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NSR Issues for Reform

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Agenda

- NSR Reform Background
- Current Reform Focus Areas
- EPA Memos
- Proposed NSR Applicability Test
- Conclusions

Background – NSR Reform

- 1996 NOPR on the definition of major modification (i.e., changes to the lookback period, use of PAE vs PTE).
- Changes were promulgated in 2002, including the NSR exemption for PCPs, the clean unit exemption, and the ERP, but those changes did not survive litigation.

Background – NSR Reform

- In 2017, President Trump issued several EOs and a memorandum related to regulatory reform.
- EPA established a Regulatory Reform Task Force that identified NSR Reform as a key initiative.
- Some of the elements the Task Force identified for reform are left over from the 2002 NSR Reform rule, including provisions for RMRR and PCPs.

NSR Reform

7 areas identified by the Task Force for reform:

1. Projected Actual Emissions (PAE)
2. Net Emission Increase (NEI)
3. Project aggregation
4. Ambient air
5. Debottlenecking and identifying associated emission units
6. Routine Maintenance, Repair, and Replacement (RMRR)
7. Pollution Control Projects (PCPs)

NSR Reform

1. Projected Actual Emissions (PAE)
2. Net Emission Increase (NEI)
3. Project aggregation
4. Ambient air
5. Debottlenecking and identifying associated emission units
6. Routine Maintenance, Repair, and Replacement (RMRR)
7. Pollution Control Projects (PCPs)

12/7/17 Memo - Use of Actual to Projected Actual Test

- Clarifies the definition of PAE and affirms that so long as a company follows the regulations for estimating the PAE as part of the PEI calculation, then EPA will not "second guess" the PAE analysis.

- If it is the pre-project intent to "actively manage" emissions after the project, this can be considered in pre-project projections

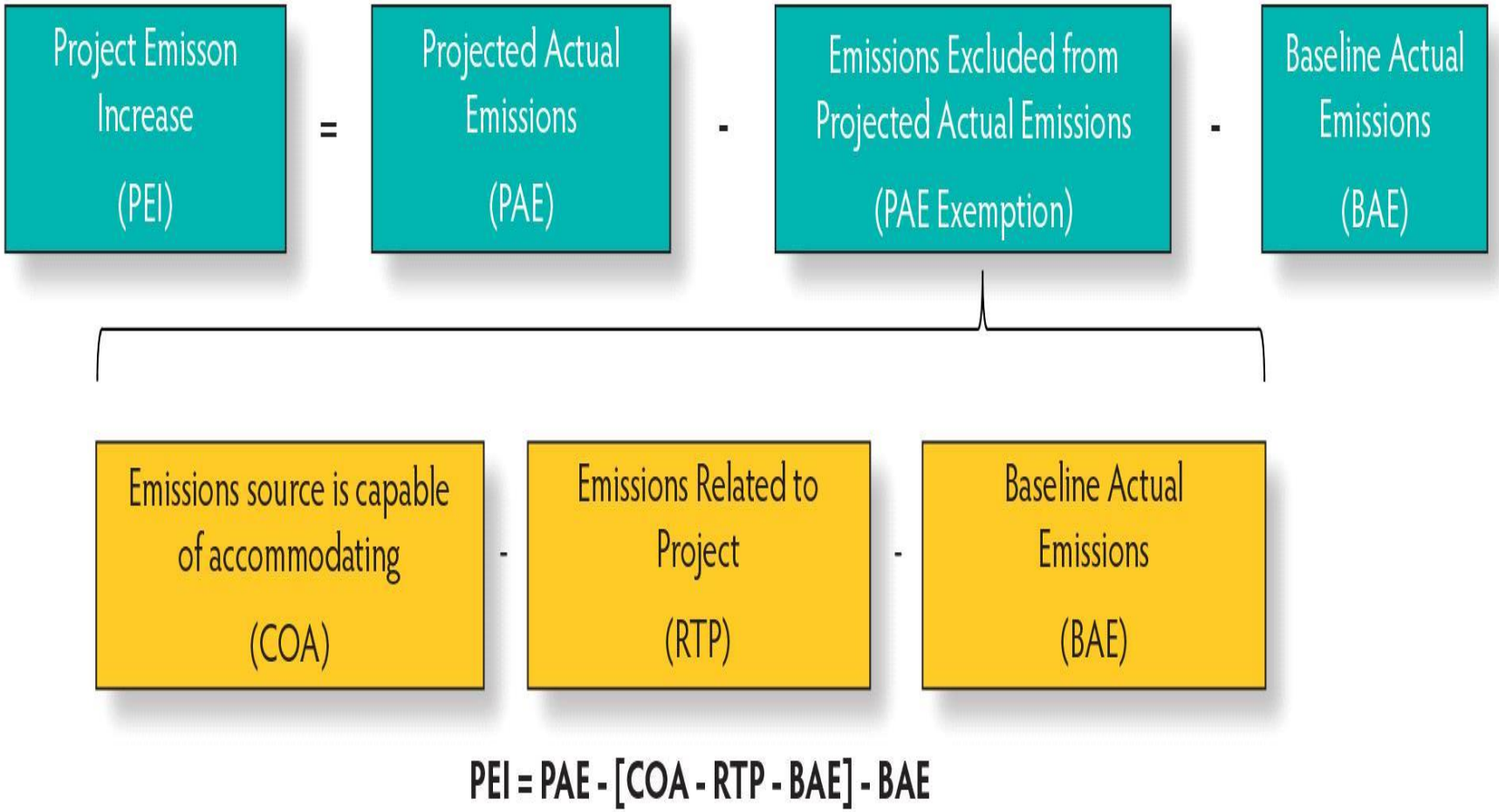
PAE Assessments- 12/7/17 Pruitt Memo

EPA allows sources to exclude emissions from the PAE as long as the emissions meet a two-prong test:

(1) An emission unit was capable of accommodating (COA) the emissions before implementing the project, and

(2) The emissions are unrelated to the project.

Emissions Increase Formula



PEI = PAE - [COA - RTP - BAE] - BAE

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Example PEI

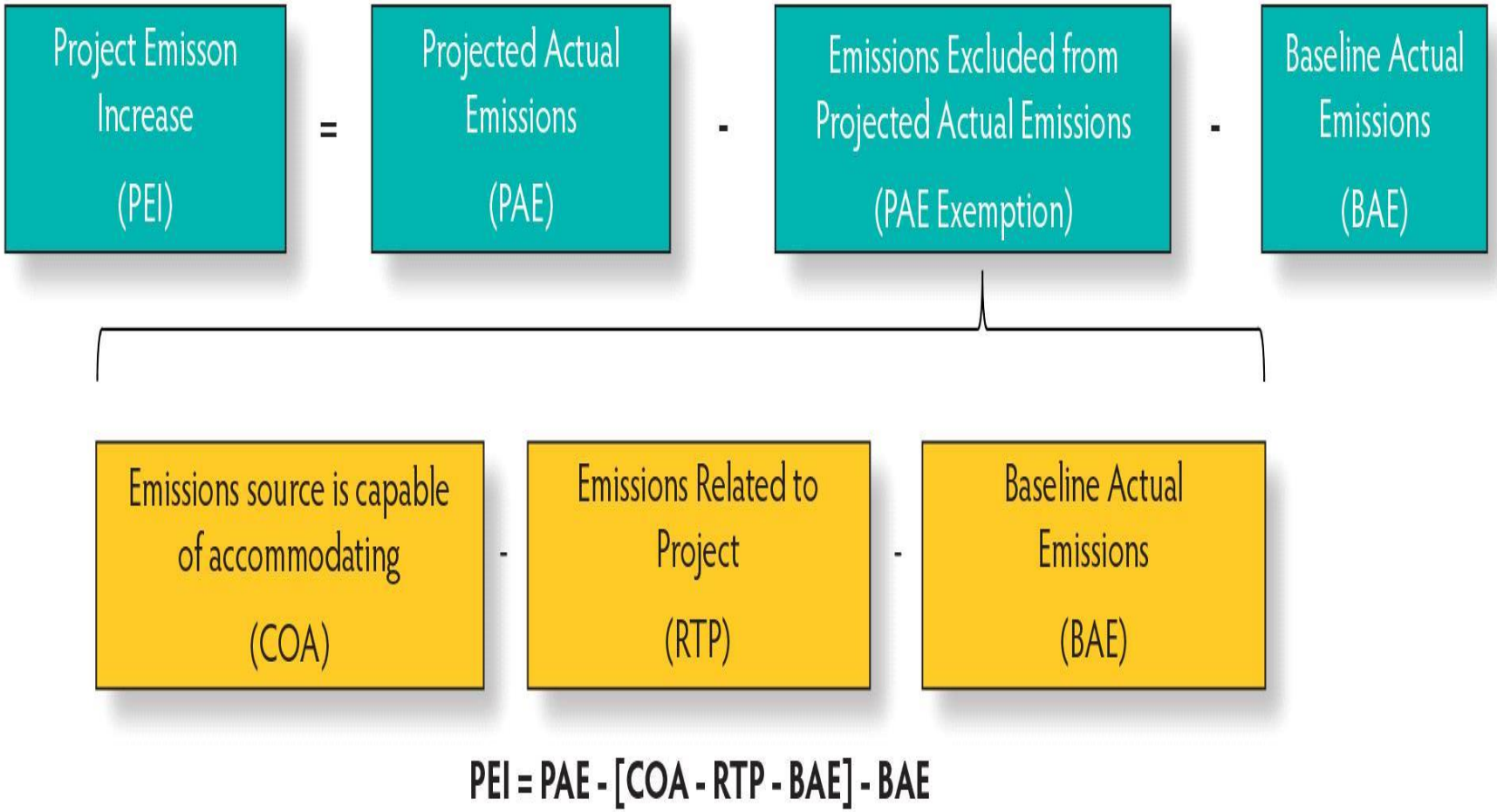
Consider the following PEI analysis:

- A 1970's era unit that is down 15% of the time for maintenance. NO_x emissions = 300 tpy. Modify the unit to eliminate issues requiring increased maintenance and increase efficiency.
- The following are the steps in calculating the PEI, which can then be compared to the SER for NO_x of 40 tpy.

Steps to Determine PEI

1. Calculate the Baseline Actual Emissions (BAE)
2. Calculate the Projected Actual Emissions (PAE)
3. Determine the emissions the source is capable of accommodating (COA)
4. Determine the emissions related to the project (RTP)
5. Determine the PAE Exemption
6. Determine the Project Emission Increase (PEI)

Emissions Increase Formula



PEI = PAE - [COA - RTP - BAE] - BAE

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Case Study

1. **Determine the emissions the source is capable of accommodating (COA)**
   COA = 30 tons/mo * 12 mo = 360 tpy
2. **Determine what is related to the project (RTP)**
   RTP = BAE * 15% = 300 * 15% = 45 tpy
3. **Determine the PAE Exemption**
   PAE Exemption = COA - RTP - BAE
   COA = 360 tpy
   PAE Exemption = 360 - 45 - 300 = 15 tpy

Case Study

Determine the Project Emission Increase

PEI = PAE - PAE Exemption - BAE

PEI = 345 - 15 - 300 = 30 tpy

- The PEI for the unit is 30 tpy (below the SER of 40 tpy).
- The PEI without taking advantage of the PAE exemption would be 45 tpy (PEI = 345 - 300 = 45 tpy), exceeding the SER.
- Thus, in this case, the use of the PAE exemption was a critical component of the analysis.
- According to EPA's December 7, 2017 memo, EPA would not second guess the emissions analysis based on the PAE exemption.

3/13/18 Memo - Project Emissions Accounting Under NSR

- Clarifies whether emission reductions can be considered as part of the PEI calculations.
- Longstanding policy is that only emission increases could be considered (Step 1).
- Emission decreases could be considered only if in a full review of the net emissions changes in a 5-year contemporaneous period before the project (Step 2).
- EPA suggests in its memo that this prior interpretation of the regulations is problematic because it does not consider the full scope of the project's emission changes on the PEI.

3/13/18 Memo - Project Emissions Accounting Under NSR

For example, if a site is replacing a smaller boiler with a larger boiler, the decrease in emissions for the boiler being shutdown should be considered as part of the PEI.

