

Singles and Doubles: What's Going on with NSR?

ERM and Bracewell Webinar series: Air Quality Policy Changes in the US

June 7, 2018

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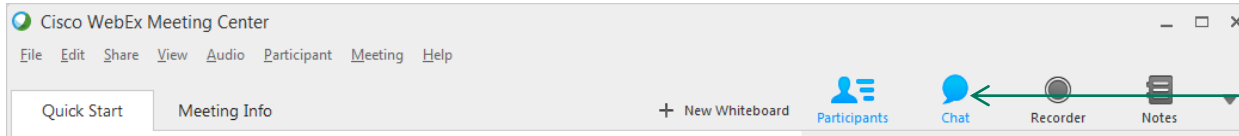
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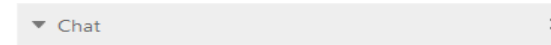
Welcome

- This presentation will be recorded and all who registered will receive a follow-up email containing a link to the presentation within a week.
- Participants can ask questions throughout the presentation using the WebEx chat function and they will be answered during the last 15 minutes of the webinar in the order that they were received.



*Click on
chat*

- Send your question to “Everyone” so that those answering the questions will be able to see them.



WebEx Chat box

*Type your question
and send*

*Select
“Everyone”*

Today's Webinar

ERM & Bracewell Webinar

Singles and Doubles: What's Going on with NSR?



Mark Garrison
ERM



Toby Hanna
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Jeff Holmstead
Bracewell



