

Air Permitting for Major Sources Part 1

2016 Compliance Assistance Conference

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Topics

- What is Major NSR?
- Attainment/Non Attainment Areas
- Important Terms
- Prevention of Significant Deterioration (PSD) Permitting
- Non Attainment New Source Review (NNSR) Permitting
- Bonus Material

What is Major NSR Permitting?

- Must get an installation permit for new or modified sources
- If the emissions are large enough (over trigger levels), then installation permit is a “Major New Source Review” permit
- Major New Source Review (NSR) includes:
 - Prevention of Significant Deterioration (PSD) in attainment areas
 - Non Attainment NSR in non attainment areas
- Major NSR rules based on Federal rules incorporated into Ohio rules

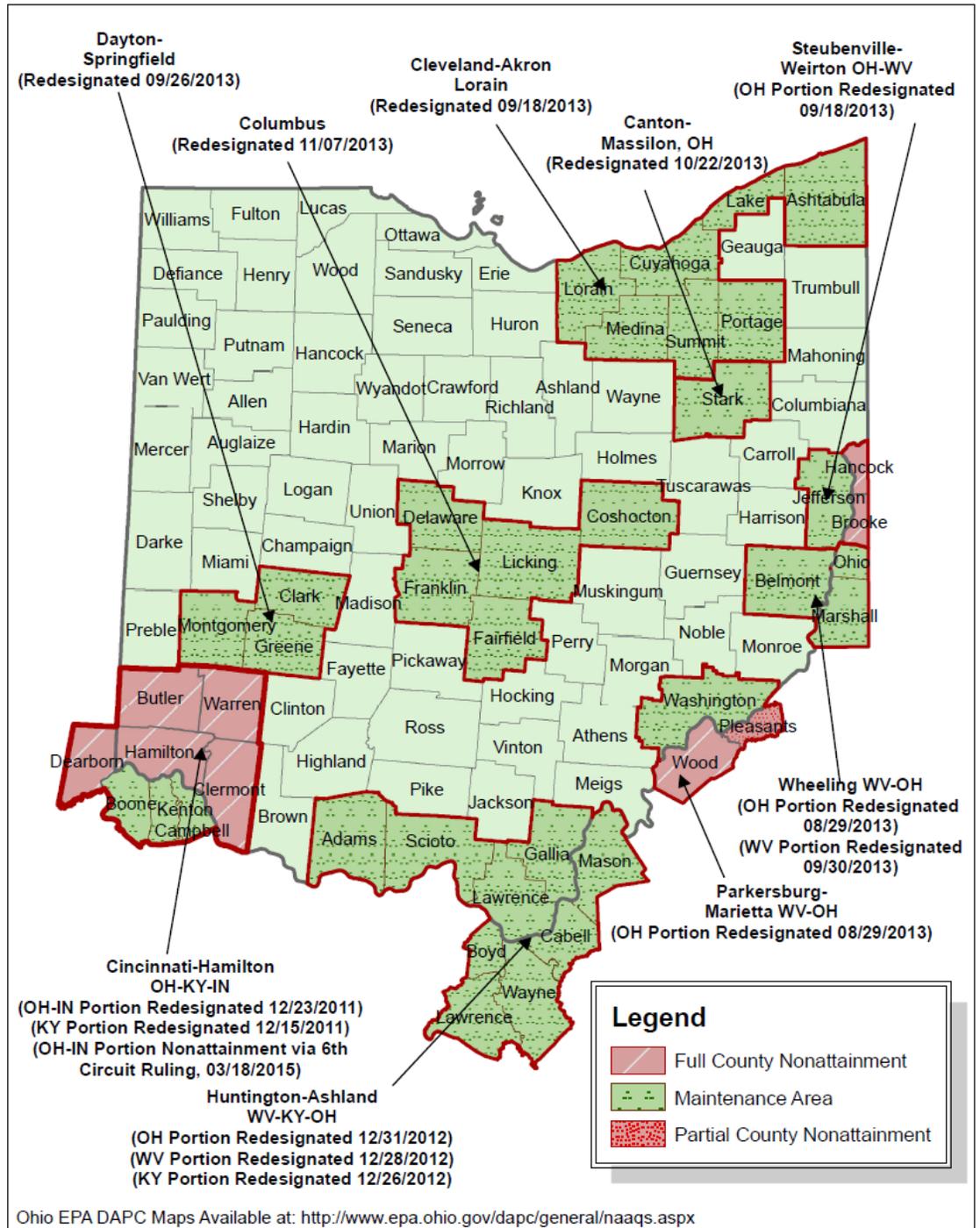
Attainment/Nonattainment

- An attainment area meets the National Ambient Air Quality Standards (NAAQS). A nonattainment area does not.
- An area can be attainment for some pollutants, and nonattainment for others.

