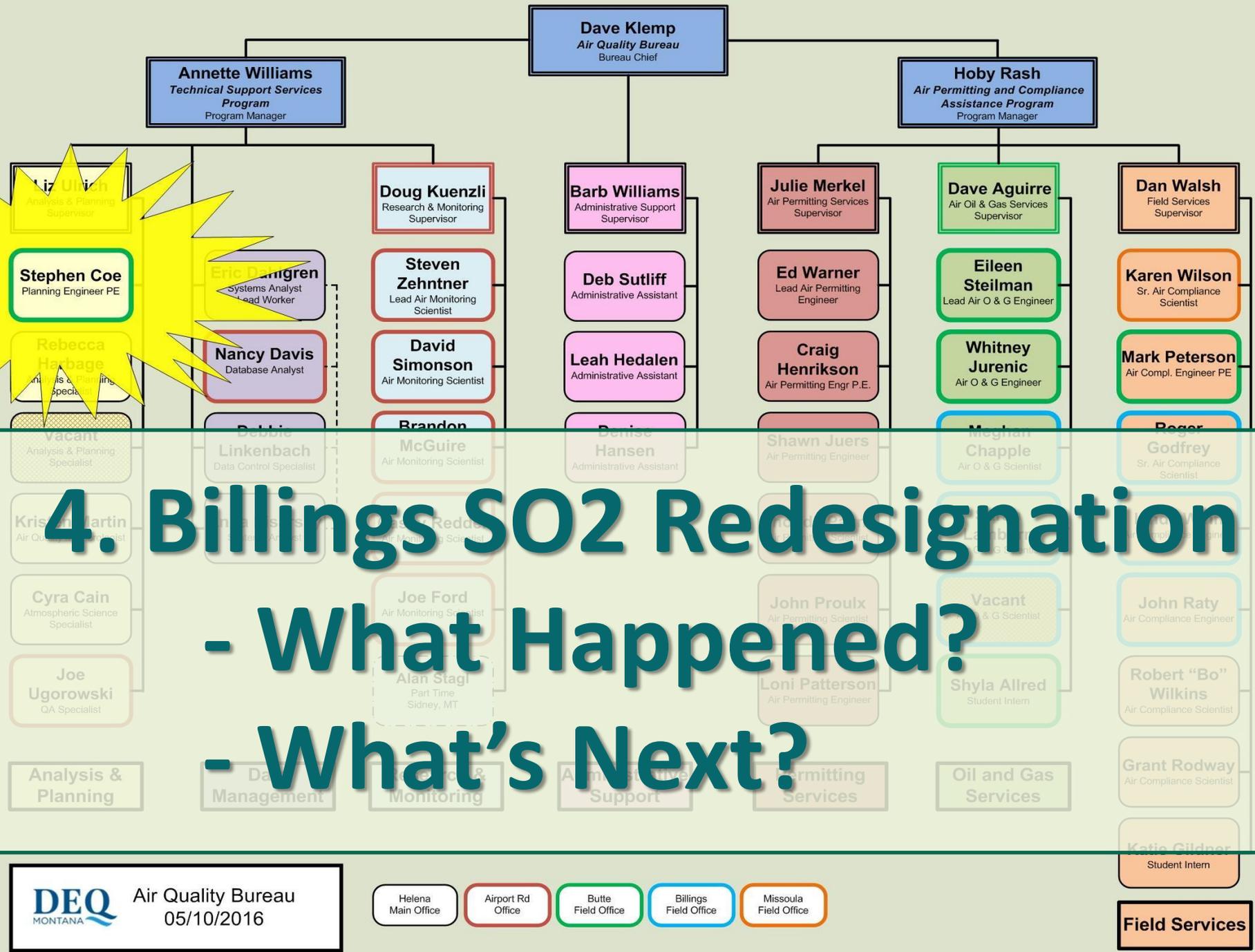
## Waste Prevention, Production Subject to Royalties, and Resource Conservation

- April 22, 2016 – comment period closed
- Not Clean Air Act authority
- New and existing sources
- Models NSPS OOOOa requirements
- Clarifies when produced gas lost through venting, flaring, leaks, or consumed onsite would be subject to royalties



# Questions?





# 4. Billings SO2 Redesignation

## - What Happened?

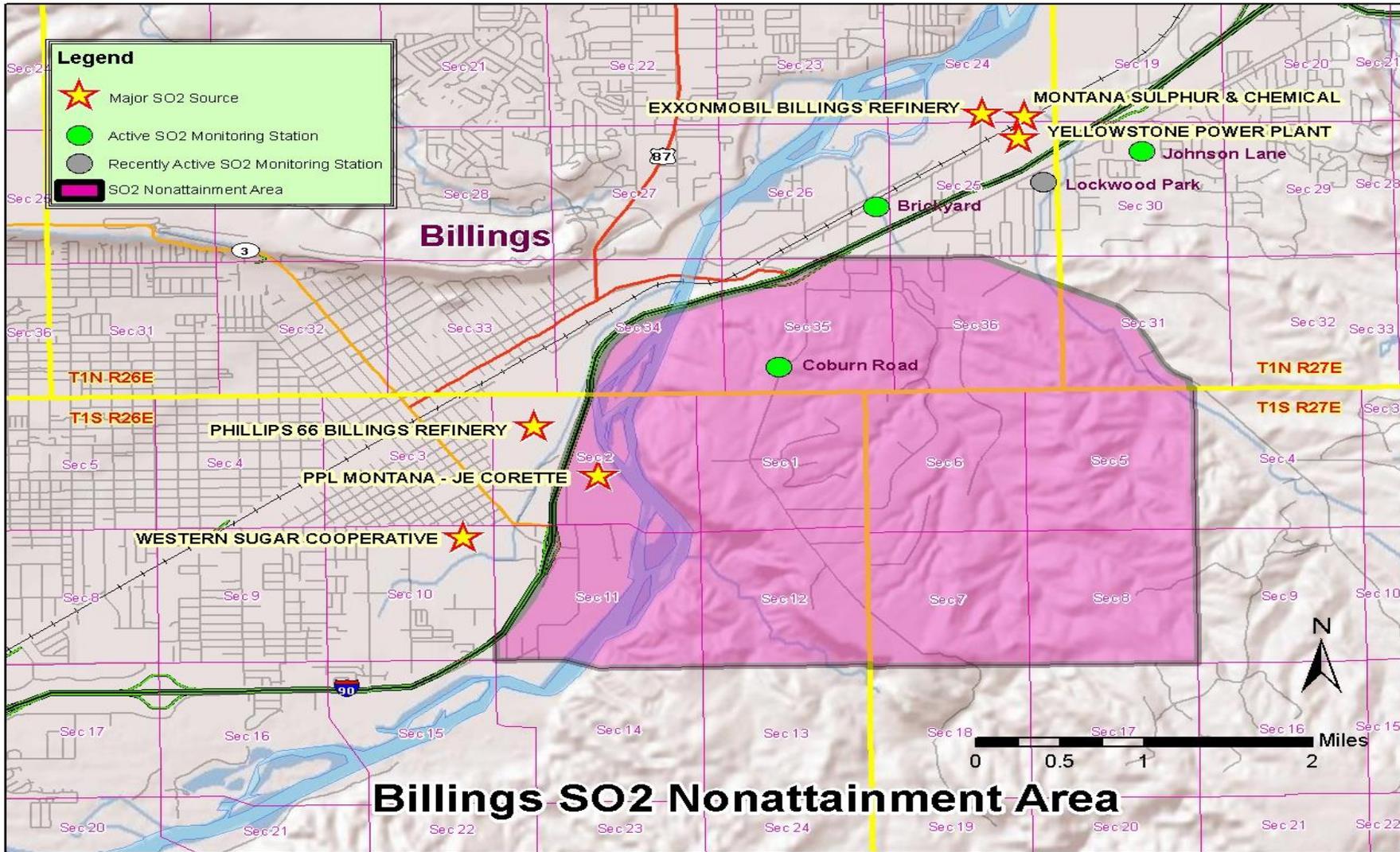
## - What's Next?