In short, EPA is now allowing emissions reductions directly related to the project to be included when calculating the PEI.

RMRR

- History of NSR pertaining to RMRR
  - Regulatory review *(what the current rules actually say)*
  - Review of the ill-fated Equipment Replacement Provision (ERP) from NSR Reform
- Steps to Assess RMRR Exclusions
  - General procedures to apply guidance and considerations in best practices
- What could EPA do to improve the RMRR applicability process and how can regulated sources manage this process more proactively?

RMRR Evaluation

Owner/Operators have essentially 5 options when evaluating a plant project

1. Seek a major NSR permit if the emissions change would trigger major NSR for one or more pollutants (most would like to avoid this)
2. Proceed at risk without a formal RMRR determination (enforcement risk)
3. Seek a RMRR formal determination (time-consuming – up to a year)
4. Forgo/curtail replacements, and simply repair existing components
5. Limit scope of project (limit the emissions increase) – major NSR avoidance based on the emissions change assessment

Routine Maintenance, Repair, Replacement Exclusion

- Does project qualify for routine maintenance, repair, replacement exclusion?
  - Assess:
    1. ***Nature and extent***,
    2. ***Purpose***,
    3. ***Frequency, and***
    4. ***Cost of project***
  - Aka → "the 4 (or 5) factor test"
- Exclusion has never been clearly defined through rulemaking
- The 7th Circuit case (1990) involving WEPCO and a May 20, 2000, EPA Region 5 memo (Detroit Edison Dense Pack Project) set the precedent for a narrow interpretation of RMRR

Routine Maintenance, Repair, and Replacement (RMRR) - ERP

- October 27, 2003 - Equipment replacement activity is exempt (qualifies as RMRR) if these four criteria are met:
  - Replace existing components of a process unit with identical/functionally equivalent components
  - Cost of replacing the component <20% of the replacement cost of the process unit which the component is part of (cost threshold component)
  - The replacement does not change the unit's basic design parameters, and
  - The unit continues to meet enforceable emission and operational limitations

What the ERP did not Include

- No lists of specifically excluded RMRR activities
- No categorical exclusion of energy efficiency projects from NSR/PSD
- No distinguishing of replacements based on the frequency of occurrence
- No annual Maintenance, Repair and Replacement Allowance provision

Is More Guidance or RMRR Applicability Criteria Helpful?

- Could EPA develop a new and robust RMRR determination now?
- Formalize a list of RMRR default activities (possibly by industry or process unit/type)
- How about automatic RMRR applicability to projects that solely improve worker safety, reduce the frequency of start-up and shutdown emissions, or increase the reliability of control devices?
- Reassess the "equipment replacement provision" (2003) to somehow make it legally defensible?

Strategies to Consider?

- If you're in the "gray area" on a RMRR determination, consider:
  - Utilizing a NSR ("Actual to Projected Actual") applicability analysis including the recent helpful guidance
    - Potentially no new limits
    - Could allow for use of "excludable emissions" in the projected actual emissions assessment
    - Can be completed quickly in simple cases
  - The new December and March EPA guidance imply that the owner/operator now ***has more leeway to define the project*** with the expectation the analysis is completed pre-change.

NSR Reform and Congress

- Congress is pursuing changes to the NSR requirements - Bill H.R. 3128 was introduced on 6/29/17 to revise the definition of a "modification" to a unit for NSR purposes (i.e., change in a unit's design capacity and hourly increase in emissions vs annual emissions)
- While H.R. 3128 would simplify the emissions analysis for NSR, the bill is stuck in Congress. While it may pass the House, it needs 60 votes in the Senate.

Core Elements of the Proposed ACE rule

- A determination of the best system of emission reduction (BSER) for CO2 emissions from coal-fired power plants;
- A list of "candidate technologies" states can use when setting CO2 performance standards for affected plants;
- *A new preliminary applicability test for determining whether a physical or operational change made to a power plant may be a "major modification" triggering New Source Review (NSR);* and
- New implementing regulations for establishing emission guidelines under CAA section 111(d).

BSER Candidate Technologies

The candidate technologies are:

- Neural Network/Intelligent Sootblowers
- Boiler Feed Pumps
- Air Heater and Duct Leakage Control
- Variable Frequency Drives
- Blade Path Upgrade (Steam Turbine)
- Redesign/Replace Economizer
- Improved Operating and Maintenance Practices

States would consider these technologies in establishing standards of performance for covered EGUs.

Proposed NSR Hourly Test

- Includes a proposed amendment to the NSR rules to allow an "hourly" emissions increase test specifically for EGUs.
- While technically not an exemption from NSR, major NSR could be avoided based on the results of the hourly increase test.

Proposed NSR Hourly Test

NSR applicability for projects undertaken at an EGU would be determined using a four-step applicability process.

1. Will the project constitute a physical change or change in the method of operation (applying the current major NSR regulations)?;
2. If so, will the change result in an increase in the hourly emissions rate of the EGU (based either on the maximum achieved or maximum achievable hourly emissions rate?

Proposed NSR Hourly Test

3. If there is an increase in the unit's hourly emissions rate, is the project also predicted to result in a significant increase in annual emissions (applying the current major NSR regulations)?; and
4. If the project is predicted to result in a significant increase in annual emissions, will there also be a significant *net* increase in annual emissions at the major stationary source (applying the current major NSR regulations)?

Proposed NSR Hourly Test

- States with approved NSR programs would have the option but would not be required to adopt the hourly emission increase test
- For those states with delegated NSR programs, the NSR permitting process would have to include any changes that are ultimately made to the federal NSR provisions as they would be administering the federal program.
- EPA is proposing that the potential revisions to the NSR permitting program are severable from the rest of the ACE rule.

Conclusions

- As of now, very little has changed for the NSR Program.
- EPA has issued memorandums, however, since the memorandums are non-binding; they may not stand the test of time.
- There are no new regulations, or even any proposed regulations, except for ACE. And, there are no bills pending the final stages of becoming law. This means we need to stay tuned to future actions of both EPA and Congress on NSR reform and closely monitor all regulatory development.

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CMC Solutions

Predictive Emissions Monitoring Systems- Evolving Applications Under 40 CFR Part 75

CMC Solutions-AWMA FLA SECTION 2018

Presentation Objectives

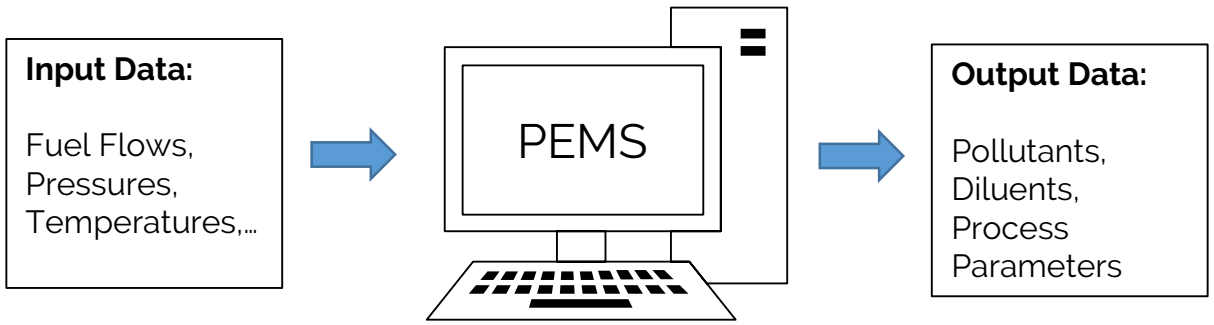
1. Overview of Predictive Emissions Monitoring Systems (PEMS)
2. PEMS Applications within a Single Facility
3. Recertification to maintain accuracy as plant conditions change

Part One

PEMS Functional Overview

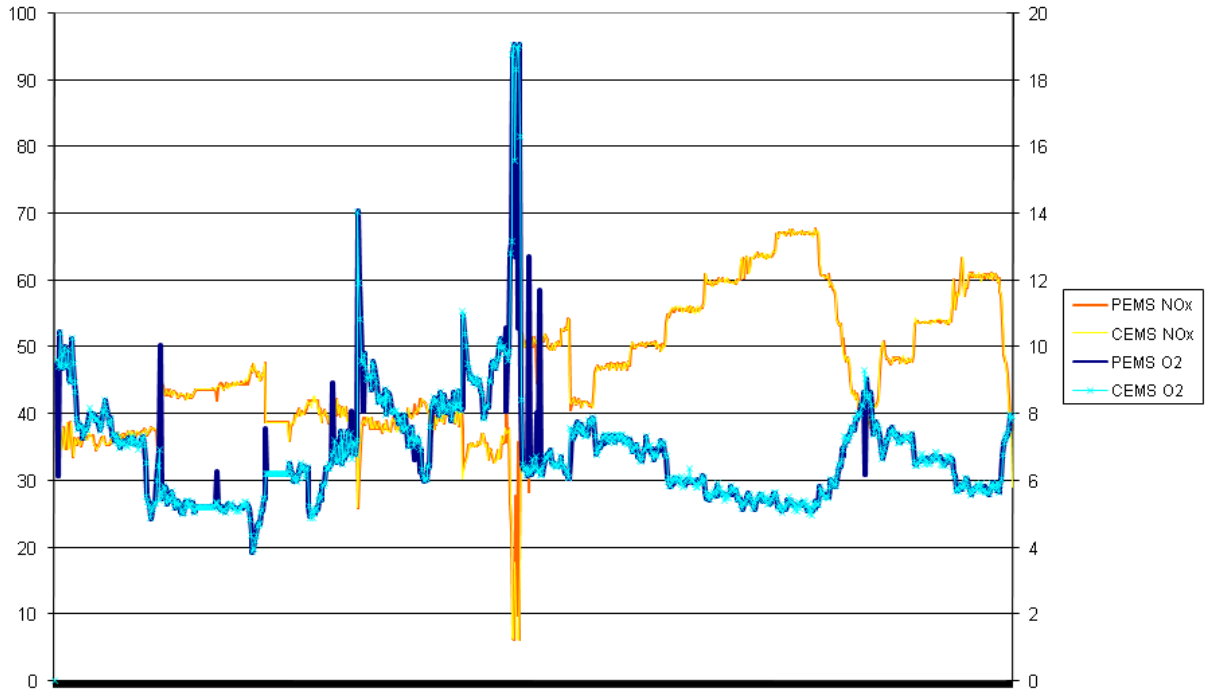
PEMS- Predictive Emission Monitoring System

- An advanced software model used to predict emission rates from any given unit rather than directly measuring emission levels
- Uses real-time process data from the existing plant control network to make predictions
- Software-based- generally no physical components used except the host server, monitor, and keyboard