Ohio's Attainment Status

- The entire state is attainment for nitrogen dioxide, PM2.5 and carbon monoxide.
- Ohio has nonattainment areas for Ozone, SO₂, lead
- Currently two areas of the state are nonattainment PM2.5, Cleveland for the 12.0 ug/m³ statewide and Cincinnati for the 15.0 ug/m³ standard

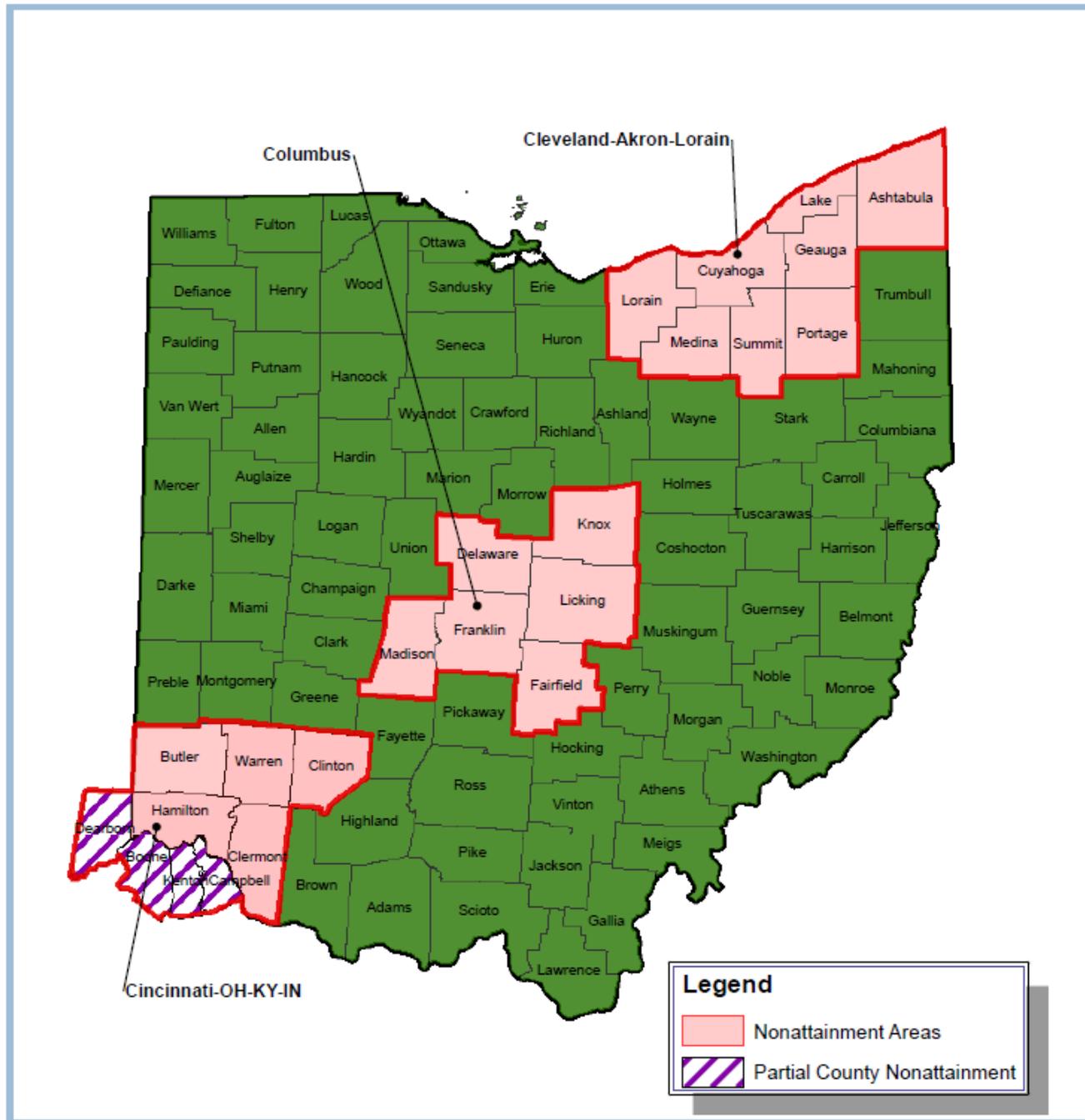
Ohio 1997 Annual PM_{2.5} (15 ug/m³)
 Nonattainment Areas
 Effective 04/05/2005