# SO<sub>2</sub> NAAQS Implementation

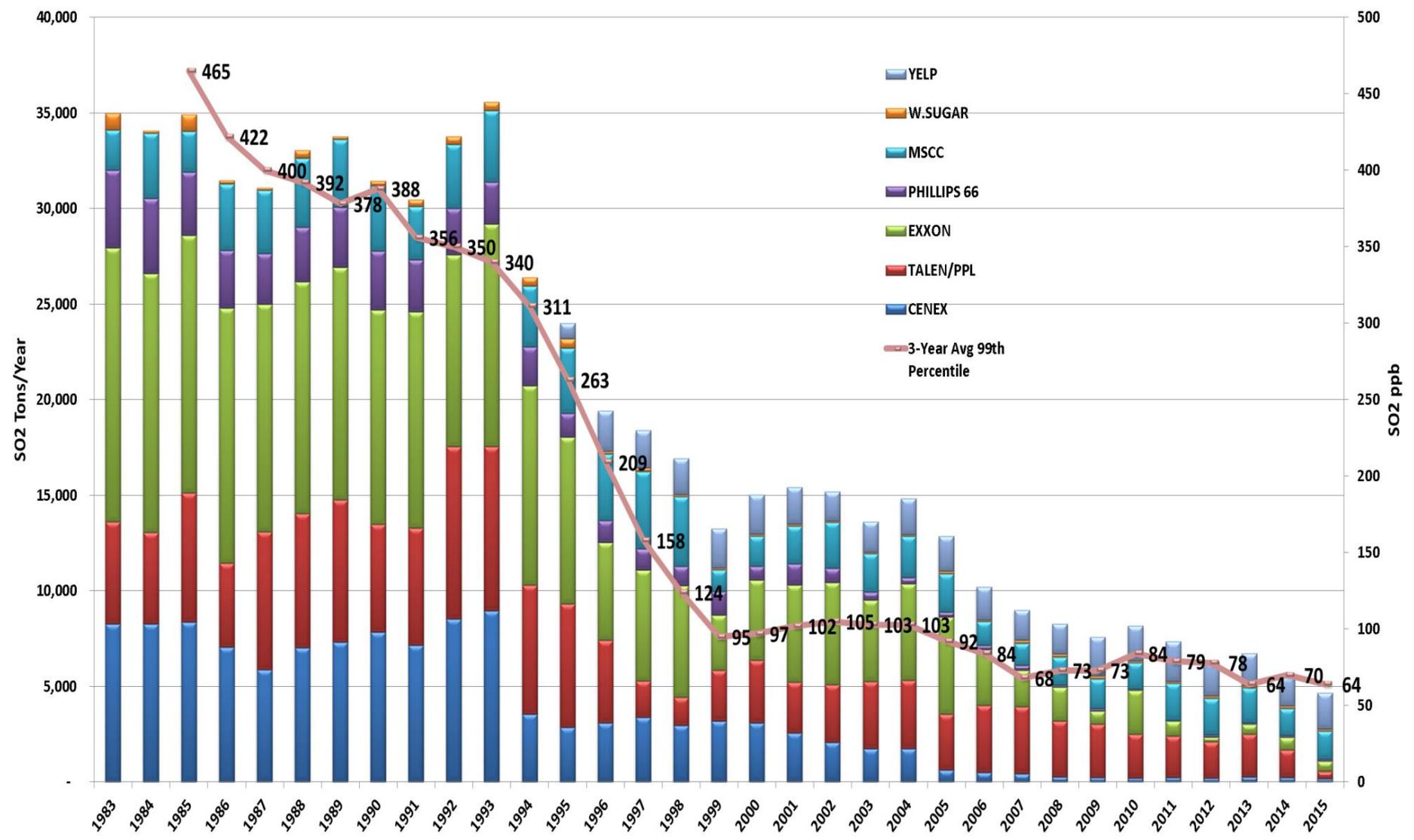
## Dates & Milestones

- |                          |  |
|--------------------------|--|
| <b>June 2, 2010</b>      | EPA issues new 1-hr SO <sub>2</sub> Standard   |
| <b>May, 27 2011</b>      | Governor's Initial Designations  |
| <b>February 6, 2013</b>  | EPA Proposed Designations  |
| <b>April 3, 2013</b>     | Montana Responds to EPA Proposed Nonattainment Designation   |
| <b>August 5, 2013</b>    | EPA Issues Final Designations <ul style="list-style-type: none"><li>– Effective Date: October 4, 2013</li></ul>  |
| <b>April 23, 2014</b>    | EPA issues SO <sub>2</sub> Nonattainment area guidance <ul style="list-style-type: none"><li>– Including the use of the “Clean Data Policy” similar to PM<sub>2.5</sub> and Ozone.</li></ul> |
| <b>January 16, 2015</b>  | Montana requests determination that the area has attained the standard under the Clean Data Policy   |
| <b>December 14, 2015</b> | Request for Redesignation and Maintenance Plan submitted to EPA for approval.  |
| <b>May 10, 2016</b>      | EPA Approves Montana's Request for Redesignation and Maintenance Plan <ul style="list-style-type: none"><li>– Effective date: June 9, 2016</li></ul>   |