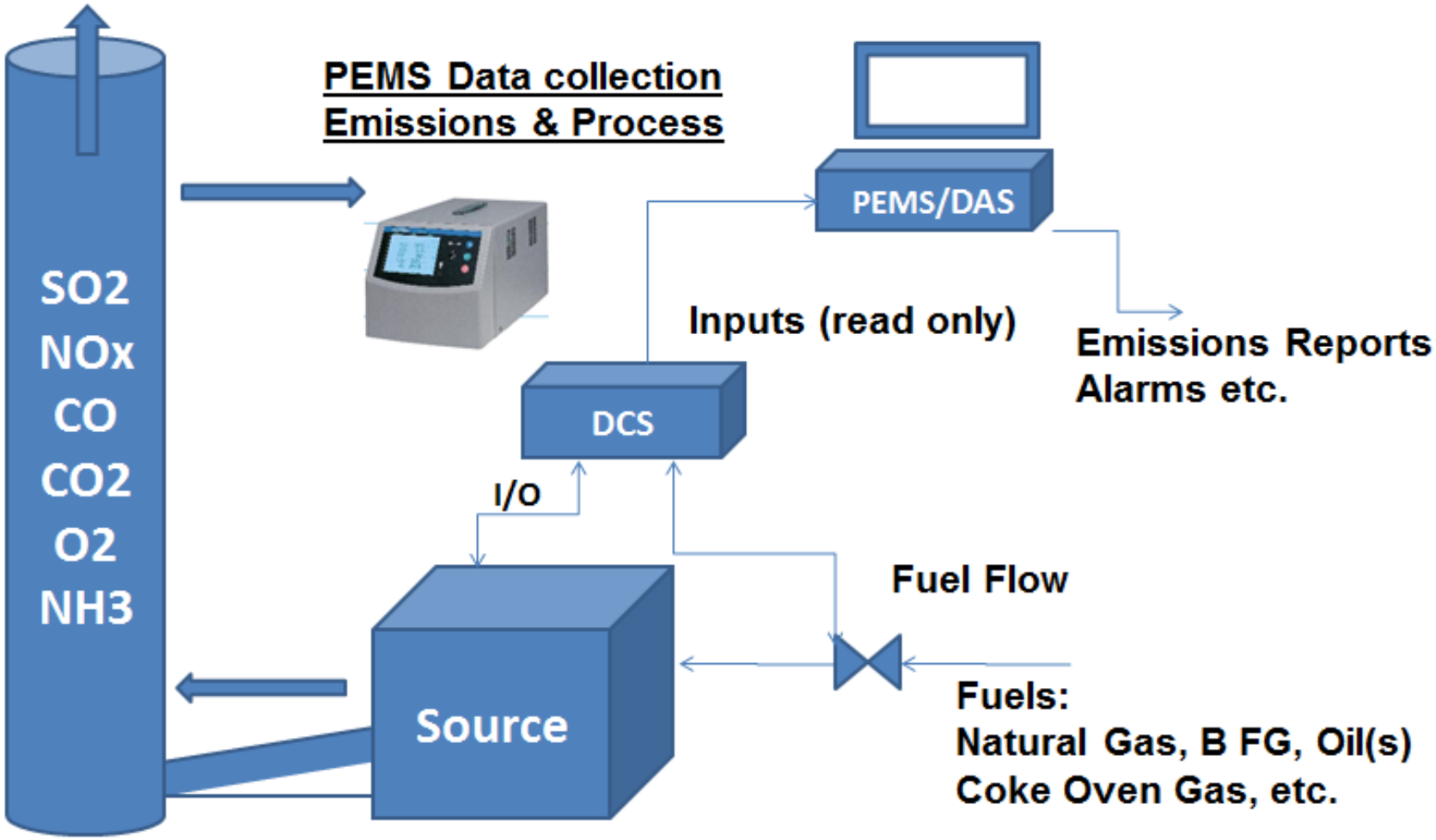


PEMS Accuracy Rates

- PEMS have been used for compliance in the U.S. for over 15 years
- Certified for many industrial sources using USEPA 40 CFR Part 60 and Part 75 regulations
- PEMS can easily meet or exceed the accuracy of a CEMS



PEMS


PEMS Data collection
Emissions & Process
PEMS/DAS
SO2
NOx
CO
CO2
O2
NH3
Inputs (read only)
Emissions Reports
Alarms etc.
DCS
I/O
Fuel Flow
Source
Fuels:
Natural Gas, B FG, Oil(s)
Coke Oven Gas, etc.

Part Two

PEMS Applications within a Facility

Case Study

- A Michigan plant has operated PEMS for compliance monitoring for twelve years, first certified under 40 CFR Part 75 in 2006
- Operates six units:
  - Three boiler units fired on a combination of fuels
  - Three natural gas fired turbine units
- All units subject to both U.S EPA 40 CFR Part 60 and 40 CFR Part 75 regulations
- Has passed all regulatory audits to date
- Initial PEMS system tested on one turbine unit, but expanded to cover many other units and applications throughout the facility and owned by the parent company.

Cost Savings

- The plant chose predictive technology to drastically reduce the high costs of operating their CEMS units
- PEMS avoid all costs associated with performing maintenance and repairs on CEMS components, resulting in up to a 90% reduction in the ongoing operational costs
- Choosing to install a PEMS upon new unit start-up projected to reduce initial capital costs to less than 50% the cost of installing a CEMS
- Energy costs associated with the EMS reduced 99% (about $60,000/yr to about $600/yr)

Designing a PEMS to work with Facility Infrastructure

- Can be applied to almost any unit with a uniform fuel composition
- Can use any existing process input parameters already present in plant control network
- Can use existing software/hardware to easily add another unit to monitor continuously
- Use multiple process inputs to be resistant to input failure

PEMS use a Unit-specific Development Process

- **Statistical Hybrid PEMS** need a database of emission and process data to use as a template for calculations
- Collect historical training dataset
  - Collect process and emission data for a period of 3 to 30 days under all normal unit operating conditions with varying ambient range
    - Historical CEMS Data
    - Mobile Testing Unit
- Analyze possible inputs to determine which types of process data best predict the unit emissions data

- Deploy and verify PEMS accuracy with RATA
- Certify system under Part 60 **or**
- Certify system under Part 75
  - 720 operating hours with a CEMS – submit reports to EPA for approval

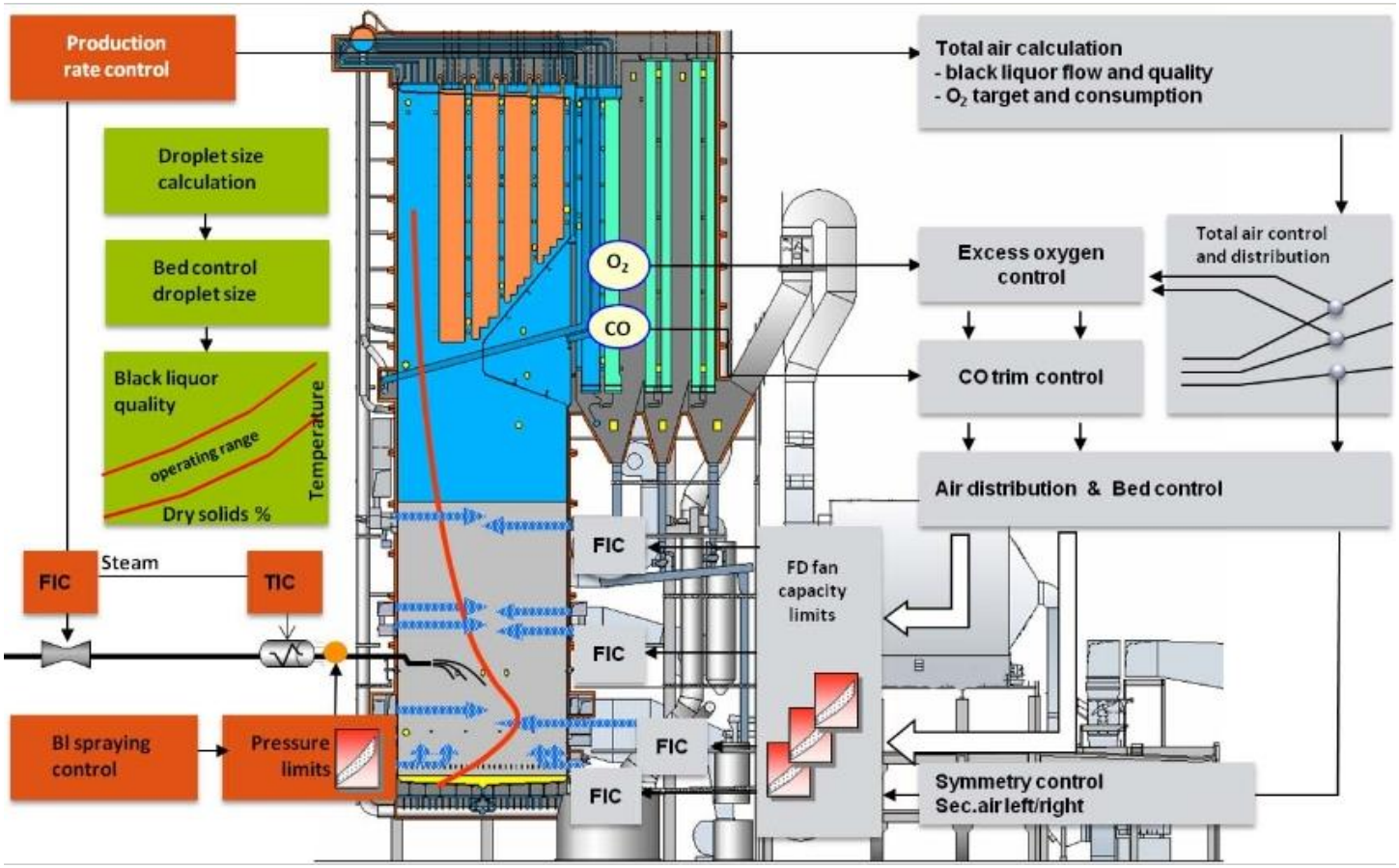
Virtual Process Analyzers

- Virtual Process Analyzers (VPAs) predict a process variable using other process data from the system network (here, O2 trim)
- Have been deployed in several applications either as a replacement for an analyser based system or as a backup to or as a diagnostic or validation tool for physical plant analyzers

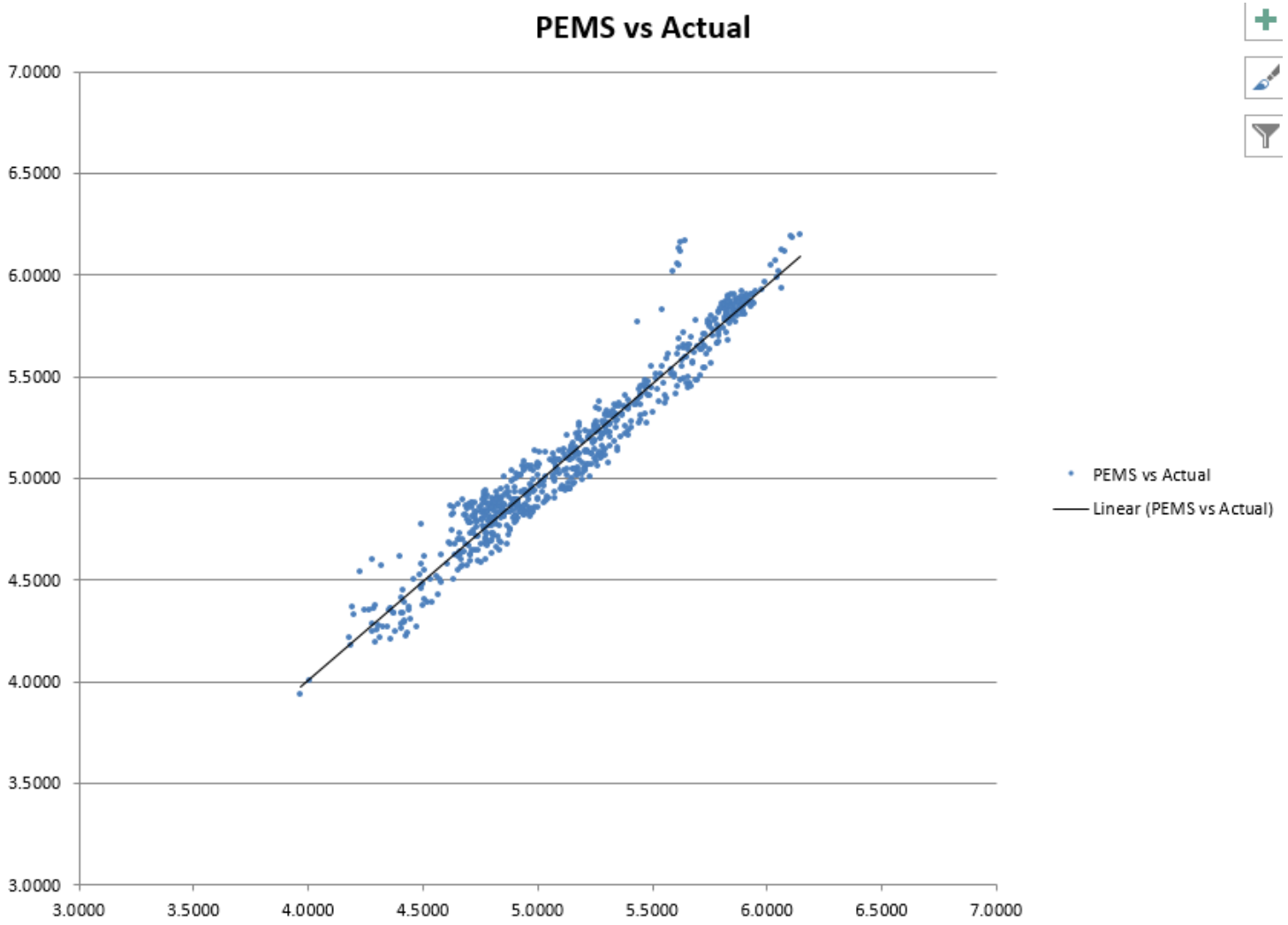
Applications include:

- SCR injection tuning
- Oxygen analysis
- Temperature control and calibration
- Predictive maintenance
- H_2S /TRS measurement at NG plants
- Difficult to sample applications
- Process instrument replacement
- Process instrument backup
- Preventative/predictive maintenance
- Process optimization
- Process efficiency
- Backup and safety devices

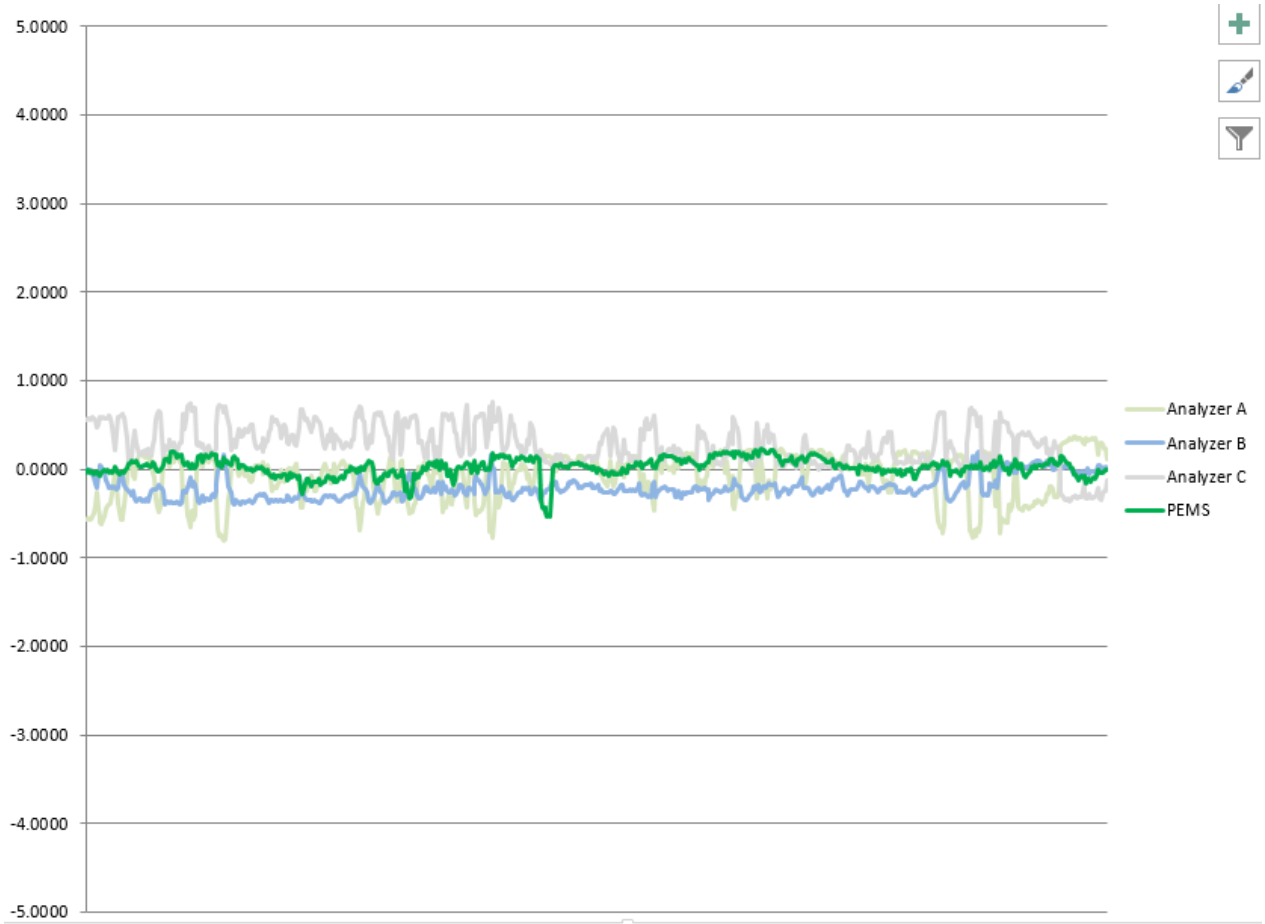
Boiler Oxygen Analyzer and O_2 Trim



Virtual vs. Actual O_2 Analyzer



Virtual Oxygen Analysis



CPMS

- A continuous parametric monitoring system, or a simplified PEMS, is an EPA approved method that uses a formula and emission factor or other parametric method.

- CPMS is not continuous monitoring, systems are not subjected to rigorous quality control, and cannot be certified.

- A PEMS can easily be used as a CPMS to monitor key parameters on a less rigorously standardized unit (less than 50 tons of primary pollutant emissions per year)

When should I avoid a PEMS?

- When using solid fuels that cannot be characterized (municipal waste incinerator)
- Pollutants with no correlation to process parameters (sulfur in coal)
- Periodic quality control is not possible or cost effective to perform

Part Three

PEMS Under Part 75

EMS Certification Comparison

PEMS RATA

	Applicable Regulations
40 CFR Part 60	40 CFR Part 60 Performance Specification 16, 40 CFR Part 60, Appendix B, Appendix F
40 CFR Part 75	40 CFR Part 75, Appendix A, Appendix B, Subpart F

CEMS RATA

	Applicable Regulations
40 CFR Part 60	40 CFR Part 60 Performance Specification 2, 40 CFR Part 60, Appendix B, Appendix F
40 CFR Part 75	40 CFR Part 60 Performance Specification 2, 40 CFR Part 60, Appendix B 40 CFR Part 75, Appendix A, Appendix B

EMS Certification Comparison

PEMS RATA

	Part 60	Part 75
NOx	3 Load	Single load
	RA ≤ 10% (conditional dependent on load)	RA ≤10%
Diluent	PEMS ± 1% absolute difference	RA ≤ 10%
CO	RA ≤ 10% or 5% applicable standard	N/A
Additional Tests	Correlation, Variance, Bias	Subpart E Demonstration

CEMS RATA

	Part 60	Part 75
NOx	Single load	Single load
	RA ≤ 20%	RA ≤10%
Diluent	CEMS ± 1% absolute difference	RA ≤ 10%
CO	RA ≤ 10% or 5% applicable standard	N/A
Additional Tests	Calibration Test, Linearity Error Test	Calibration Test, Linearity Error Test, Bias Test

Subpart E Demonstration Requirements

- 720-hour period (consecutive or non-consecutive) of paired CEMS-PEMS demonstration data

- Corresponding statistical analysis:

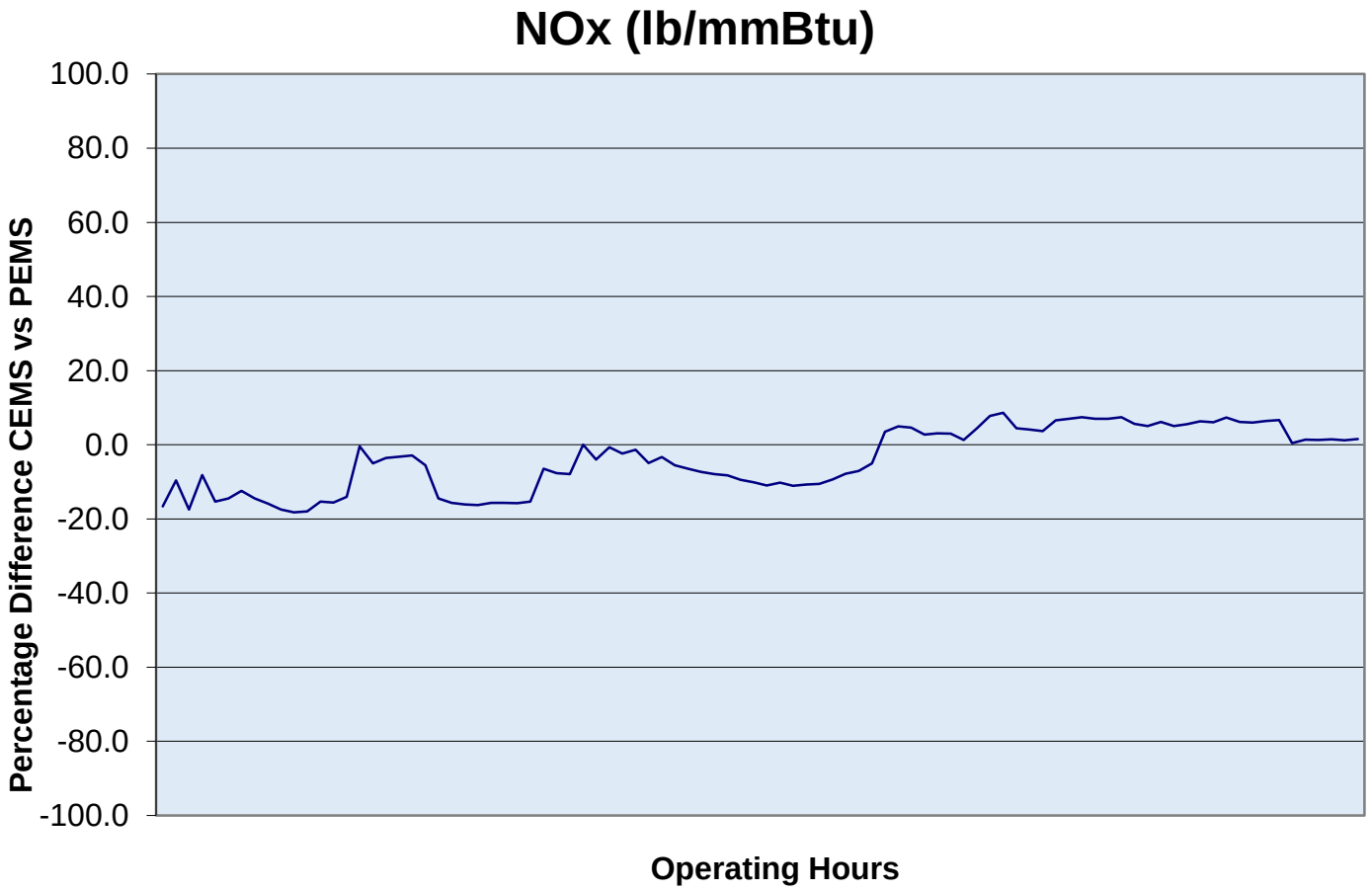
Total Samples Collected	720
Total Valid Samples	720
Percent Data Availability	100.00%
Percent Monitor Downtime	0.00%

NOx lb/mmbtu

	PEMS	RM	Differences
Mean	0.152	0.149	-0.003
Sum	109.54	107.52	2.02
Std Dev of Differences			0.011
Confidence Coefficient			0.001
Variance	0.0004	0.0003	

	Paired Dataset	Limit		
Bias Adjustment Factor	1.019	>0.9,<1.1	Both Limit	**Pass**
t-Test (cc > avg diff.)	0.001	-0.003	Low Limit	**Pass**
F Value	1.056	1.130	High Limit	**Pass**
C corel	0.809	0.800	Low Limit	**Pass**
Data Availiability	1.000	0.900	Low Limit	**Pass**

Subpart E Demonstration



USEPA Approval Letter

- **Model Envelope** – inputs used in model, minimum and maximum in range of validity
- **Number of records** – data used in historical dataset
- Generation of compliance data – emission rates at various loads and startup
- Application of audits conducted for the given model and statistical tests of demonstration data
- Recertification requires 90 run RATA with 30 runs at each of 3 loads

A change to either the model envelope or the number of records triggers a recertification under 40 CFR Part 75

Updating a PEMS Model when Conditions Change

- PEMS can be updated with data after a major change to the unit operation, or gradually as the unit undergoes wear
- Minor changes can be made to the model data during regulatory audits
  - Most common Bias Adjustment
  - Whether other changes qualify as major or minor is up to the specific regulating body:
    - Changes that do not affect previous audit results and compliance data reported
    - Slight changes that are responses to periodic tuning of the unit
    - Slight changes in control scheme that does not affect the emission profile
    - Adjustment due to stack testing methodology
    - Gap Filing
- Major changes in unit process data will require some reworking of the model
  - Adding model data (changing number of records)
  - Changing critical input levels (changing model envelope)
  - Adding or subtracting inputs (changing model envelope)
- May require re-certification test, depending on extent of modifications
  - Recertification RATA
  - 90-Run Recertification

Major vs Minor Change

Per 40 CFR Part 75

(g) If a RAA or a RATA is failed due to a problem with the PEMS, or if changes occur that result in a significant change in NO_x emission rate relative to the previous PEMS training conditions (e.g., process modification, new process operating modes, or changes to emission controls), the following recertification tests and procedures shall be performed, in this order:

(1) Ensure that the Sensor Validation System meets the requirements of section 4(c).