Dave Jordan
ERM



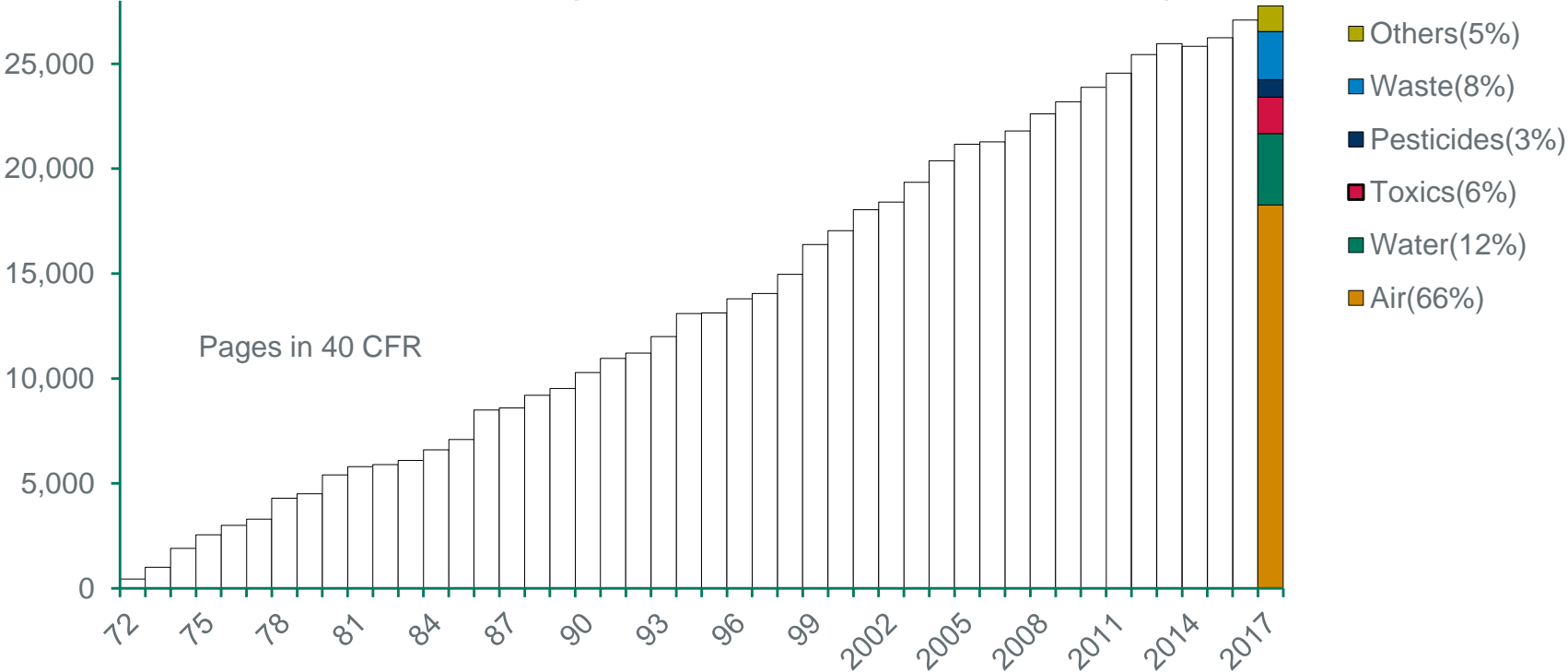
Ken Weiss
ERM

- How did we get here?
- Case Study - Source Aggregation
- Case Study - NSR Project Emissions Accounting
- Case Study - Ozone and PM2.5 SIL Guidance
- Crystal Ball – State response, rules vs. memos, what's next

The Case for Change

Growth of EPA Regulations

Over 27,000 pages in 2017; Increase of almost 700 pages



EPA's New Source Review Program: Time for Reform?

by Art Fraas, John D. Graham,
and Jeff Holmstead

*Environmental Law Institute
January 2017*

Trump Regulatory Reform Initiatives




**Top issue raised by industry commenters: NSR*

**Top issue raised by industry commenters: NSR*

Bill Wehrum on NSR Reform

BNA Energy and Climate Report (November 27, 2017)



“I’m not so sure full-scale reform is what we need to do. The analogy I use is we’re going to try to hit a few singles, maybe a couple of doubles, but we’re not going to swing for the fences . . .”

“If we do enough of these more targeted things, then I think over time we will have a big impact on the program.”

Tools for NSR Reform



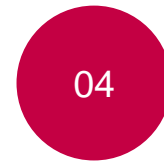
Guidance memos



Source determinations



Applicability determinations



Rulemaking



Legislation

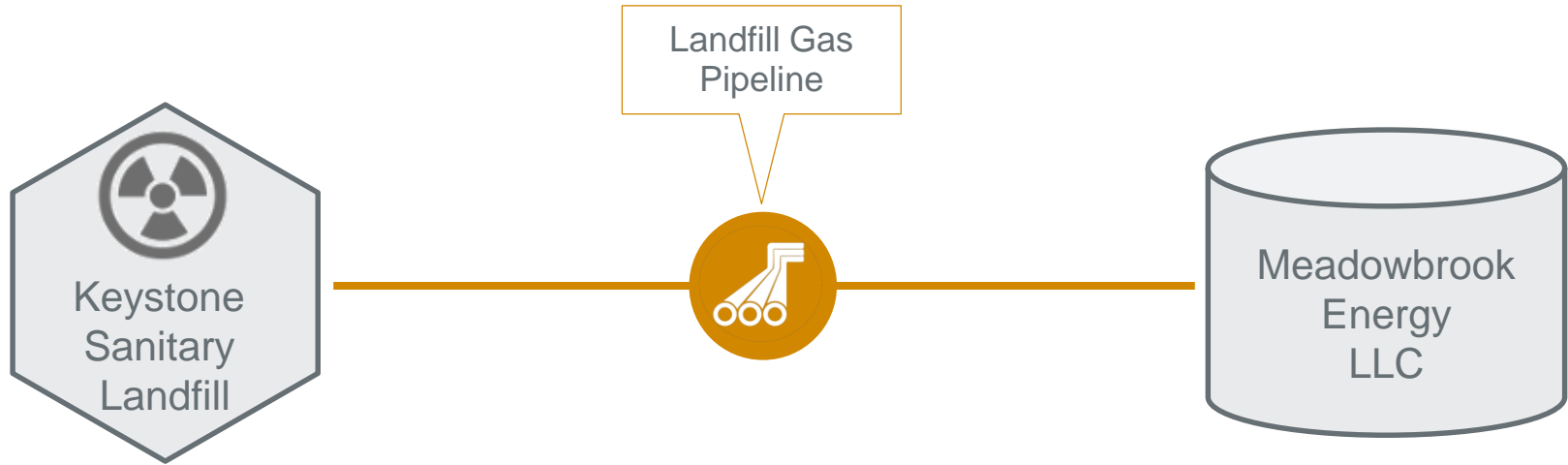
April 30th “Source Determination”: Guidance on Aggregation