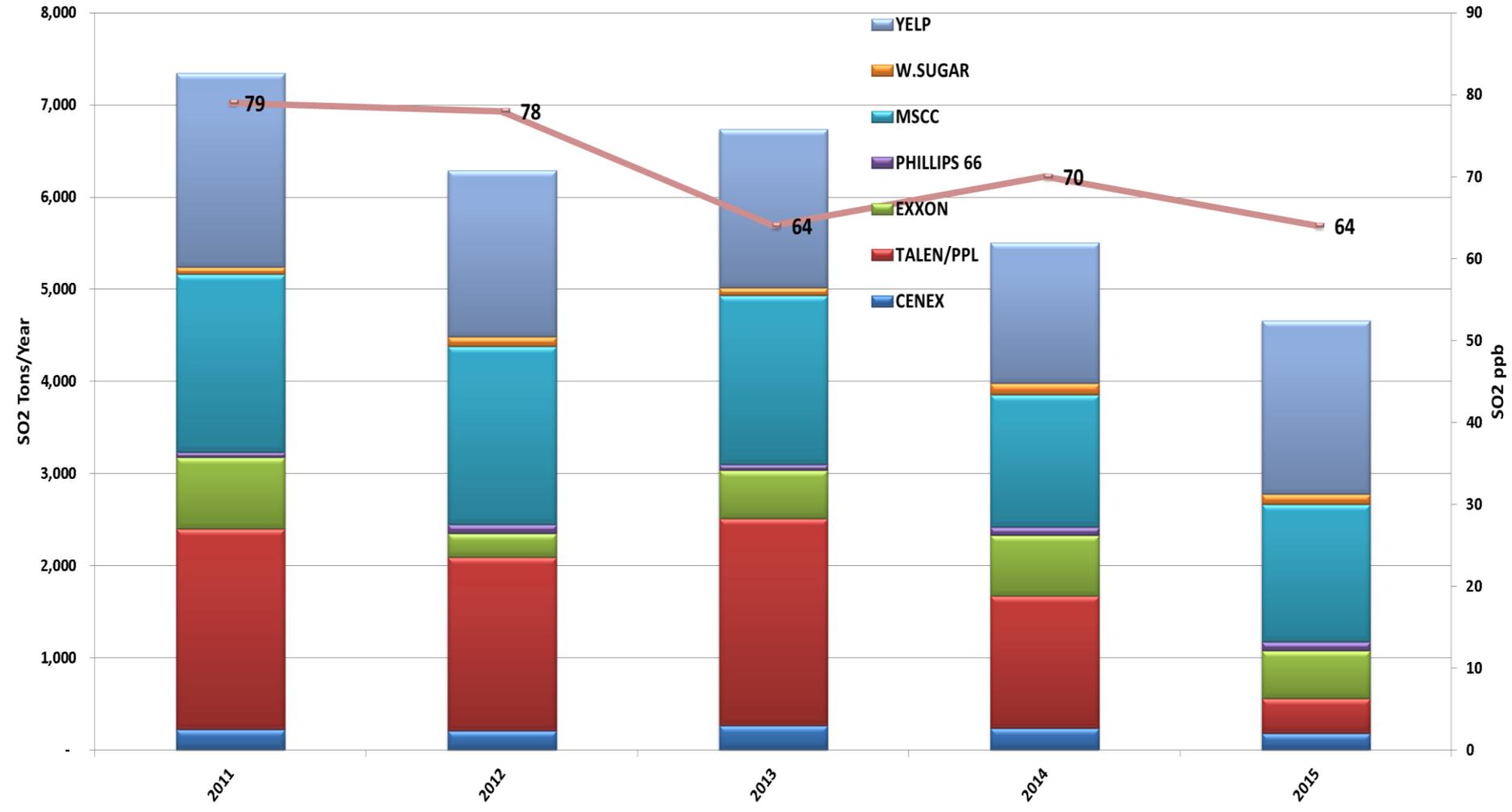




Historical Billings Area Major Source SO2 Emissions vs. Ambient SO2 3-year 99th Percentile Concentration



### Historical Billings Area Major Source SO<sub>2</sub> Emissions vs. Ambient SO<sub>2</sub> 3-year avg. 99th Percentile Concentration



# Redesignation Request & Maintenance Plan

- Only Sources within the NAA were considered for controlling SO<sub>2</sub>.
- PPL/Talen – Corette has permanently shut down the facility effective April 16, 2015, and subsequently requested the revocation of the associated permits.
  - This shut down date coincides with the compliance date for the Mercury and Air Toxics (MATS) rule.
- The maintenance demonstration is the Corette shut down
  - With the revocation of the permit, the reopening of Corette or a new source of SO<sub>2</sub> would require NSR and PSD permitting.



# Redesignation

EPA determined the NAAQS has been attained

- Monitoring Data
- Clean Data Determination

Attainment is due to permanent and enforceable emissions reductions.

EPA approved the Maintenance Plan



# Redesignated!!!

... why do we care?

Redesignation shows that public health is being protected

Redesignation removes a black eye from the area

Economic development can be impacted by nonattainment areas

Existing sources within and new sources wanting to locate within a NAA would be required to install additional control equipment or take stringent operating limits