Ohio 2012 Annual PM2.5 (12.0 ug/m3) Nonattainment Areas Effective 04/15/2015



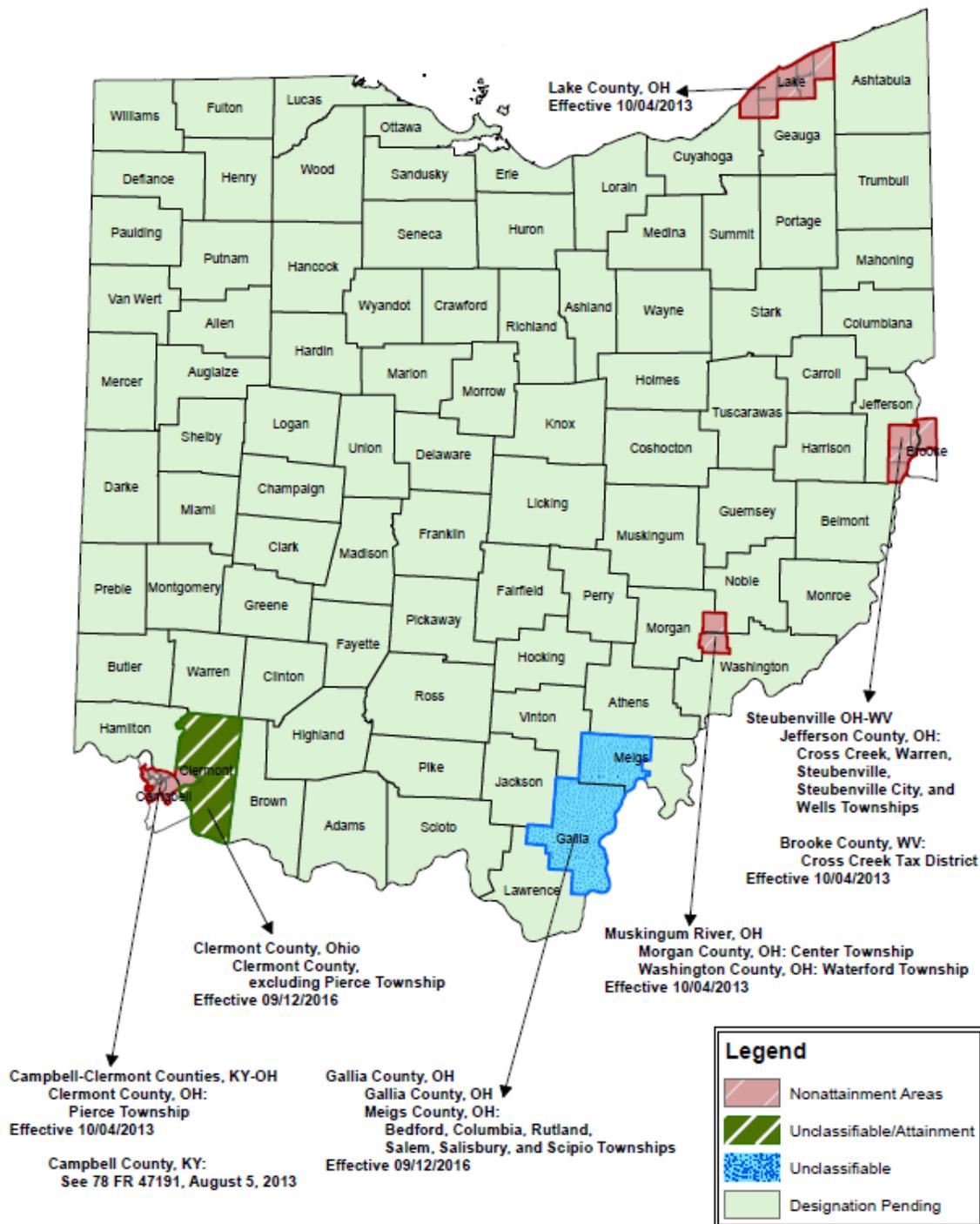
Projected Nonattainment 0.070 PPM Standard (2013-2015)



**Ohio 2010 1-hour SO₂
(75 ppb)**

**Nonattainment
Areas**

**Effective 10/4/13 and
9/12/16**



Where does NNSR apply?

- Geographic areas where U.S. EPA has designated the area as nonattainment.
- Applies for only the nonattainment pollutant and precursor emissions.
- Some areas violate standards and are not yet designated nonattainment
- Other nonattainment areas attain standards, but redesignation process is not quick

Where does PSD apply?

- Geographic areas where U.S. EPA has designated the area as attainment or non classifiable.
- Applies for only the attainment pollutant and precursor emissions.
- Possible to have NNSR for some pollutants and PSD for other pollutants

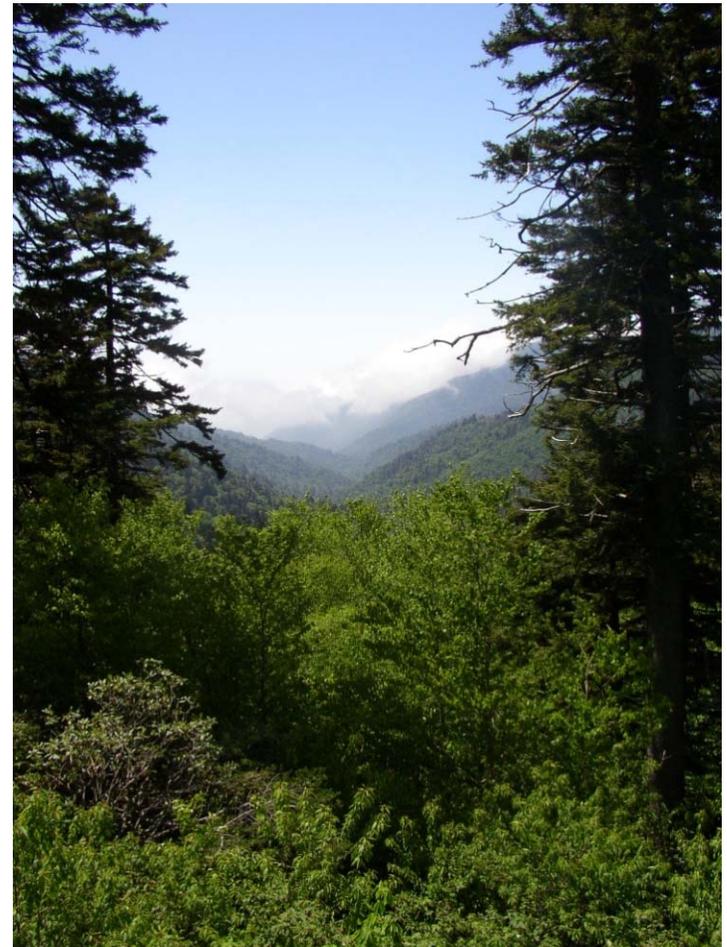
Prevention of Significant Deterioration (PSD)