(2) If required, re-train the PEMS according to the manufacturer's recommendations.[8]

(3) Ensure that the requirements in section 4(d) are met.

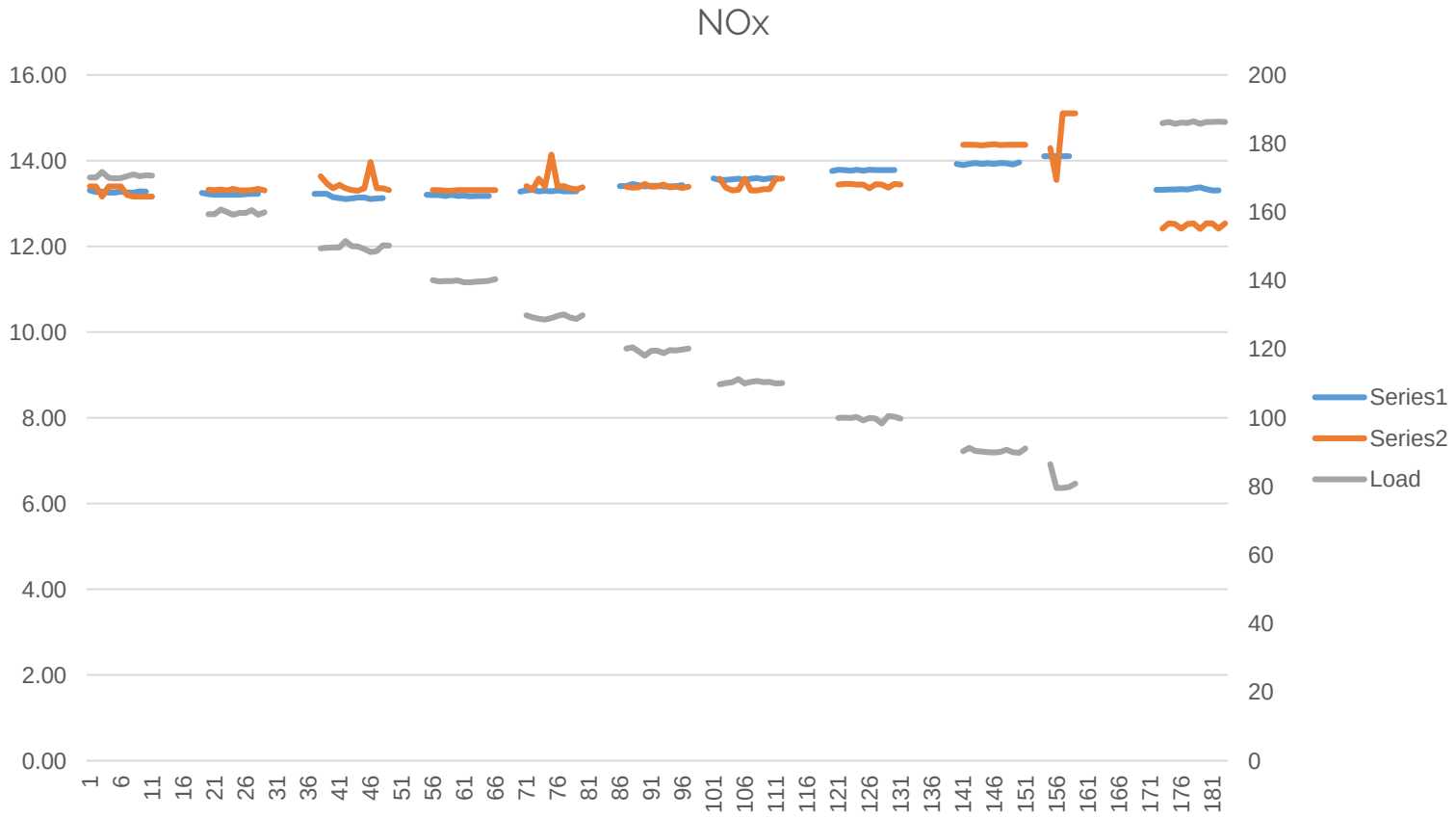
(4) Perform a RATA, following the procedures in Part 75, Appendix A, section 6.5, using three different operating levels (low, mid, and high) as defined in section 6.5.2.1 of Part 75, Appendix A. Use paired PEMS and reference method data to calculate the results on a lb NO_x/mmBtu basis. Calculations shall be based on a minimum of 30 runs at each operating level. NRG shall apply to each operating level the RATA performance

Major vs Minor Change

Per 40 CFR Part 60

8.5 Reevaluating Your PEMS After a Failed Test, Change in Operations, or Change in Critical PEMS Parameter. After initial certification, if your PEMS fails to pass a quarterly RAA or yearly RATA, or if changes occur or are made that could result in a significant change in the emission rate (*e.g.*, turbine aging, process modification, new process operating modes, or changes to emission controls), your PEMS must be recertified using the tests and procedures in section 8.1.

Expanding the Model Envelope



Turbine Model Envelope

INPUT	Model Level	DESCRIPTION	MIN	MAX
17	1	GAS FLOW	0	6353.75
51	2	HRSG GAS FLOW	0	61.53
3	3	GENERATOR AVERAGE CURRENT	0	609.41
27	3	PILOT GAS VALVE POSITION	9.68	61.54
29	3	AIR INLET TEMPERATURE	14.50	77.80
4	3	GENERATOR AVERAGE POWER	0.82	0.91
5	3	GENERATOR KVA	2314.88	14584.00
6	3	GENERTOR KVAR	760.25	8097.50
23	3	MAIN GAS VALVE COMMAND	35.74	62.68
24	3	MAIN GAS VALVE POS FDBK	36.06	62.60
28	3	SOLONOX CONTROL T5 SET P	891.69	1375.00
31	3	AVERAGE T5 TEMPERATURE	893.53	1402.47
33	3	T5 THERMOCOUPLE 1	871.50	1421.78
34	3	T5 THERMOCOUPLE 10	900.00	1366.69
35	3	T5 THERMOCOUPLE 11	903.19	1395.00
46	3	AVERAGE T7 TEMPERATURE	565.03	1051.84
47	3	T7 THERMOCOUPLE 1	557.09	1043.50
49	3	T7 THERMOCOUPLE 3	545.69	1040.19

Recertification RATA Under Part 75

Turbine Recertification Requirements Outlined in Approval Letter	
1	Ensure that the Sensor Validation System is designed to identify sensor failures hourly to the operator and to reconcile failed sensors.
2	Re-train the PEMS according to the manufacturer's recommendations
3	Provide a sensor validation demonstration, including using one- and two-sensor input failure analysis.
4	Ensure hourly averages are computed per 75.10(d)(1).
5	Perform a RATA test at three different operating loads from 10 to 100% operating load. Calculate RA < 7.5 at each load.
6	Conduct an F-test, and a correlation analysis (r-test) using Part 75, Subpart E equations at low, mid, and high operating levels. The r-test shall be performed using all data collected at all three operating levels.
7	Perform a bias test at normal load, and apply a bias factor according to Part 75, Appendix A, Section 7.6, if applicable.
8	This test should be completed by the earlier of 180 calendar days or 60 unit operating days after the change which triggered the recertification.

EMS QA Comparison

PEMS

	Part 60	Part 75
RATA	Single load, Yearly	Single load, Yearly
RAA	One each quarter first year, one opposite RATA quarter following	Quarterly (Dependent on terms of petition approval)
Calibration Test	Daily and Quarterly	Daily and Quarterly

CEMS

	Part 60	Part 75
RATA	Single load, Yearly	Single load, Yearly
RAA	N/A	N/A
Calibration Test	Daily and Quarterly	Daily and Quarterly
Interference Test	N/A	Daily and Quarterly

Concluding Statements

PEMS can..

- Evolve to meet different functions throughout the plant, such as monitoring process variables, in addition to serving as a certified PEMS
- Provide flexibility using varying types of inputs to model many processes and combustion units, including those with add-on pollution controls
- Be developed from historical data or data collected from site during model development – can pool data and share between like kind units reducing model development period
- Adapt onsite to continue providing accurate modeling of combined fuels, pollution controls, startup, and shutdowns
- Be expanded and re-trained throughout the lifecycle of a plant unit, even under the more stringent regulations of 40 CFR Part 75

Questions?

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A native Floridian, Robert Manning has been practicing environmental law with Hopping Green & Sams since 1994. Robert's practice focuses primarily on air quality-related issues, including policy development, legislation, rulemaking, permitting and enforcement. Robert is past Chair of the Florida Bar's Environmental and Land Use law Section and the Florida Section of the Air and Waste Management Association.

Agenda

- **GHGs**
  - **Proposed Ace Rule**
  - **Florida Permit Challenges**
- **CSAPR Update**
- **SSM SIP Call**
- **MATS**

GHGs

- **Clean Power Plan (W.Va. v. EPA, D.C. Circuit)**
  - **June 26 Order – continued abeyance for 60 days, BUT …**
    - **September 4 Motion to decide case on merits**
  - **Proposed Repeal (FR Oct 16); Final Repeal (?)**
  - **Replacement**
    - **ANPR (FR Dec 28)**
    - **Proposal (FR Aug 31)**
      - **Affordable Clean Energy (ACE) Rule**

Proposed ACE Rule

- **Comment Deadline is October 31**
- **Final – EPA says “first part of 2019”**

Proposed ACE Rule

- **Key Issues**
  - **Applicability to all EGUs or just boilers**
  - **“Inside the fence”**
  - **Need for further state guidance**
  - **Averaging and trading**
  - **NSR revision – adds hourly-increase test**

GHGs

- ***Reynolds v. FL*** **(Leon County Circuit Court)**
  - **Complaint filed April 16**
  - **Alleges violations of FL Constitution, Public Trust**
  - **State's responses filed July 6: three Motions to Dismiss**
  - **Hearing postponed; was set for October 4**

FL Permit Challenges

- **Dania Beach**
  - **1200 MW NGCC**
  - **Sierra Club intervened**
  - **July 30 ALJ Recommended Order approving project**
- **Big Bend Modernization**
  - **1090 MW NGCC (repower Unit 1; retire Unit 2)**
  - **Sierra Club filed Motion to Intervene on October 2**
  - **Hearing set for January 7-11**

CSAPR Update

- ***Wisconsin v. EPA*** **(D.C. Circuit)**
  - **Briefing complete**
  - **Oral Argument held on October 3**
- **Recent modeling regarding 2015 standard**
- **July 10 proposal that 22 states in rule fully satisfy interstate transport obligations.**

SSM SIP Call

- ***FCG-EC v. EPA*** **(D.C. Circuit)**
  - **In abeyance (April 24, 2017 Order)**
  - **EPA's review continuing**
    - **Latest status report filed October 16**

MATS

- ***Murray Energy v. EPA*** **(D.C. Circuit)**
  - **In abeyance (April 27, 2017 Order)**
  - **Status Reports every 90 days**
- **EPA June 13 ANPR re cost-benefit analysis**
  - **Comment period extended until August 13.**