Aggregation – The Common Control Test

Setting the Stage

Prior Approach	Today's Approach
Same Industrial Grouping	Same Industrial Grouping
Contiguous or Adjacent	Contiguous or Adjacent
Common Control – Based on Support or Dependency	Common Control – Based on Ability to Dictate Decisions that Impact Compliance

Understanding Aggregation



- Does KSL Support or Control Meadowbrook?
- Does Meadowbrook Support or Control KSL?

March 13th NSR Project Emissions Accounting Guidance

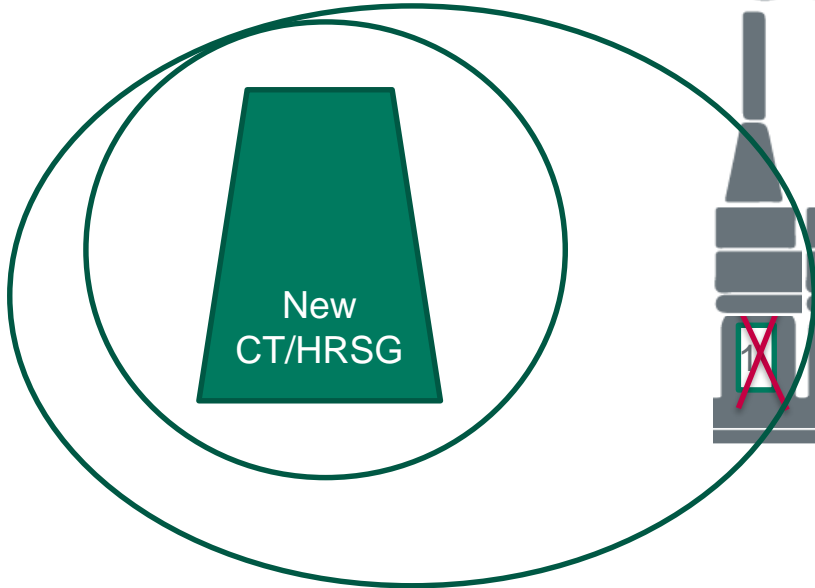
Project Emissions Accounting

Scope of Step 2 includes emissions credits that are a part of the project previous guidance – all shutdown credits in Step 2

Project Description:

- Construct New CT/HRSG
- Remove Boiler #1

Emissions Increase due to Natural Gas Combustion



Emissions Decrease due to Boiler 1 Removal

Project Background

- Source Description: University with central powerhouse for steam and electric generation
- Proposed project:
 - Construct new natural gas-fired CT/HRSG
 - Remove existing coal-fired spreader stoker boiler (Boiler 1)



PSD Applicability Under Previous Policy

Step 1 – Does project result in a significant emissions increase?

	PM	PM10	PM2.5	NOx
CT/HRSG	40.6	40.6	40.6	66.0
Above PSD?	Yes	Yes	Yes	Yes

Step 2 – Does project result in a significant net emissions increase (accounting for contemporaneous increases and decreases)?

	PM	PM10	PM2.5	NOx
Boiler 1	-84.0	-61.2	-38.1	-70.7
Other Changes	+3.6	+3.6	+3.6	+49.5
Net Change	-38.8	-17.0	6.1	+44.8
Above PSD?	No	No	No	Yes

PSD Applicability Under March 13, 2018 Policy

Step 1 – Does Project result in a significant emissions increase?