PSD Topics

- PSD Goals
- Important Terms
- Applicability
- Requirements of PSD
- Review of PSD

PSD Permit Program Goals

- Designed to protect air quality in attainment areas
- Allow economic growth
- Protect public health and welfare
- Preserve, protect, and enhance air quality in special areas



Important Terms

Attainment Area Regulated NSR Pollutants

- What is a *regulated NSR pollutant*?
- NAAQS and constituents or precursors
- Section 111 pollutants (NSPS)
- Title VI Class I or II (ozone depleting)
- Other CAA regulated except HAPs (unless constituents or precursors)

Potential to Emit

- ***Potential to emit*** means the maximum capacity of an emissions unit or stationary source to emit an air pollutant under its physical and operational design.
- *PTE* can be limited through ***federally enforceable*** means, such as:
 - Control devices
 - Limits on capacity or hours
 - Limits on types or amount of material processed, combusted or stored

Stationary Source (except Oil and Gas Processing)

- ***Emissions Units*** belonging to the same industrial grouping or support,
- Located on one or more contiguous or adjacent properties, and
- Under common control
- Special definition for oil and gas processing



“Adjacent” – For Oil & Gas Processing

- In the same industrial group (SIC Code)
- Under the control of same owner
- Located on contiguous or adjacent properties for oil and gas within ¼ mile of each other

Major Stationary Source

- Attainment
 - 28-source category?
>100 t/y criteria
 - Not 28-source category? > 250 t/y criteria
 - GHG alone no longer trigger for major stationary source



Major Stationary Source Qualifiers

- VOC for ozone
- Don't count quantifiable fugitive unless on the list
- List is not specific to NSPS
- If the change by itself is major at a non major source, then the project is a major stationary source

Major Modification

- 4 page rule definition (3745-31-01(III))
- Physical change in or change in the method of operation of a major stationary source that would result in:
 - *A significant emissions increase* of a RNSRP, **AND**
 - *A significant net emissions increase* of that pollutant

Major Modification

- The change itself must be above the significance levels, **AND**
- The net change must be above the significance levels for the project to be a major modification
- **Both statements must be true to be a major modification**

Major Modification Qualifiers

- Significant VOC = significant ozone
- Calculation method for *significant emissions increase* is different for existing vs new
- Physical change or change in the method qualifiers
- *Plantwide Applicability Limit (PAL)* qualifier

PSD Applicability

PSD Applicability for New Facilities

- Determine if the proposed source is a *major stationary source* for any attainment area pollutants (100, 250 ton thresholds)
- If any of the attainment pollutants trip the *major stationary source* thresholds, then the source is considered a *major stationary source* for PSD
- Determine if GHGs are above 75,000 tons CO₂, if yes PSD for GHGs if triggered by criteria pollutant
- PSD cannot be triggered by GHGs alone

PSD Applicability for Existing Facilities

- First, determine if the existing facility is a *major stationary source* for any attainment area pollutants (100, 250 ton thresholds)
- Second, determine that a physical change or change in the method of operation is occurring
- Third, do the two-part emissions increase test for each pollutant

PSD Applicability for Existing Facilities

- Check each *regulated NSR pollutant* separately
- First, determine if the increase associated with the modification qualifies as a *significant emissions increase*
- Second, determine if the *net emissions increase* for that pollutant is significant
- If PSD is triggered for modification, then GHGs must be calculated to determine if above 75,000 TPY threshold
- PSD cannot be triggered by GHGs alone

PSD Applicability Example

Existing Fac. ¹	Increase	Net Increase	Trigger	PSD?
251 t/y NO _x ²	35 t/y	45 t/y	40 t/y	No
240 t/y VOC	45 t/y	35 t/y	40 t/y	No
15 t/y PM ₁₀	5 t/y	20 t/y	15 t/y	No
50 t/y SO ₂	45 t/y	45 t/y	40 t/y	Yes

¹ Assume facility is located in an attainment area for all of the above listed pollutants.

² This emission rate makes it a "major stationary source."

Net emissions increase

- *Net emissions increase* can get complex
- Important to verify with DO/LAA
- Don't want to find out late in the permit process that your evaluation was incorrect

PSD/Fugitive Emissions

- Fugitive emissions means those emissions that cannot reasonably pass through a stack, chimney, vent or other functionally equivalent opening.
- Examples:
 - Particulate matter (PM): Coal piles, road dust, quarries
 - Volatile Organic Compounds (VOCs): Leaky valves and flanges at refineries and oil processing equipment

PSD/Fugitive (cont.)

- They are included in a source's PTE to the extent that they can be quantified, if they are present at:
 - One of the 28 PSD source categories
 - A source category subject to NSPS or NESHAP as of 8/7/80
- If a source has been determined to be major for that pollutant, they are included in any subsequent analysis (e.g. air quality impact)
- 28 Source categories are general, not specific to NSPS or NESHAPS

PSD/Secondary Emissions

- Emissions which, although associated with the construction or operation of a source, are not emitted from the source itself.
- For example, particulate from the construction
- They do not count toward PTE, but must be considered in the PSD analysis if PSD is required.