New sources may not want to locate in or near NAA



# Maintenance Area

## What does that mean?

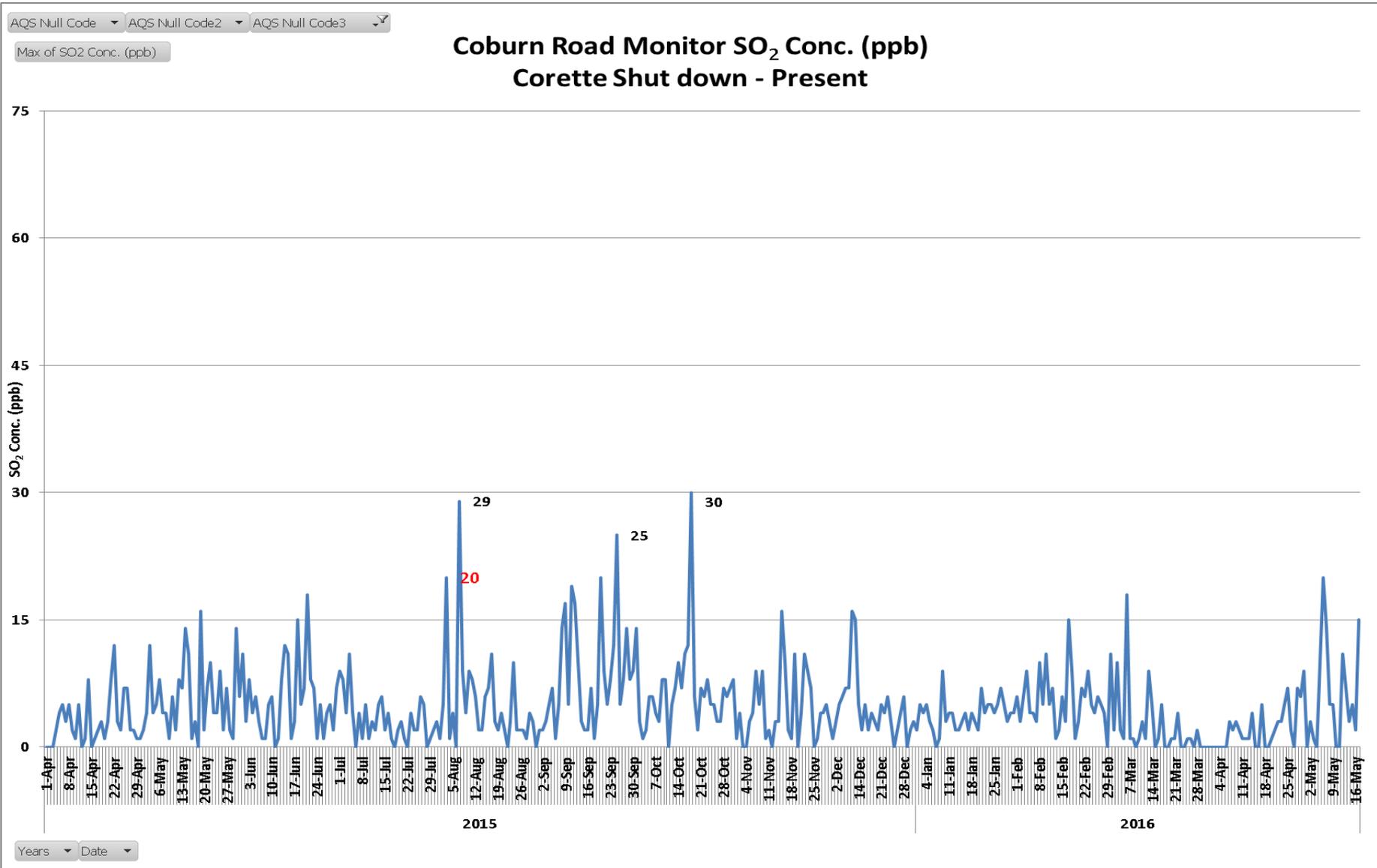
Adequate measures are in place to “maintain” the NAAQS.

- New or major modifications must still show that they don’t “Cause or Contribute” to the potential nonattainment of the maintenance area

Continue to monitor SO<sub>2</sub> at Coburn Rd

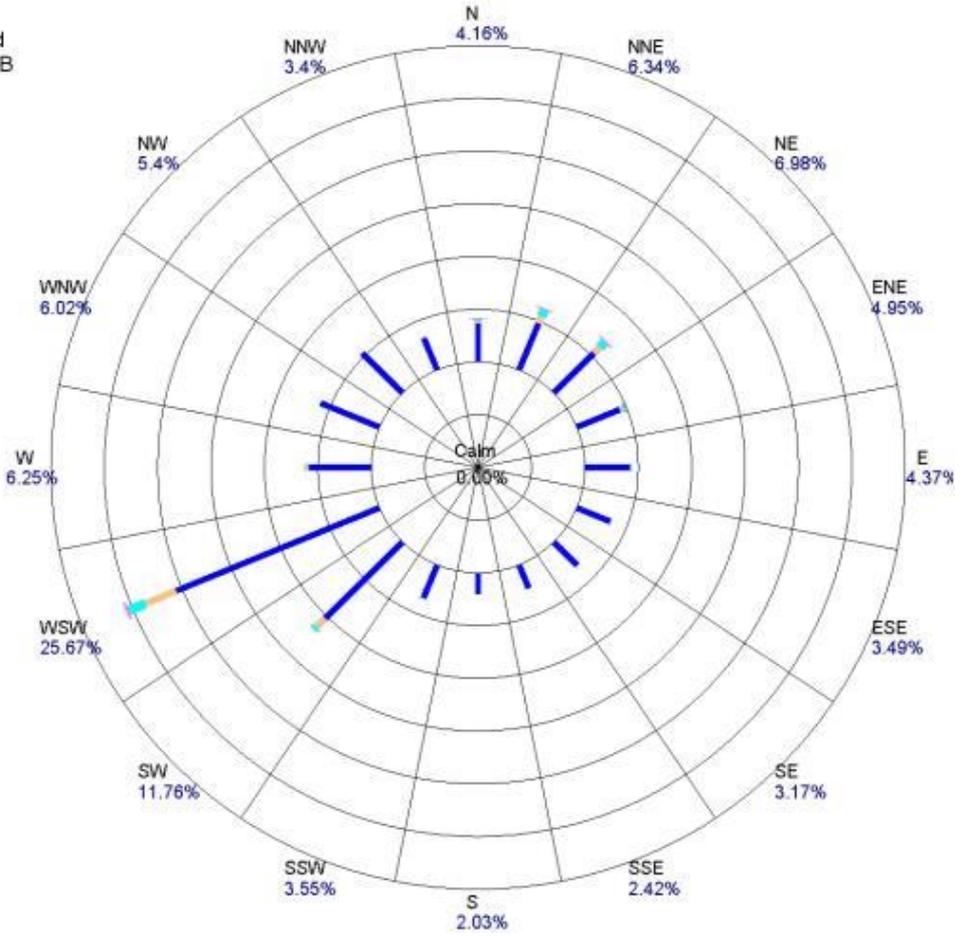
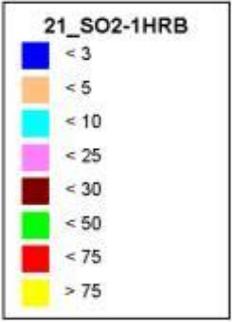
Contingency Plan –

- If 99<sup>th</sup> percentile in any year exceeds 65 ppb at Coburn Rd:
  - DEQ will initiate a study to evaluate whether it is an ongoing trend and likely to continue.
  - If it is an ongoing trend DEQ will evaluate source(s) of elevated concentrations and determine if additional controls need to be considered with 18 months.
- If a two-year average of the 99<sup>th</sup> percentile exceeds 70 ppb (or a violation of the 2010 NAAQS) occurs:
  - DEQ will work with the identified entity(ies) responsible for the elevated values to evaluate additional control measures needed to assure future attainment of the area.