United States
Environmental Protection
Agency

U.S. EPA Region 4 Regulatory Update

Florida AWMA Annual Conference
Jupiter Beach, FL

October 24, 2018

Todd Russo
U.S. Environmental Protection Agency, Region 4
Atlanta, GA

Today's Topics

Administrative Update

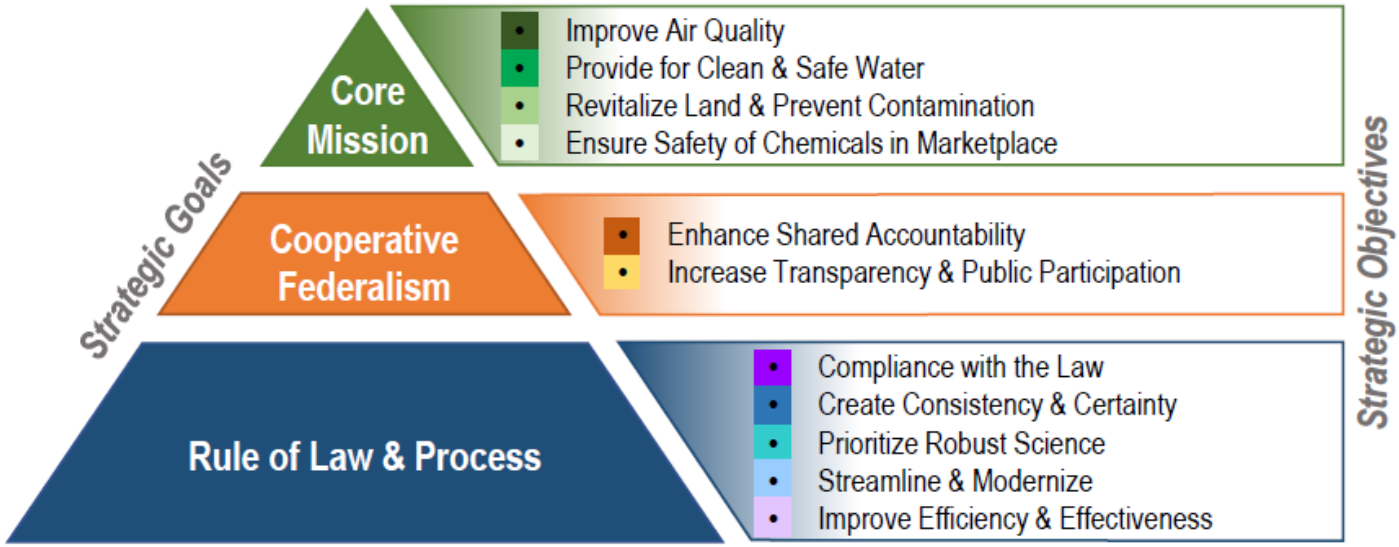
Air Program Update

- Air Quality Improvements
- Progress on NAAQS Implementation
- Clean Air Act Regulatory and Policy Activity
- Voluntary Activities

Questions

Plans for FY18 and Beyond

The new 2018-2022 Strategic Plan charts the course for advancing EPA's priorities and mission to protect human health and the environment



https://www.epa.gov/planandbudget

Leaning EPA

EPA is Implementing a Lean Management System (ELMS)

EPA Desires:

Continuous improvement through problem solving at the level closest to the work

Continuous improvement based on respect for the people doing the work

Accountability to the process without blaming people

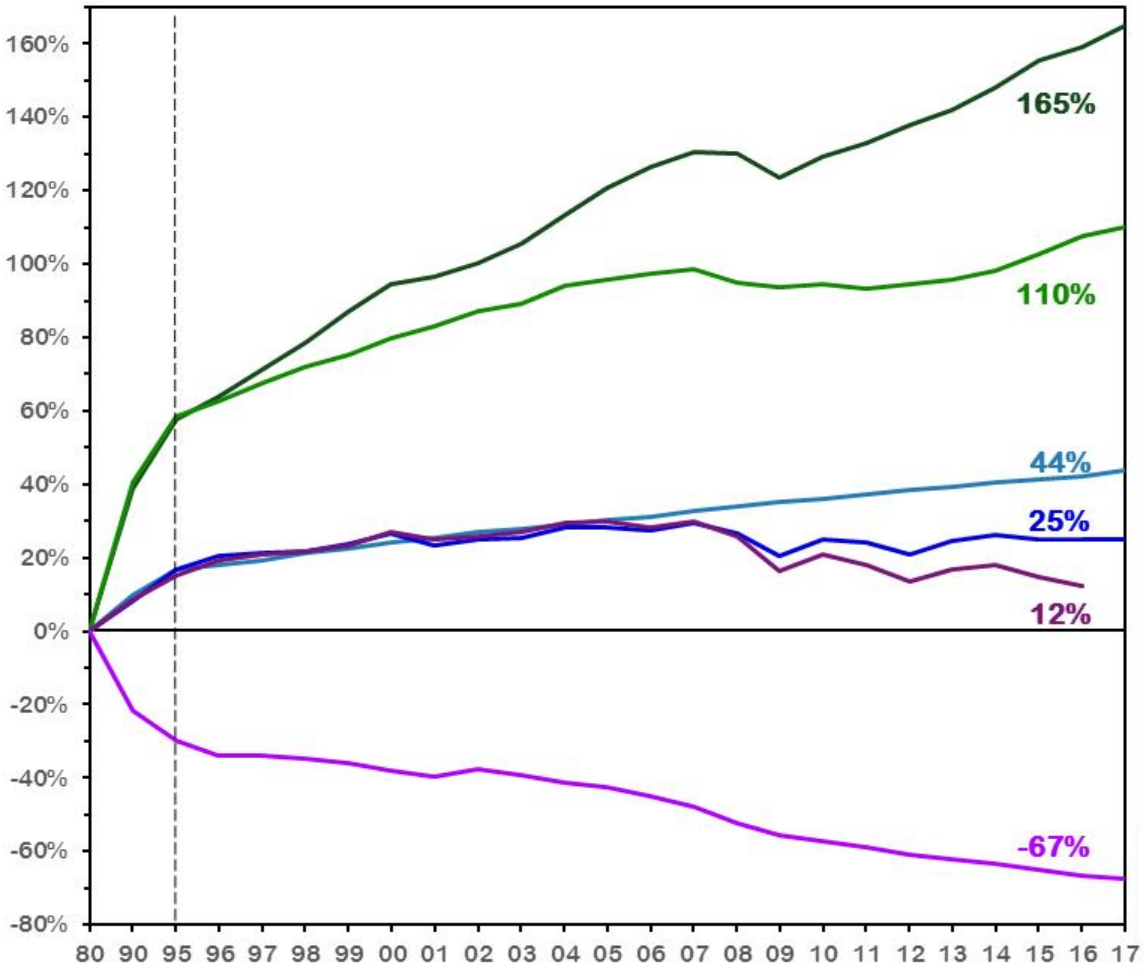
Sustainment of gains from its improvement efforts

Development and adherence to standard processes

http://intranet.epa.gov/lean/lms/index.html

Comparison of Growth vs Emissions

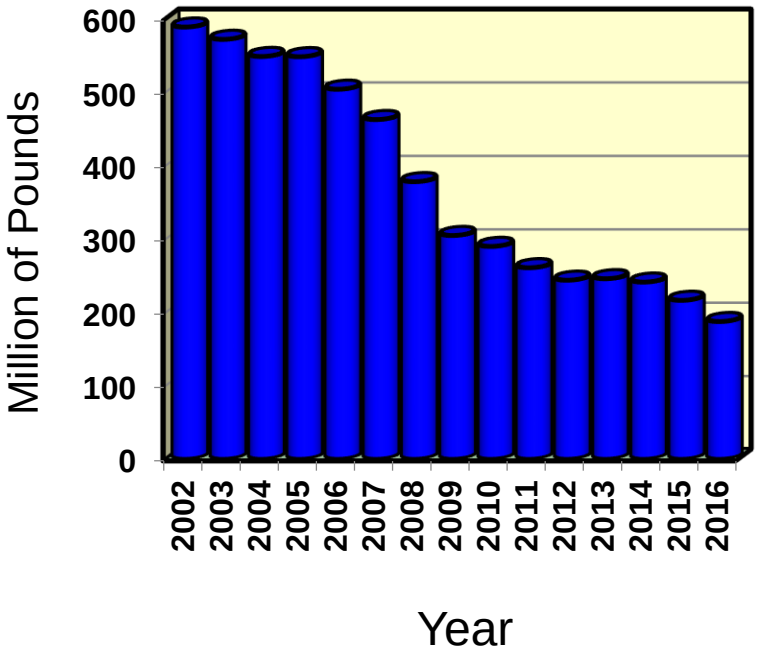
Comparison of Growth Areas and Emissions, 1980-2017



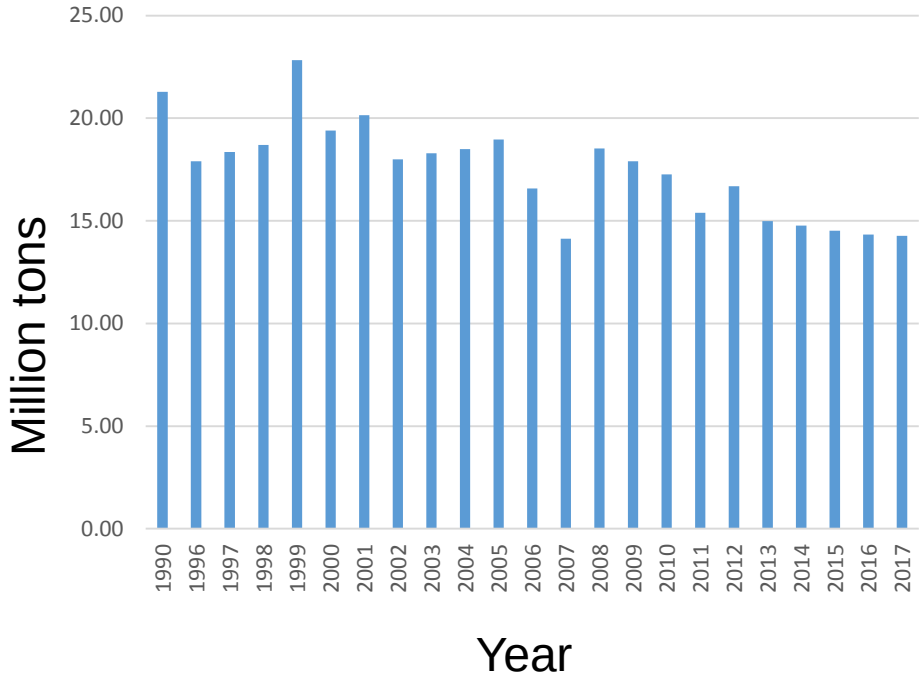
www.epa.gov/airtrends

Emissions Have Reduced In Region 4

TRI (Air Emissions)



NEI Criteria Pollutant Emissions*



*NOX, SO2, CO, VOC, NH3, PM2.5 and PM10, Mobile Sources excluded

www.epa.gov/air-emissions-inventories/national-emissions-inventory-nei
And
www.epa.gov/tri

Progress on NAAQS Implementation

- NAAQS Setting Process
- SO2 NAAQS Designations
- Current Region 4 Nonattainment Areas (all NAAQS Pollutants)

Updating the NAAQS Review Process

- **May 9, 2018:** EPA Administrator outlines five principles for EPA to follow in future NAAQS reviews
  - Meet statutory deadlines;
  - Address all CAA provisions for NAAQS reviews;
  - Streamline and standardize the process for development and review of key policy-relevant information;
  - Differentiate science and policy judgments in the NAAQS review process; and
  - Issue timely implementation regulations and guidance

www.epa.gov/criteria-air-pollutants/back-basics-process-reviewing-national-ambient-air-quality-standards

NAAQS Reviews: Status Update

(August 2018)

	Ozone	Lead	Primary NO_2	Primary SO_2	Secondary (Ecological) NO_2, SO_2, PM[1]	PM^2	CO
Last Review Completed (final rule signed)	Oct. 2015	Sept 2016	April 2018	Jun 2010	Mar 2012	Dec 2012	Aug 2011
Recent or Upcoming Major Milestone(s)	Late 2018 IRP Oct 2020 Final	TBD[4]	TBD[4]	May 25, 2018 Proposal Aug 9, 2018 Comment period closed Jan 28, 2019 Final	June 2018 2nd Draft ISA August 2018 REA Planning Document	Late 2018 1st draft ISA Dec 2020 Final	TBD[4]

Additional information regarding current and previous NAAQS reviews is available at: http://www.epa.gov/ttn/naaqs/