PSD Requirements

PSD Requirements

- Employ BACT
- Ambient monitoring
- Emissions modeling
- Other impacts analysis

PSD Permitting - BACT

- Best Available Control Technology means an emissions limitation ... maximum degree of reduction...each regulated NSR pollutant...which the director...taking into account energy, environmental and economic impacts and other costs determines is achievable...
- Can use production processes or available methods, systems and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control

PSD Permitting - BACT

1. Top-Down Process
2. Identify all control technologies
3. Eliminate technically infeasible options
4. Rank remaining control technologies by control effectiveness
5. Evaluate most effective controls and document results
6. Select BACT

*See bonus material at the end of the presentation.

Ambient Monitoring

- Rules require pre-application monitoring if modeling shows impacts above monitoring trigger levels
- Monitoring trigger levels – 3745-31-13(H) or EG 69
- Monitoring required for one year (mostly)
- Court discussion on PM2.5 changes ground rules for that pollutant

Ambient Monitoring – PM2.5

- D.C. Court of Appeals determined that Significant Impact Levels (SILs) not supportable
- De minimus value would be okay – just not manner U.S. EPA adopted PM2.5
- U.S. EPA adopted SIL of 0.0 ug/m³ for PM2.5
- Important ramifications for new projects

Ambient Monitoring

- If monitoring is needed, existing monitors may be sufficient to fulfill requirement
- Ohio has a large network, must in or near urban areas for most pollutants
- Nitrogen dioxide is exception, only a few operational in state



Emissions Modeling/Other

- Rules require air quality impact analysis that demonstrates:
 - NAAQS will be met
 - Must be less than allowed increase over the baseline concentration (typically $< \frac{1}{2}$ available increment)
- Other Impacts Analysis
 - Soils, vegetation, visibility etc.
 - See bonus material at the end of the presentation

GHG BACT

- Triggered when:
 - PSD for criteria pollutant, and
 - > significance levels for GHG
 - Cannot be triggered alone
- GHG BACT
 - Mostly analysis of efficiency
 - Need discussion on sequestration

GHG BACT

- Need to go thru a GHG BACT analysis to consider:
 - Lower-emitting processes/designs
 - Add-on controls,
 - Carbon capture and sequestration (CCS)
 - Energy efficiency measures
- New facility: look at entire facility
- Modification: look at the modified emissions unit

PSD Permitting

Questions?

Non Attainment NSR

Nonattainment Area Regulated NSR Pollutants

- What is a regulated NSR pollutant?
- NAAQS Pollutant (SO₂, ozone, PM, PM-10, PM_{2.5}, NO_x, CO, Pb)
- Precursor pollutants
 - NO_x and VOC for ozone
 - SO₂ and NO_x for PM_{2.5}
- Different than for PSD

Basic NNSR Requirements

- LAER - Lowest Achievable Emission Rate
- Emissions Offsets
- Net air quality benefit from offsets
- Certify all major operations owned by the source in the state are in compliance with SIP (or on an enforceable schedule)

NNSR Applicability

A new source/major modification will be subject to NA NSR in Ohio if:

- Will emit or have the potential to emit 100 tpy, (thus a Major Source) any criteria pollutant for which the area is designated as nonattainment, OR
- A modification (any physical or operational change) which results in a significant increase (see Significance Levels table) in emissions of a pollutant for which the source is major and the area is designated nonattainment.

NNSR Applicability Significance Levels (tons/yr) (Modifications)

	Marginal	Moderate and Basic	Serious	Severe	Extreme
Ozone (NO _x and VOCs are precursors)	40	40	25*	25*	any
CO	-	100	50	-	-
PM ₁₀	-	15	15	-	-
NO ₂	-	40	-	-	-
SO ₂	-	40	-	-	-
PM _{2.5} (NO _x and SO ₂ are precursors)	-	10	40		

*when aggregated with all other net increases 25 tpy in emissions from the source over any period of 5 consecutive years

Lowest Achievable Emission Rate (LAER)

LAER is the most stringent emission limitation based on either:

- 1) the most stringent limitation achieved in practice by class or source category (without taking into account economic, energy, or other environmental factors), OR
- 2) the most stringent limitation in any SIP for that class or source category.

LAER (cont'd)

- LAER cannot be less stringent than any applicable NSPS limit.
- LAER is an emissions rate specific to each emissions unit.
- This emissions rate may result from a combination of emissions-limiting measures such as:
 - add-on controls
 - a process modification
 - a change in the raw material

Emission Offsets

- A new or modified source is required to “offset” any increased emissions (it generates) with a decrease elsewhere in the same nonattainment area.
- The offset provision shifts the burden of accommodating new growth in NA areas to new sources. Only offsets of the same pollutant are allowed within a given area.

Offsets (cont'd)

- Obtaining offsets:
 - purchase from another source
 - within the same nonattainment area,
 - offset the increase in emissions from the new source/modification.
- The purpose of the offsets:
 - Help get to attainment
 - Allow industrial growth
- See Finding Offsets bonus material

Offsets (cont'd)

- Offset ratios are to be greater than 1:1 for moderate areas and 1.1:1 for basic areas.
- Offsets should be located in the same nonattainment area, or in adjacent nonattainment areas.
- Offsets must be in the permit or a SIP revision.
- Offsets must be practically enforceable.

What is not considered an offset?