	PM	PM10	PM2.5	NOx
CT/HRSG	40.6	40.6	40.6	66.0
Boiler 1	-84.0	-61.2	-38.1	-70.7
Project Emissions	-43.3	-20.6	2.5	-4.7
Above PSD?	No	No	No	No

Project does not trigger PSD

April 17th Ozone and PM2.5 SIL Guidance

SILs and MERPs – Perfect Together

SIL: Significant Impact Level

Final guidance for ozone and PM2.5 April 17, 2018

MERPs: Modeled Emission Rates for Precursors

Final guidance ~ Late 2018

SIMPLY PUT:



SILs and MERPs – A Closer Look

SILs

Concentration level established as percentage of health-related NAAQS, essentially a “no further action required” level.

Specifically:

- 8-hour Ozone: 1 ppb (1.4% of 70 ppb NAAQS)
- 24-hour PM_{2.5}: 1.2 µg/m³ (3.4% of 35 µg/m³ NAAQS)
- Annual PM_{2.5}: 0.2 µg/m³ (1.7% of 12 µg/m³ NAAQS - formerly 0.3 µg/m³)

SILs can be used to establish that cumulative modeling is not required.

MERPs

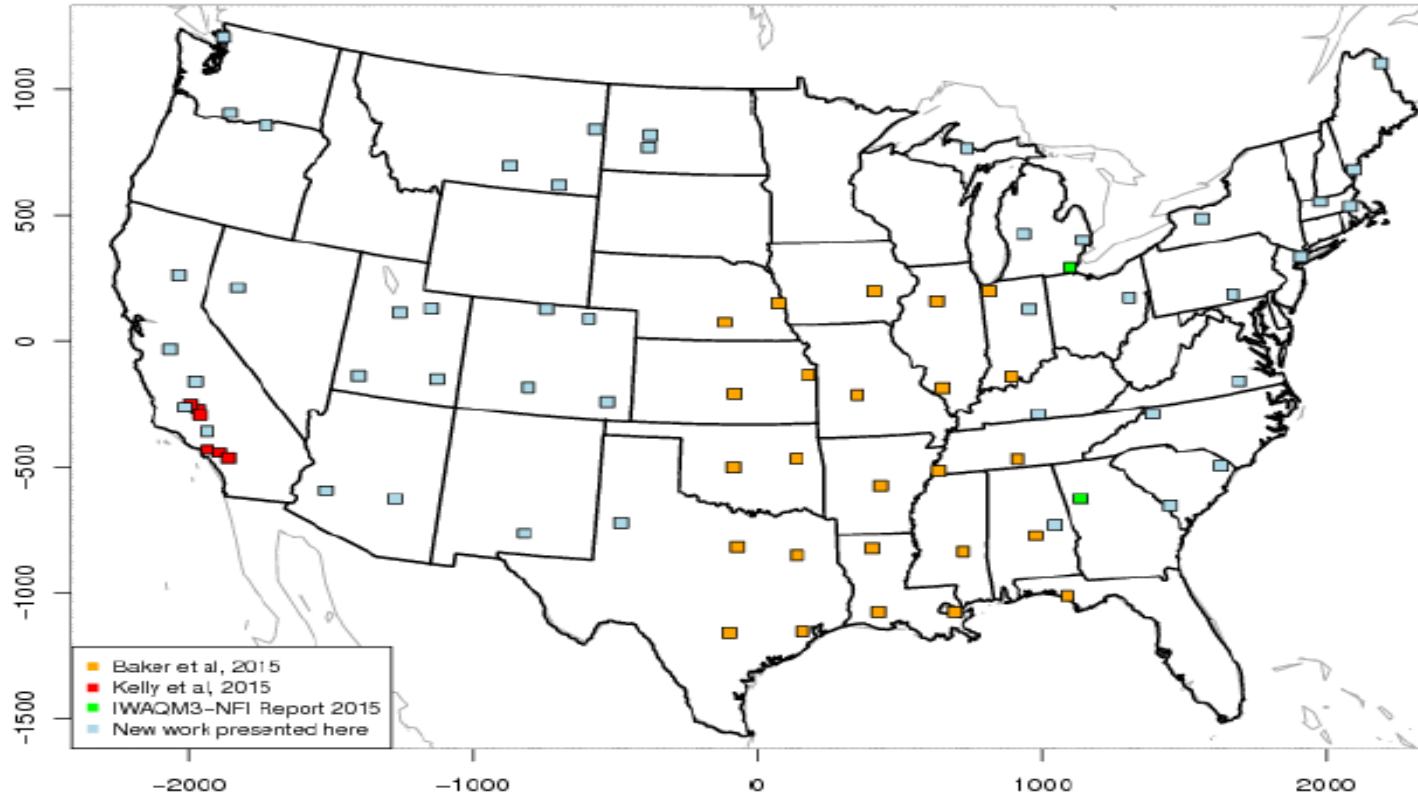
Associates emissions of NO_x, SO₂, VOC with secondary formation of ozone and PM_{2.5}.