[1] Combined secondary (ecological effects only) review of NO_2, SO_2, and PM
[2] Combined primary and secondary (non-ecological effects) review of PM
[3] IRP – Integrated Review Plan; ISA – Integrated Science Assessment; REA – Risk and Exposure Assessment; PA – Policy Assessment
[4] TBD = to be determined

2010 SO_2 Designations Process

Round 1: Completed August 2013 – EPA Region 4 designated 5 areas nonattainment based on existing monitors violating the standard*

Round 2: Completed June 30 and November 29, 2016 – EPA designated 65 areas in 24 states based on air dispersion modeling and 2013-2015 violating monitors (6 areas designated in Region 4)

Rounds 1-3

EPA currently has five areas designated as nonattainment in three States in Region 4

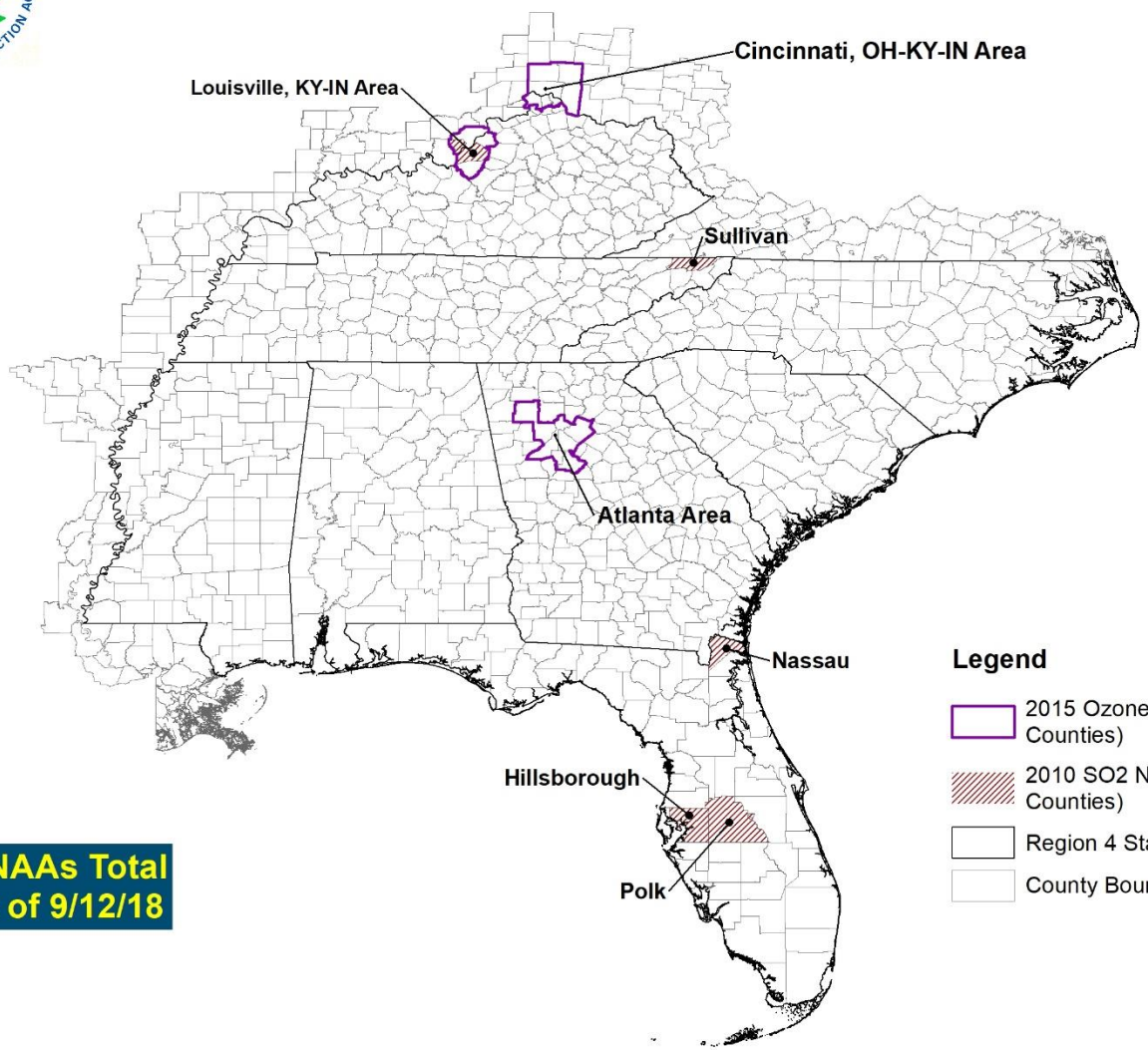
Round 3: Completed December 21, 2017 and March 28, 2018 – EPA completed an additional round of designations for all remaining undesignated areas ***except*** where states have deployed new monitoring networks by January 1, 2017 ***if*** executed under the SO_2 Data Requirements Rule (DRR); one new area was designated nonattainment

Round 4: By December 31, 2020 – EPA must complete designations for all remaining areas (based on 2017-2019 monitoring data)

www.epa.gov/so2-pollution/applying-or-implementing-sulfur-dioxide-standards

*one of the five has been redesignated to attainment (Campbell County, KY)

Current R4 Nonattainment Areas (all NAAQS Pollutants)



8 NAAs Total as of 9/12/18

Other Clean Air Act Regulatory and Policy Activity

- Regional Haze
- Exceptional Events
- Affordable Clean Energy Proposal (ACE)
- Startup, Shutdown, Malfunction (SSM)
- Mercury Air Toxics Standard (MATS)
- Oil and Gas
- CISWI
- Permitting Updates

Regional Haze Updates

- **9/10/18:** EPA Announces Regional Haze Reform Roadmap to Continue Improving Visibility and Reduce Regulatory Burdens
  - Enables efficient, timely, and effective implementation of the Regional Haze program today and in the future

Over the next year, EPA's Office of Air and Radiation will release a series of implementation tools and guidance documents that will help focus states' efforts and reduce and streamline the time and resources needed to meet the statutory and regulatory requirements for reducing regional haze in National Parks, wildlife refuges, and wilderness areas.

https://www.epa.gov/visibility

Exceptional Events: Rule Implementation Update

- **July 20, 2018:** we received a favorable decision in NRDC v. EPA, 16-1413 (D.C. Circuit), regarding the definition of a "natural event"
  - This was the only legal challenge to the 2016 Exceptional Events Rule
- EPA has concurred on 18 demonstrations that were submitted after revising the Exceptional Events Rule in September 2016, including:
  - Six demonstrations from northeast states for ozone influences from the 2016 Fort McMurray fires in Canada
- Our implementation efforts remain focused on addressing key stakeholder concerns:
  - Increasing communication and transparency
  - Ensuring a timely review process
  - Right-sizing demonstrations
  - Fostering national consistency
  - Providing helpful resources

https://www.epa.gov/air-quality-analysis/exceptional-events-rule-and-guidance

Affordable Clean Energy Proposal

- **8/21/18**, EPA proposed the Affordable Clean Energy (ACE) rule, which empowers states to reduce carbon dioxide (CO_2) emissions and provides reliable power at an affordable cost (comment period closes 10/31/18; public hearing 10/1/18 in Chicago)

- ACE would replace the Clean Power Plan (CPP), which EPA has proposed to repeal

- CPP was stayed by the Supreme Court and has never been implemented

https://www.epa.gov/stationary-sources-air-pollution/proposal-affordable-clean-energy-ace-rule

Affordable Clean Energy Proposal

- The ACE rule has several components:
  - Establish emission guidelines for state plans to address greenhouse gas emissions from existing coal-fired power plants
  - Determine on-site efficiency improvements to be the best system of emission reduction at existing coal plants
  - Revise New Source Review permitting to streamline these improvements
  - Revise implementing regulations to give states adequate time and flexibility to develop state plans

https://www.epa.gov/stationary-sources-air-pollution/proposal-affordable-clean-energy-ace-rule

SSM

- Final SSM SIP Action of 2015 concerned SIP provisions for treatment of excess emissions occurring during periods of startup, shutdown and malfunction (SSM)
  - Included SSM SIP Call that applied to 36 states (45 jurisdictions)

- Judicial review of the SSM Action is pending before the D.C. Circuit, but case is currently being held in abeyance to allow for review by the new administration

https://www.epa.gov/air-quality-implementation-plans/startup-shutdown-malfunction-ssm-emissions-industrial-facilities

MATS

- Requires power plants to limit their emissions of toxic air pollutants like mercury, arsenic and metals
  - The final rule sets standards for all hazardous air pollutants (HAPs) emitted by coal- and oil-fired electric generating units (EGUs) with a capacity of **25 megawatts** or greater

- The EPA has completed its initial review of the MATS Supplemental Cost Finding (81 FR 24420, April 25, 2016) to determine if the finding will be reconsidered
  - The EPA will issue the results of the review in a notice of proposed rulemaking and will solicit comment on the resulting finding
  - The EPA will also, in the same action, propose the results of the RTR for MATS

The proposed rule submitted for OMB review on October 5, 2018

www.epa.gov/MATS
www.reginfo.gov/public/do/eAgendaViewRule?pubId=201810&RIN=2060-AT99

Recent Risk and Technology Review Rules

The Risk and Technology Review (RTR) is a combined effort to evaluate both risk and technology as required by the Clean Air Act (CAA) after the application of maximum achievable control technology (MACT) standards.

Recent Final RTR:

- Manufacture of Amino/Phenolic Resins RTR Reconsideration
  - 10/4/18: EPA amended the NESHAP for Manufacture of Amino/Phenolic Resins 2014 RTR
    - Revises the emissions standards for continuous process vents (CPVs) at existing affected sources
    - Extends the compliance date for the revised emissions standard for back-end CPVs at existing sources
    - Revises requirements for storage vessels at new and existing sources during routine maintenance
    - EPA's risk assessment continues to show that the January 2000 Amino/Phenolic Resins standards provide an ample margin of safety to protect public health; the CPV requirements finalized in this action will provide further protection

www.epa.gov/stationary-sources-air-pollution/manufacture-aminophenolic-resins-national-emission-standards

Proposed CISWI Technical Amendments

- **May 9, 2018**: EPA proposed to amend the 2016 NSPS and emission guidelines for new and existing sources (respectively) for Commercial and Industrial Solid Waste Incineration Units (CISWI)
  - Codify the emission limit for mercury (Hg) for waste-burning kilns in a production-based limit
  - Extend performance evaluation tests timeline from 60 days to 180 days
  - Extend timeline for electronic data reporting
  - Add provisions for particulate matter, dioxins, hydrogen chloride (HCl), sulfur dioxide, nitrogen oxide and Hg for demonstrating initial compliance by using a continuous emission monitoring system
  - Providing clarifications on reduced testing requirements, deviation reporting, continuous opacity monitoring systems and air curtain incinerators
- The comment period closed July 30, 2018.

www.epa.gov/stationary-sources-air-pollution/proposed-technical-amendments-2016-new-source-performance-standards

Permitting Improvements & Other Recent Actions

Completed Actions

- Actual-to-Projected-Actual Applicability Test Guidance Memorandum
- Project Emissions Accounting Memo
- Source Aggregation Guidance, Meadowbrook Letter, Draft Guidance on Interpreting Adjacency
- $PM_{2.5}$ and Ozone SILs Guidance
- Once-In-Always-In Policy Change

On-Going Work

- Project Aggregation Reconsideration
- Ambient Air Guidance
- Project Emissions Accounting Rulemaking
- Rulemaking on Treatment of Biomass for Permitting

See Appendix

Voluntary Programs and Successes

- Advance Program
- Southeast Diesel Collaborative (SEDC)

Advance Program

A collaborative effort by EPA, states, tribes, and local governments to encourage emission reductions in attainment areas, to help them continue to meet the air quality standards for ozone and $PM_{2.5}$

Program Goals:

- Help attainment areas to ensure continued health protection
- Better position areas to remain in attainment
- Efficiently direct available resources toward actions to address ozone and PM2.5 problems quickly