- Emission reductions required by the State Implementation Plan (SIP) or a consent decree
- The difference between the SIP and the NSPS if it is applicable to the source

Net Air Quality Benefit

- The offsets must produce a “Net Air Quality Benefit” (for the area affected by the new/modified source)
- This is required so that after the source is built, air quality is better than before the source began operation
- Modeling demonstration required for some pollutants (SO₂, NO_x)

Compliance Certification

- All major sources owned or operated by the facility in the state must be in compliance with the State Implementation Plan (SIP)
- Rules allow facility to be on an enforceable schedule or consent decree to achieve compliance

Finally

- Don't forget about "netting"
- If "internal" offsets (offsets at that plant) can be generated; "netting" will probably work
- Frequently used on expansions or replacements, but does not work for new facilities

Resources

- U.S. EPA's 1990 NSR Workshop Manual
 - <http://www.epa.gov/NSR/ttnnsr01/gen/wkshpman.pdf>
- OAC Rules 3745-31-10 through – 27
 - <http://epa.ohio.gov/dapc/DAPCrules.aspx>
- Permit Writer
 - <http://epa.ohio.gov/dapc/general/dolaa.aspx>
- Questions?

Bonus Material

BACT Process

BACT Step 1: Identify All Control Techniques

- Should be comprehensive; source should not yet discount options because of infeasibility
- Source should consider add-on controls and inherently lower-emitting processes and practices
- Scope is not limited by other regulations or by national boundary

BACT Step 1: Identify All Control Techniques

- Step 1 (cont)
- Innovative technologies may be considered; technology transfer must be considered
- RBLC:
 - <http://cfpub.epa.gov/RBLC/index.cfm?action=Home.Home&lang=en>
- BAT: <http://epa.ohio.gov/dapc/fops/addinfo.aspx> see “Additional Information That May be Helpful to You....”

BACT Step 2: Technical Feasibility

- If a control technology has already been installed and successfully operated on the type of source under review, it's technically feasible (unless there are obstacles at the source that justify infeasibility).
- Otherwise, source must consider whether the technology is:
 - Available (obtainable), and
 - Applicable (can be reasonably installed and operated)

BACT Step 3: Ranking Feasible Options

- Rank from most to least effective in terms of emission reduction.
- If a control technology has a range of performance, select the reduction level that has been achieved at other sources.

BACT Step 4: Evaluation

- Weighing of energy, environmental and economic factors
- Energy Impacts Analysis
- Source should determine whether the control technology's energy requirements would result in significant or unusual energy penalties or benefits
- Should only consider direct energy consumption
- May involve fuel scarcity

BACT Step 4: Evaluation

- Environmental Impacts Analysis
- Concentrates on non-air quality impacts, such as solid/hazardous waste, water effluent, visibility, or emission of unregulated pollutants.
- Significant or unusual collateral impacts may be reason for disqualifying a control technology.

BACT Step 4: Evaluation

- Economic Impacts Analysis (Cost analysis)
- Cost effectiveness: dollars per ton reduced
- A technology may be rejected if the cost is disproportionately high when compared to recent BACT determinations
- BACT analysis may involve vendor-supplied estimates, cost manuals developed by EPA, data from trade publications, etc.

BACT Step 4: Cost Effectiveness

- $(\text{Annualized Cost}) / (\text{Baseline emission rate} - \text{Control option emission rate})$
 - Capital cost estimate may include:
 - Equipment and installation costs
 - Indirect investment (e.g. engineering, construction, start-up, performance testing)
 - Contingencies
 - Working capital

BACT Step 4: Cost Effectiveness

- Annual cost estimate may include:
 - Direct costs (e.g. labor, maintenance, electricity, water)
 - Indirect costs (overhead, property tax, insurance, capital recovery)
- Capital charges (taxes and insurance, capital recovery factor, interest on working capital)

BACT Step 4: Cost Effectiveness

- Engineering Guide #46
- EPA Air Pollution Control Cost Manual
<http://www.epa.gov/ttn/catc1/products.html#cccinfo>
- Need help? Talk to NSR contact.

Bonus Material

Other PSD Impacts Analysis

Other Impacts Analysis

- PSD permit applicant must prepare an analysis on any impairment to visibility, soils and vegetation
- Applicant must prepare an analysis of the air quality impact as a result of the general commercial, residential, industrial or other grown associated with the project
- Rarely significant

PSD Soils and Vegetation Analysis

- Based on an inventory of the soils and vegetation types found in the area, including all vegetation of commercial or recreational value
- Rarely significant but can be for pollutants like hydrogen fluoride

PSD Visibility Impairment Analysis

- Affects projects that are located near or impact Class I areas
- Class I areas are places like national parks
- No Class I areas in Ohio
- Closest is Dolly Sods Wilderness area in WV
- Rarely significant but could be for large projects like power plants

“Sleeper Issue” – Alternative Sites Analysis

- An analysis by the source owner of:
 - Alternative sites
 - Sizes
 - Production processes
 - Environmental control techniques
- Analysis for such proposed source must demonstrate that benefits significantly outweigh:
 - the environmental impacts
 - social costs imposed as a result of source location, construction, or modification

Bonus Material Finding Offsets

Findings Offsets

- Contact the DO/LAA and ask them for recent shutdown sources in their area.
- Obtain copy of the emissions inventories for past years. Determine if sources have been shutdown.
- Contact local chamber of commerce to find closures
- Contact the Ohio EPA permit staff and ask about available Emission Reduction Credits in bank

Emission Banking Rules

- Ohio EPA developed rules to allow for emission banking
- Allows permanent emission reductions to be formally recognized
- Credits are posted on internet so that interested parties can see what is available in the area
- For more information contact Sudhir Singhal - 614 644-3684 – sudhir.singhal@epa.ohio.gov

Why does all this matter?