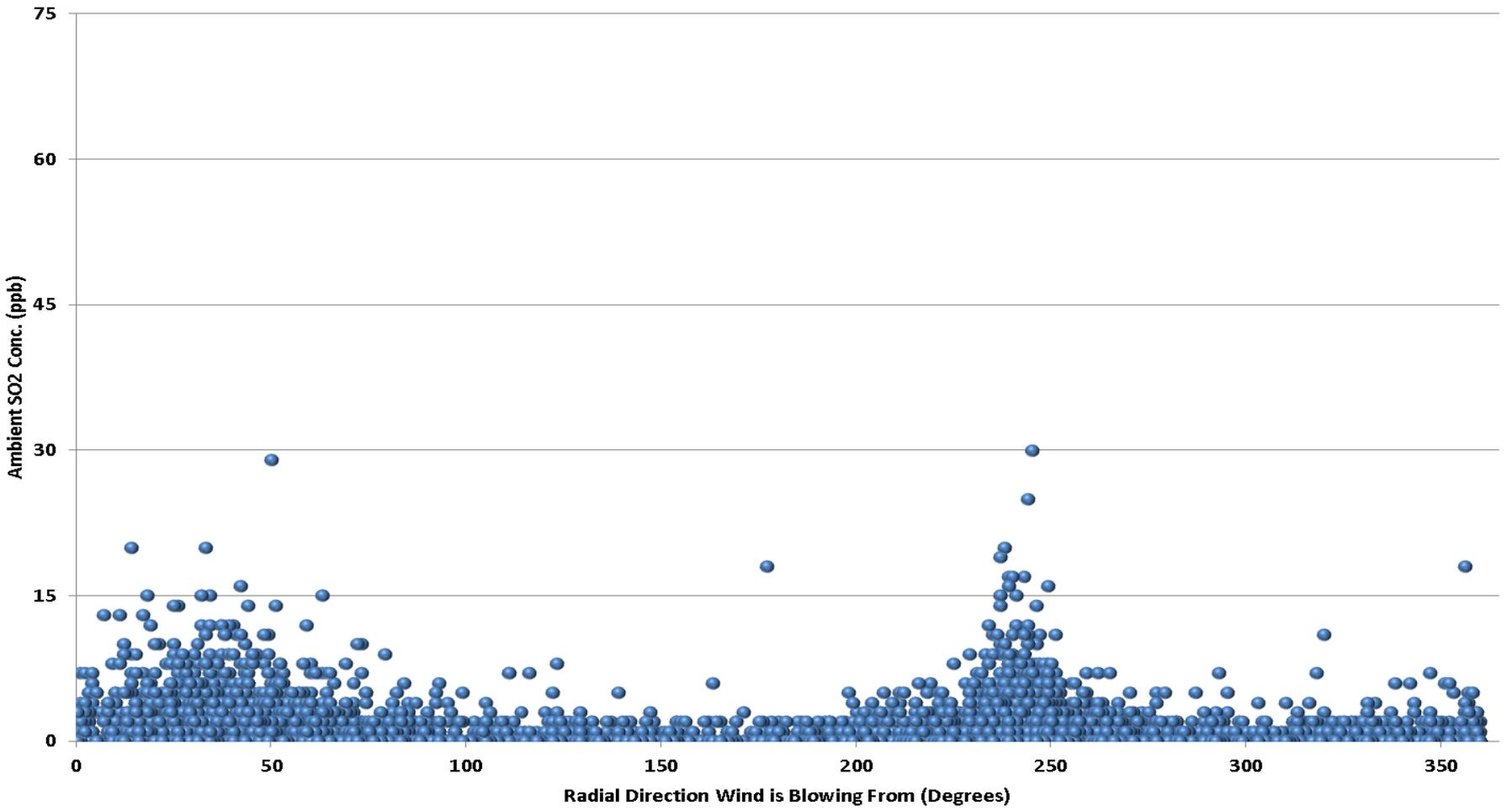
# Pollution Rose – Corette Shut Down

Site: CB\_Blgs Coburn Rd  
Parameter: 21\_SO2-1HRB  
Units: PPB

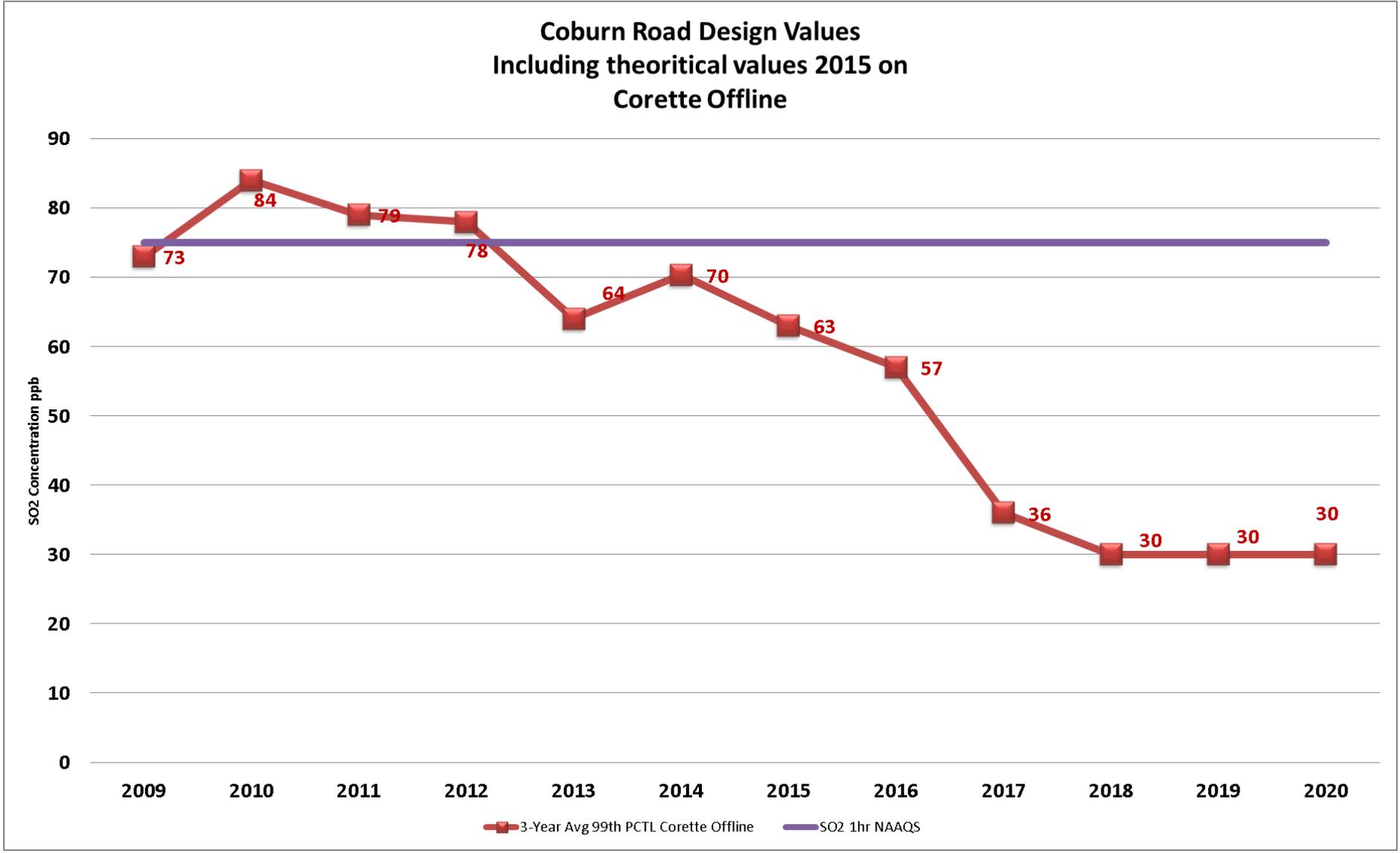


Period: 4/1/2015-5/17/2016

### April 2015 - Present - Ambient SO2 Conc. Vs. Wind Direction



**Coburn Road Design Values  
Including theoretical values 2015 on  
Corette Offline**





# What's Next for DEQ?

## Existing Montana Non-Attainment Areas

Community	Pollutant	Standard	Non-Attainment	Attainment/Maintenance
Laurel	Sulfur Dioxide	1971 (24-hr)	X - March 3, 1978	
East Helena	Sulfur Dioxide	1971 (24-hr)	X	
Billings	Sulfur Dioxide	2010 (1-hr)		X
Libby	Particulate (PM-2.5)	1997 (Annual)	X	
Kalispell	Particulate (PM-10)	1987 (24-hr)	X	
Columbia Falls	Particulate (PM-10)	1987 (24-hr)	X	
Whitefish	Particulate (PM-10)	1987 (24-hr)	X	
Libby	Particulate (PM-10)	1987 (24-hr)	X	
Missoula	Particulate (PM-10)	1987 (24-hr)	X	
Thompson Falls	Particulate (PM-10)	1987 (24-hr)	X	
Butte	Particulate (PM-10)	1987 (24-hr)	X	
Billings	Carbon Monoxide	1971 (8-hour)		X
Great Falls	Carbon Monoxide	1971 (8-hour)		X
Missoula	Carbon Monoxide	1971 (8-hour)		X
East Helena	Lead	1978 (Calendar Quarter)	X	