Emissions => concentration, based on EPA modeling.

MERPs can be used (with or without SILs) to establish that photochemical modeling is not required.

Most States are on board with these concepts – some exceptions!

MERPs - EPA Hypothetical Sources



Ozone / Secondary PM_{2.5} Case Study

Situation – Large steel mill in greater Memphis, TN area undergoing major expansion triggers NSR/PSD review for ozone and PM_{2.5}

Greater than significant projected increases of SO₂, NO_x, and VOC emissions

Multi-step process:

1. Review using worst case MERPs
2. Review using regional MERPs
3. Further qualitative analysis



MERPs Case Study – Compare to SILs

01

First Step
(worst case MERPs)

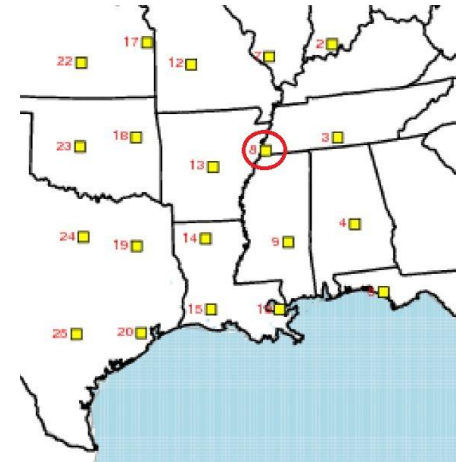
- Compare emissions increase to TPY values
- **Proceed to the next step for ozone, PM2.5. Note that for this case annual secondary PM2.5 passed but primary >SIL; proceeded to cumulative analysis**

02

Next Step for Ozone
Calculate impact – regional MERPs Memphis, TN

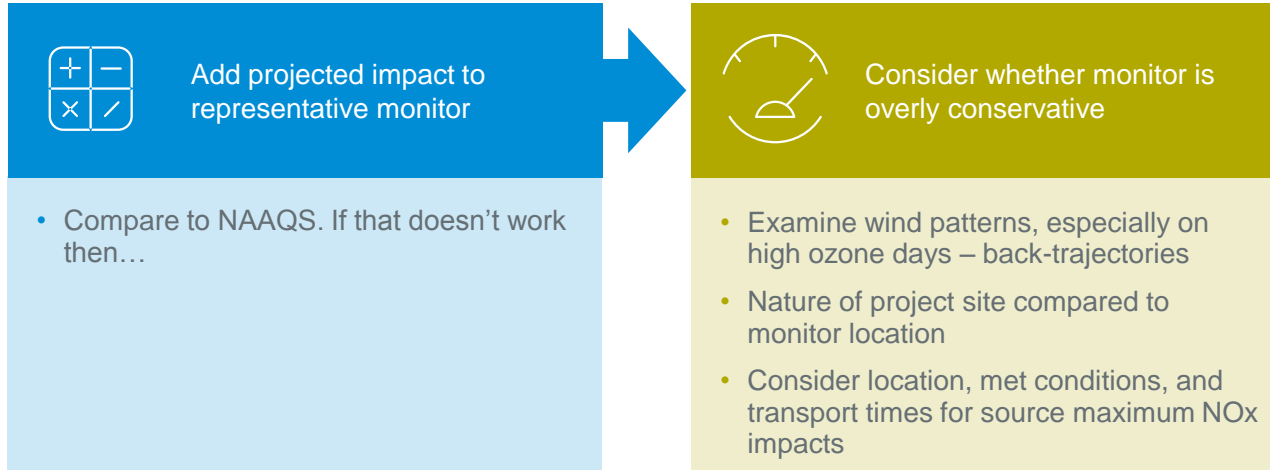
- MERPs guidance document provides concentration levels due to precursor emissions that can be scaled to project emissions
- **For this case this next step worked to show ozone impacts <SIL**