- Many more nonattainment areas for ozone, SO₂, PM_{2.5}
- Want to attract new business, expansions of current business
- Ohio EPA bank designed to assist development in nonattainment areas

Ever Tightening Standards - Ozone

0.08 ppm Standard – 1997

Met everywhere – Columbus, Cleveland and Cincinnati redesignated

0.075 ppm Standard – 2008

Not being met in Cleveland, Cincinnati and Columbus (2008-2010)

0.070 ppm Standard – 2015

Not being met in Cleveland, Cincinnati and Columbus based on 2014-2016 data

Air Permitting for Major Sources/Title V Part 2

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Introduction

- Who, what, where, why of Title V permitting
- How can I avoid needing one?
- How do I modify my Title V?
- What do I need to include in the renewal application?
- What's new in Title V?
- Where can I get help?

What is a Title V Permit?

- Operating permit for air pollution sources
- Based on the requirements found in 1990 CAAA, Title V
- Designed for “large” air pollution sources



What is a Title V Permit?

- Contains all applicable air pollution requirements
- Contains emission limits, operational restrictions, monitoring requirements, testing requirements and reporting requirements
- Applies to entire facility

Who needs a Title V Permit?

- Any facility that is a major Title V source.
- Major Title V thresholds are:
 - 100 tons per year or more of any one regulated pollutant (PM10; nitrogen oxides; sulfur dioxide; carbon monoxide; volatile organic compounds; and lead), or
 - ~~100,000 tons per year GHGe~~ (**REVISED!**), or
 - 10 tons per year or more of any one hazardous air pollutant (HAPs), or
 - 25 tons per year or more of any two or more HAPs.
 - Based on potential to emit

What does “potential to emit” (PTE) mean?

- Maximum capacity to emit
- Under physical and operational design
- Can include air pollution equipment, operating restrictions if;
 - Federally enforceable, or
 - Legally and practically enforceable by the state

What does “potential to emit” (PTE) mean?

OAC rule 3745-77-01(CC), "Potential to emit" means the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is federally enforceable or legally and practicably enforceable by the state. Secondary emissions do not count in determining the potential to emit of a stationary source

How do you figure out what your PTE is?

- Must calculate for each emissions unit (air pollution source)
 - Calculate emissions with controls at maximum capacity
 - Each criteria pollutant
 - Each HAP
 - Sum of HAPs

How do you figure out what your PTE is?

- Determine if physical or operational restrictions apply
- Check for rules that restrict emissions
- Check to make sure controls/restrictions/rules are federally/practically state enforceable
- Sum them together for entire facility

Other triggers for Title V permits

- Any source subject to Section 111 of the act (NSPS)
- Any source subject to section 112 of the act unless exempt (HAPS, MACT)
- Any “affected source” (utilities)
- Any 40 CFR Part 70.3 source (Describes required elements for Title V programs)

What rules apply

- Ohio Administrative Code (OAC) rule 3745-77
- <http://www.epa.ohio.gov/dapc/regs/regs.aspx#TVPermitRules>

Preparation & Processing Issues

- Application preparation time is significant
- May take 18+ months for Ohio EPA to process
- Permit lasts five years
- Must be renewed
- No application fee, no permit issuance fee
- Fees based on emissions
- Fee for reporting year 2015 is \$48.49/ton

How do you apply?

- Applications must be submitted electronically through “Air Services”
- Air Services is an web based emissions unit, permit tracking and application system
- Part of Ohio EPA’s eBusiness Center
 - <https://ebiz.epa.ohio.gov/login.html;jsessionid=xDRyTvpbXf4nM3x05j8r4YdhNfG2qpZ2nf2nsfP5vCVWpmJNVv8S!-966781721>
- Must get a User ID and password to work in Air Services

What are the processing steps?

- You submit application
- Ohio EPA reviews and creates permit
- **Draft permit** issued – for any interested party comment
- **Preliminary Proposed Permit** issued – for the application's comments
- **Proposed Permit** issued – for USEPA comments
- **Final** permit issued

What does the permit contain?

- Applicable rules
- Emission limits
- Operational restrictions
- Monitoring requirements
- Reporting requirements
- Testing requirements

How is the permit organized?

- Cover letter
- Table of Contents
- Authorization
- A. Standard Terms and Conditions
- B. Facility-Wide Terms and Conditions
- C. Emissions Unit Terms and Conditions
 - Grouped by emissions unit
 - Organized by previous slide

What are the major obligations under the permit?

- Permit needed to have legal authority to operate
- Make sure sources comply with limits
- Comply with operational restrictions
- Do any monitoring required

What are the major obligations under the permit?

- Compile records, submit reports
- Timely completion of any testing
- Complete annual certification of compliance (Responsible Official must be able to attest to compliance)

How do you avoid needing a Title V permit?