# Questions?



# Break

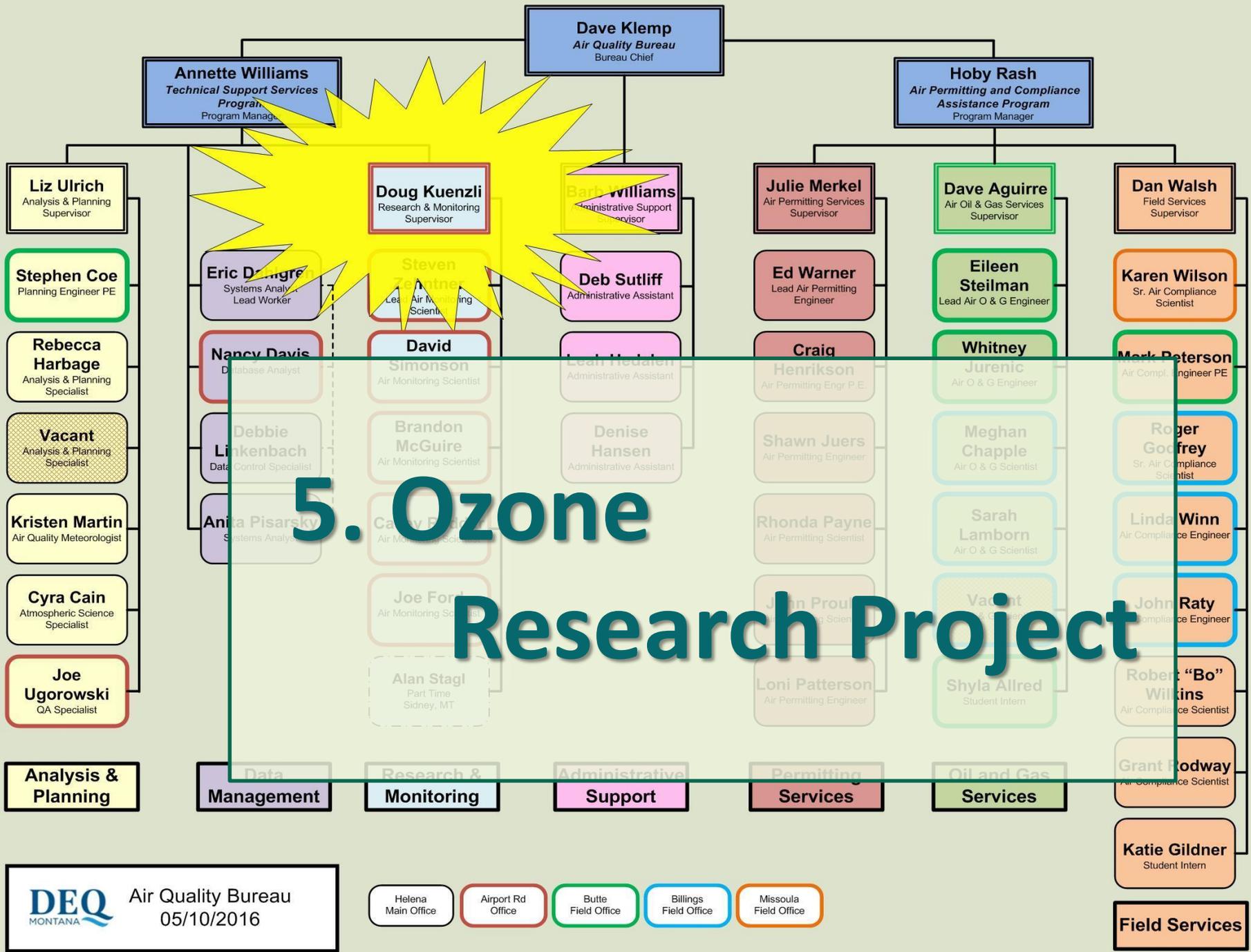
**Please Return in**

**00:00**

**Minutes**



# 5. Ozone Research Project



# VOC Analysis

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## Selected Ion Flow Tube Mass Spectrometry (SIFT-MS)



# SIFT-MS



- ▶ Real Time VOC analysis
- ▶ Parts Per Trillion Range
- ▶ Remote Operation
- ▶ Mobile
- ▶ Expandable Platform