Precursor	Area	8-hr O3	Daily PM	Annual PM
NOX	CUS	126	1,693	5,496
	EUS	170	2,295	10,144
	WUS	184	1,075	3,184
SO2	CUS		238	839
	EUS		628	4,013
	WUS		210	2,289
VOC	CUS	948		
	EUS	1,159		
	WUS	1,049		



Ozone > SIL: All is not Lost

Further steps are possible even if ozone screening based on MERPs is > SIL



These approaches need close coordination with reviewing agency.

Despite prior statements on photochemical modeling in guidance, EPA appears to be emphasizing MERPs as a preferred approach over photochemical modeling except in extreme cases.

Crystal Ball

Crystal Ball

Actions we expect soon

Rules vs. guidance



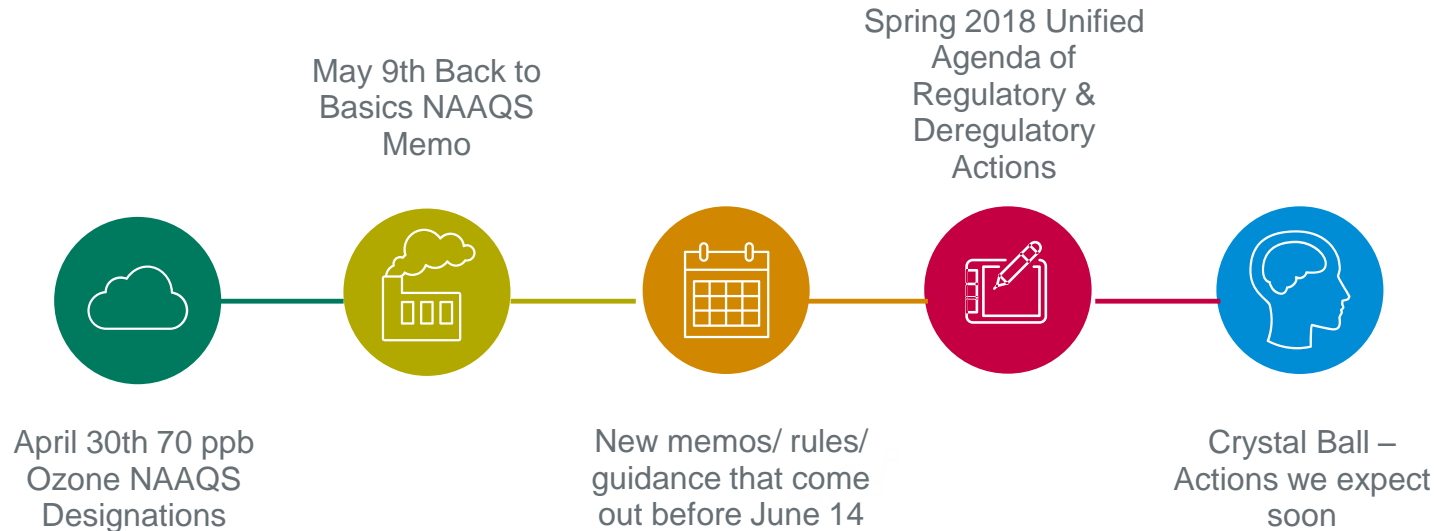
State response

Durability

Questions



Ongoing Improvements to Implementing the Clean Air Act



Thank You

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