Region 4 Participants

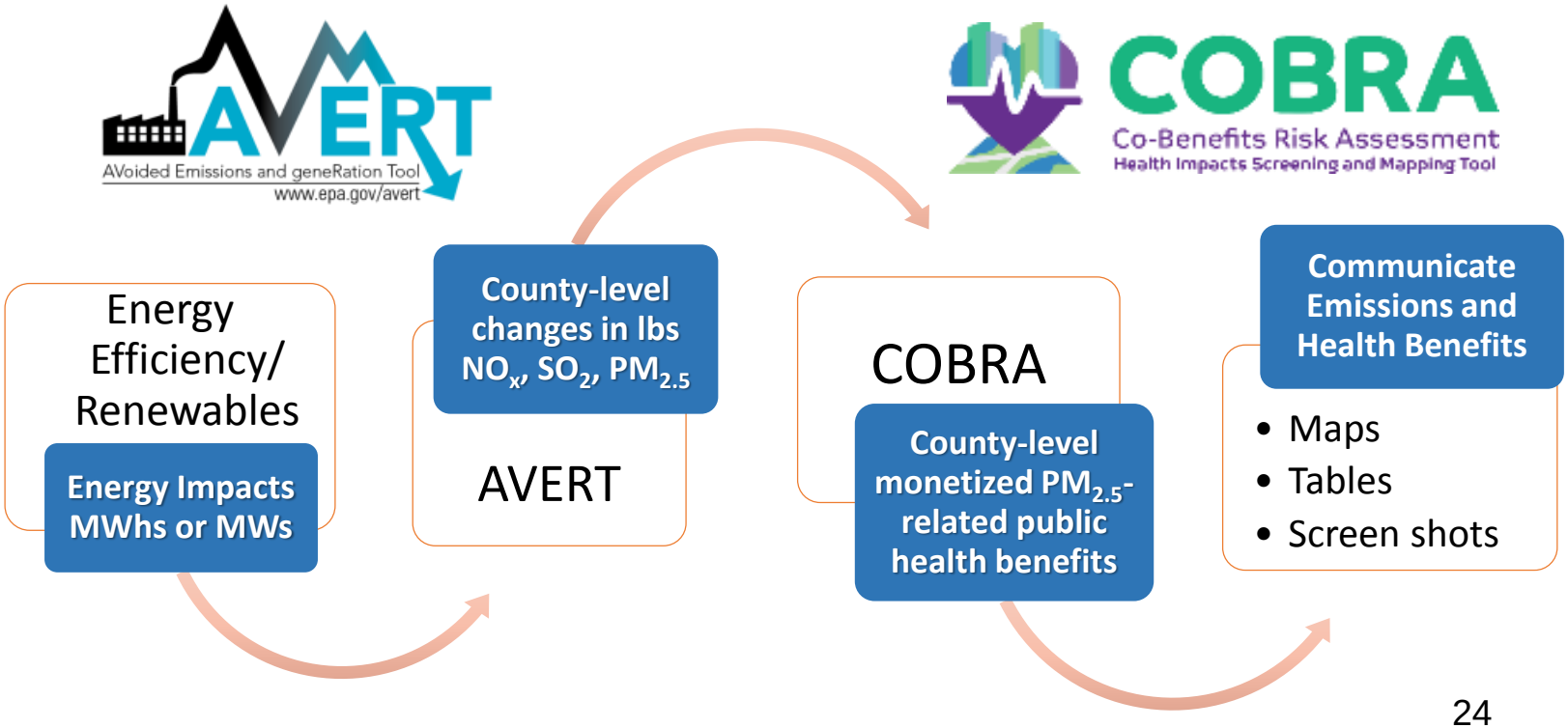
SC – entire state
Catawba Tribe, SC
Middle GA (including Robins Air Force Base)
Louisville, KY
Cumberland County, NC (including Fort Bragg)
Charlotte, NC
NC – Remainder of the State

EPA Region 4 contact: Kelly Sheckler
404-562-9222; sheckler.Kelly@epa.gov
www.epa.gov/advance

Air Quality and Health Benefits Quantification

EPA is uniquely positioned to provide public health related tools and resources:

- **Updated AVERT and COBRA –** now you can more easily estimate AQ and Health benefits of energy efficiency and renewable energy programs using both tools together.



Southeast Diesel Collaborative (SEDC)

- Voluntary public/private partnership formed in 2006 (part of the National Clean Diesel Campaign), focused on clean diesel opportunities that incorporate Energy, the Environment and Economics

- Diverse Partners from government, industry, state/local groups with the goal of improving air quality and public health by reducing emissions from existing diesel engines

- Annual funding under the Diesel Emissions Reduction Act (DERA)

- 13th Annual Partners Meeting was recently held in Charleston, SC

www.southeastdiesel.org

Questions?

Todd Russo
russo.todd@epa.gov
404-562-9194

Appendix

Actual-to-Projected-Actual Applicability Test

- **Memorandum: "New Source Review Preconstruction Permitting Requirements: Enforceability and Use of the Actual-to-Projected-Actual Applicability Test in Determining Major Modification Applicability"** signed by Administrator Pruitt on December 7, 2017
  - Available at https://www.epa.gov/sites/production/files/2017-12/documents/policy_memo.12.7.17.pdf
  - Where a source projects an insignificant emissions increase, the level of actual emissions after the project governs applicability
  - Projections may reflect the intent to actively manage post-project operations in order to prevent a significant emissions increase from occurring
  - EPA will not second guess NSR applicability analyses that comply with the procedural requirements of the regulations

Project Emissions Accounting (Project Netting)

- **Memorandum: "Project Emissions Accounting Under the New Source Review Preconstruction Permitting Program"** was published on March 30, 2018 (83 FR 13745)
  - Available at www.gpo.gov/fdsys/pkg/FR-2018-03-30/pdf/2018-06430.pdf
  - Communicates EPA's interpretation that the current NSR regulations provide that emissions decreases as well as increases are to be considered at Step 1 of the NSR applicability process, i.e., determining whether a project will result in a significant emissions increase
  - Interpretation is grounded in the principle that the plain language of the CAA indicates that Congress intended to apply NSR to changes that increase actual emissions and the language in the corresponding NSR regulations is consistent with that intent
- Prior EPA guidance had indicated that the relevant provisions of the NSR regulations preclude the consideration of emissions decreases at Step 1
  - For the reasons discussed in the memo, EPA will no longer apply such interpretation

Source Aggregation

- **EPA defines "*stationary source*" in the permitting programs as all of the pollutant-emitting activities that are:** [40 CFR 70.2 and 52.21(b)(1) and (5)]
  - located on one or more contiguous or adjacent properties *and*
  - are under common control of one person (or persons under common control), *and*
  - belong to the same major industrial grouping (2 digit SIC code)

- EPA clarified its interpretation of "common control" in an April 2018 letter to Pennsylvania DEP (the Meadowbrook Letter)
  - The Meadowbrook Letter explains EPA's view that control means the power or authority of one entity to dictate decisions of the other that could affect the applicability of, or compliance with, relevant air pollution regulatory requirements

- EPA's interpretation of "adjacent" has evolved through source-specific determinations
  - 2016 Rulemaking clarified "adjacent" for oil and gas operations
    - Adjacent operations are limited to those within ¼ mile with shared equipment
  - EPA posted on September 5, 2018, the **"Draft Guidance: Interpretation Adjacent for New Source Review and Title V Source Determinations in All Industries other than Oil and Gas"** and will accept public comment through October 5, 2018 at www.epa.gov/nsr/forms/interpreting-adjacent-source-determinations

$PM_{2.5}$ and Ozone SILs

- **Guidance on Significant Impact Levels (SILs) for Ozone and Fine Particles in the Prevention of Significant Deterioration Permitting Program** signed on April 17, 2018, by Peter Tsirigotis

- Includes both a revised $PM_{2.5}$ SIL and new ozone SIL for permittees to use in streamlining the air dispersion modeling permitting process

- The guidance is comprised of a policy memorandum, a technical document and legal support document
    - All three will be referenced and included in any permit record where the recommended SILs are used by a permitting authority
    - The guidance is not a final agency action and is not binding for industry, permitting authorities, or the public

Once In Always In

- **2018 EPA Withdraws Once In Always In**
  - On January 25, 2018, EPA issued guidance memorandum, **"Reclassification of Major Sources as Area Sources Under Section 112 of the Clean Air Act"**
    - Memo addresses when a major source subject to a maximum achievable control technology (MACT) standard, under section 112 of the Clean Air Act (CAA), may be reclassified as an area source and no longer subject to MACT requirements
    - Discusses EPA's plain language reading of the statutory terms "major source" and "area source"
    - Withdraws 1995 Seitz memo "Once In Always In" policy, which required major sources to limit potential to emit to below the major source threshold by the first compliance date to be treated as an area source
    - Responds to comments received in response to E.O. 13777 and 13783 on the need to revise 1995 OIAI policy
    - EPA intends to issue a FR Notice to take comment on regulatory text to implement EPA's plain language reading of statute as discussed in January 2018 guidance memorandum

- **Litigation**
  - On March 26, 2018, coalition of environmental groups filed a petition for review in the D.C. Circuit Court

- **For More Information**
  - https://www.epa.gov/stationary-sources-air-pollution/reclassification-major-sources-area-sources-under-section-112-clean
  - Contact: Debra Dalcher, Policy and Strategies Group, 919-627-4883 or Dalcher.debra@epa.gov

Project Aggregation Reconsideration

- 2009 Rule for Project Aggregation
  - Established "substantially related" criterion for aggregating projects, and a 3-year rebuttable presumption against aggregating
  - Did not amend the CFR text (definition of "project"), considered an interpretive rule
  - Calling it a "new interpretation" of the rule text, it only applies prospectively

- Reconsideration and Stay of the 2009 Rule
  - NRDC petitioned for reconsideration and sued EPA on the 2009 Rule
  - EPA granted reconsideration and stayed the effectiveness of the 2009 Rule pending completion of the reconsideration or litigation
  - In 2010, EPA proposed reconsideration with a preference to revoke 2009 Rule

- Final Reconsideration Rule under OMB review
  - Current schedule: Fall 2018

Ambient Air

- **EPA defines "*ambient air*" as "that portion of the atmosphere, external to buildings, to which the general public has access" (40 CFR 50.1(e))**
  - EPA's longstanding policy for implementing ambient air for PSD purposes was stated in a 1980 Costle letter, "*the atmosphere over land that is owned or controlled by the source and to which public access is precluded by a fence or other physical barriers*"
  - Subsequent guidance provided over the years by EPA to recommend how to apply 1980 policy statement for specific situations

- We are evaluating several key terms associated with the definition including: "general public", "access" and "building" to determine where additional flexibility may be appropriate

- EPA anticipates releasing draft guidance for comment on the internet in fall 2018

Project Emissions Accounting (PEA) Proposed Rule

- EPA published on March 30, 2018, the **Issuance of Guidance Memorandum, "PEA Under the New Source Review Preconstruction Permitting Program"**

- As discussed in the memo, this clarification will apply to all project categories (including existing units only, new units only, and new and existing units)
  - Memo can be found at www.gpo.gov/fdsys/pkg/FR-2018-03-30/pdf/2018-06430.pdf

- A proposal will codify the considerations and interpretations reflected in the memorandum
  - Current schedule: Winter 2018

Treatment of Biogenic CO_2 Emissions in Permitting

- **On April 23, 2018, the EPA Administrator issued a policy statement on the treatment of forest biomass for energy production at stationary sources**
  - Recognizes the benefits of using managed forest biomass for energy production at stationary sources
  - Signals the Agency's intent to treat managed forest biomass biogenic CO_2 emissions from energy production at stationary sources as carbon neutral in future regulatory actions
  - https://www.epa.gov/sites/production/files/20184/documents/biomass_policy_statement_2018_04_23.pdf

- EPA is considering regulatory approaches related to the treatment of biogenic CO_2 emissions from stationary sources

Title V Petitions

- Title V Petitions continue to be a substantial work load
- Petitions Received FY2018 – 9
- Petitions Resolved FY2018 – 34
  - 20 Orders
  - 14 Resolved by other means (petitioners agreed to withdraw, previous responses identified)
- Pacificorp Hunter – EPA will not look back at decisions made in NSR permitting process in the context of title V
  - Provided that there was an opportunity for public comment and judicial review
  - Decision being challenged in 10th Circuit (Utah) and D.C. Circuit