# VOC Monitoring

## SIFT-MS Application

### Expand Research Capability

VOC Speciation

Source delineation

Organic Indicator Tracing

# VOC Monitoring

## Ozone Research Project

Formation ♦ Transport ♦ Background

### Areas of Focus

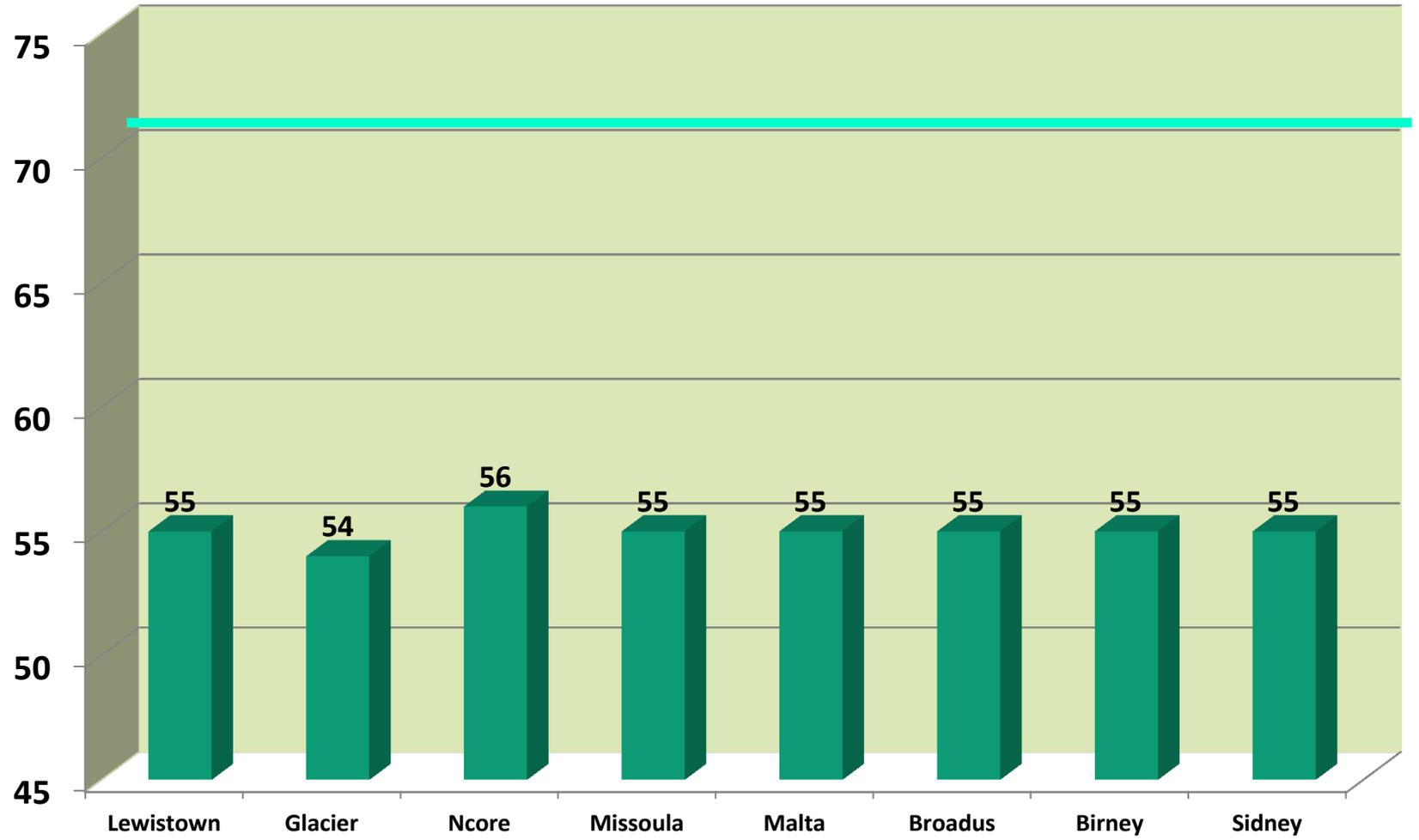
Oil & Gas Field

Urban Industrial/Non-Industrial

Rural Locations

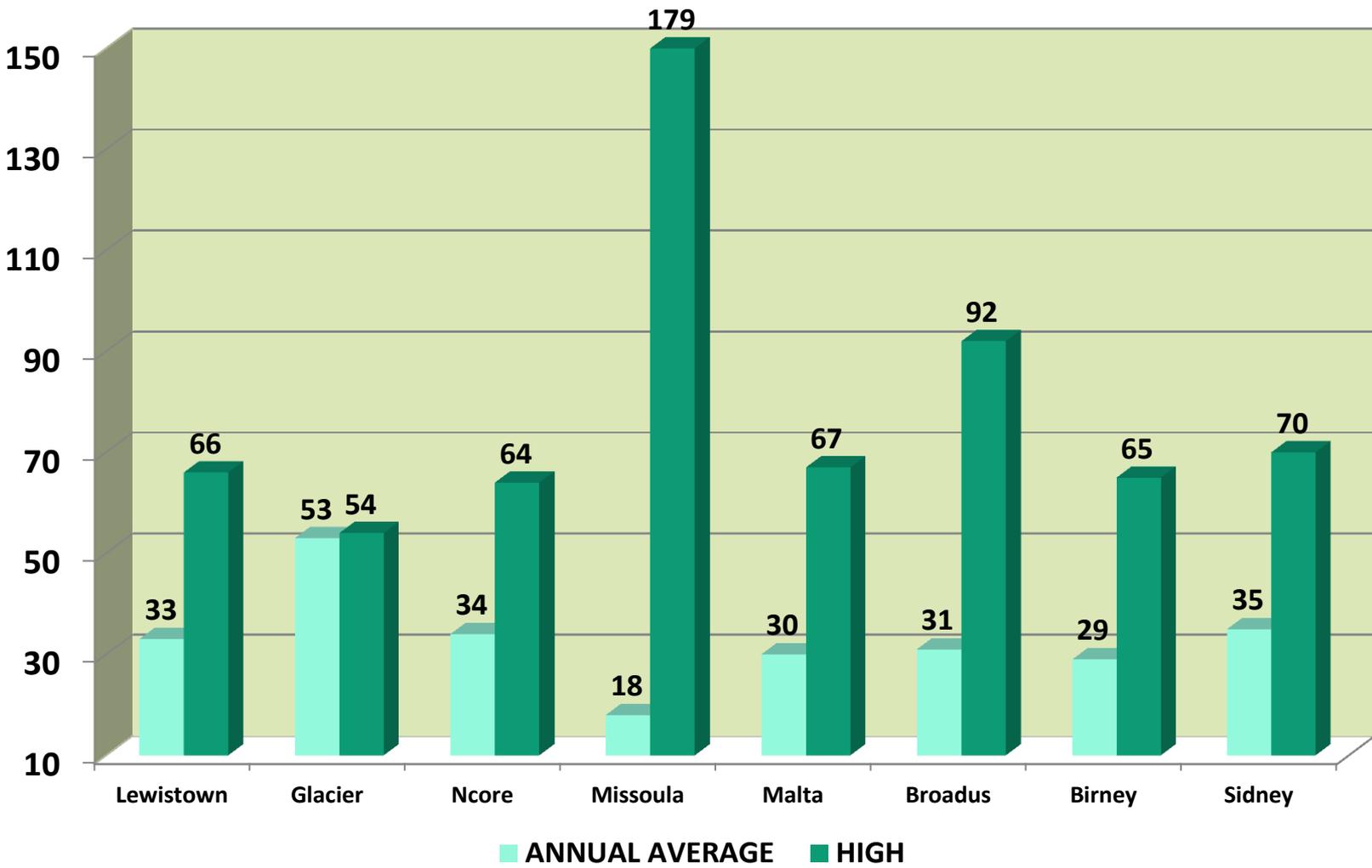
# Ozone Research Project

## 2015 Montana Ozone Design Values



# Ozone Research Project

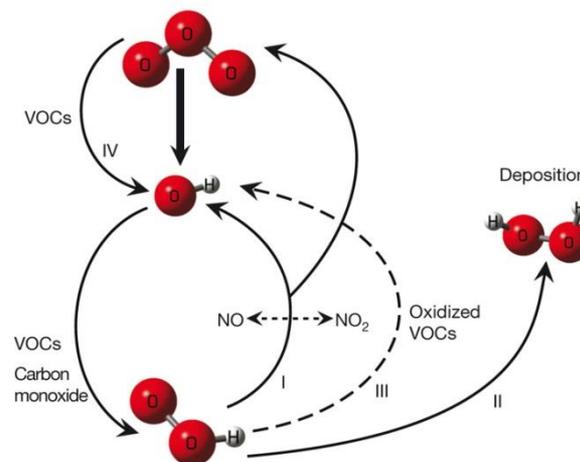
## 2015 Montana Ozone 1-hour Values



# Ozone Research Project

## Formation ♦ Transport ♦ Background

- ▶ Monitor Ozone Profiles
- ▶ Characterize Ozone Precursors
  - VOC (USEPA PAMS Compound List)
  - NO/NO<sub>2</sub>
- ▶ Full Meteorology



# Ozone Research Project

## Formation ♦ Transport ♦ Background

Data Analysis

Trends/Patterns

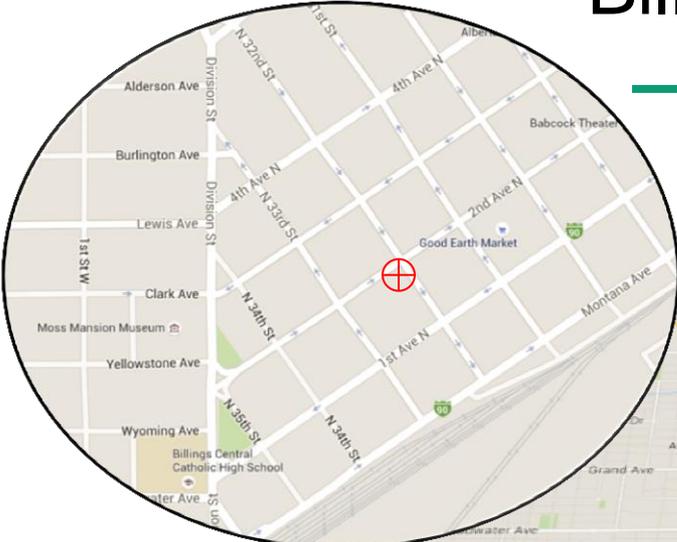
Association

Repeatability

# Ozone Research Project

## Initial Application

### Billings Urban Ozone Assessment



# Ozone Research Project

## Initial Application

Billings Urban Ozone Assessment

Additional Sites for Characterization

Lockwood Park

Airport (DEQ Office)

Shepard Barn



# **7. Questions? Feedback?**

# *Thanks for your Interest and Participation !*



*Please Contact Us*

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CAAAC Website:

<http://deq.mt.gov/Air/airquality/CAAAC>