- Obtain federally enforceable/state practically enforceable restrictions such that your potential to emit is less than the thresholds
 - Restrict operation time, materials processed, etc.
 - Reduce emissions from processes
 - Add controls
 - Change processes
 - Change materials
 - Etc.

If you avoid needing a TV permit, what do you get?

- State-based operating permit
- Permit-to-install and Operate (PTIO)
- May get one or more PTIOs to cover all emissions units
- Subset - Federally Enforceable State Operating Permit (FESOP), or synthetic minor
- Must live within restrictions

Modifying Your Title V Permit

How do I modify my Title V?

- Determine what needs to change
- Discuss change with permit contact
- Determine if need Permit-to-Install first
- Determine the modification type
- (Each type has different obligations)

Modification Types

Mod Type	For:	When Effective?
Off-permit change	Non conflicting PTIs; exemptions; not addressed or prohibited in permit	Appl. Submitted or PTI issued, TV mod issued
Administrative Permit Amendment (APA)	Typos; name, address change; increased monitoring	When request is submitted
Minor Permit Modification (MPM)	Changes that are not SPM (see below)	When final mod issued (Proposed, then final only)
Significant Permit Modification	NSPS, MACT, PSD, Nonattainment mods; minor change to monitoring, recordkeeping etc.	When final mod issued (Draft, PPP, PP, Final must be issued)

Significant Permit Modification

- SPM is used for significant changes to the Title V that typically include:
 - Changes in existing units such as:
 - Emissions increases above Title I modification levels, or
 - Significant changes to monitoring or relaxation of reporting or recordkeeping terms
 - Incorporating new units that qualify as a Title I modification (PSD or major nonattainment NSR)
NSPS applicability to existing source

Significant Permit Modification

- What is considered a Title I modification?
- NSPS Source – existing sources only:
 - If it meets the definition of a “modification” as defined in 40 CFR 60.14
- HAPS Sources – existing and new sources
 - If the PTE increases and it is considered a “construction” or “reconstruction” of a major source of HAPS as defined in 40 CFR 60.14
 - If the PTE for HAPS increased but it is not considered a reconstruction, however, now a MACT is applicable to the source category

Significant Permit Modification

- What is considered a Title I modification cont'd?
- PSD Sources – existing and new sources
 - If it meets the definition of a “major modification” under Part C of Title I (PSD) and therefore, a PSD PTI is required
- Nonattainment Area Sources – existing and new sources
 - If it meets the definition of a “major modification” under Part D of Title I (Nonattainment Areas) and, therefore, will require a major nonattainment new source PTI which includes obtaining air emission offsets

When can the facility begin the change?

Step 1

Would operation of the **change requested** be prohibited by the current Title V permit?

NO

Operation of the **source and change** can begin immediately after receiving the PTI, but permittee must apply for the SPM within the 1 year period required by the PTI

YES

Operation of the **change** cannot begin until the SPM is issued final. Proceed to Step 2

When can the facility begin the change?

Step 2

Could the **source** be operated in a way that would not be prohibited by the current Title V permit (in compliance with all T&Cs)?

YES

Operation of the **source** can begin, in compliance with the current Title V permit, but operation of the **change** cannot begin until the SPM is issued final

NO

Operation of the **source and change** cannot begin until the SPM is issued final

Minor Permit Modifications

- Conditions for Use
- Cannot violate an applicable requirement include a PTI
- Cannot be a Title I modification (major modification PTI)
- Cannot involve significant changes to existing monitoring, reporting of recordkeeping terms
- Cannot require or change a case-by-case determination under federal requirements
- Cannot seek to change terms condition for which there is no underlying applicable requirement (i.e. emissions cap)

Monitoring Recordkeeping & Reporting Existing Units

- The following mechanisms can be used for changes to MRR:
 - APA – increases in monitoring or reporting frequency
 - MPM – insignificant changes to existing MRR
 - SPM – significant changes to existing monitoring or a relaxation of reporting or recordkeeping
 - Reopening – if there was a material mistake or inaccurate statement made when establishing the MRR

Monitoring Recordkeeping & Reporting Existing Units

- Don't get caught up in thinking it's the emissions that trigger the modification type, often it can be the changes to MRR
- Is it a MPM or a SPM?
 - Ohio EPA has developed guidelines to help identify the significance or relaxation of an MRR change.

Modification Types

- Guidance for Incorporating Facility Changes into a Title V Permit:
- http://www.epa.ohio.gov/portals/27/title_v/3-9-05guidancefinal.pdf

COMPLIANCE ASSURANCE MONITORING (CAM)

Part 64 (CAM) design principles

- Monitoring sufficient to provide a reasonable assurance of compliance with the applicable requirements (e.g., emissions limits) and to ensure operators pay the same level of attention to pollution control measures as to production activities.

What is CAM rule?

- 40 CFR Part 64 - Compliance Assurance Monitoring
- Implements the monitoring design principle for a reasonable assurance of compliance
- Targets facilities with add-on control devices
- Requires source owners to design monitoring to fit site and incorporate into permits

Who will be affected by CAM?

- Rule applies to each pollutant-specific emissions unit (PSEU) that:
- Is located at major source subject to Title V operational permits program, and
- Is subject to emission limitation and has a control device to meet that limit (e.g., ESPs, scrubbers, fabric filters), and
- Has pre-control emissions >major source size threshold (e.g., >100 tons/year uncontrolled emissions).

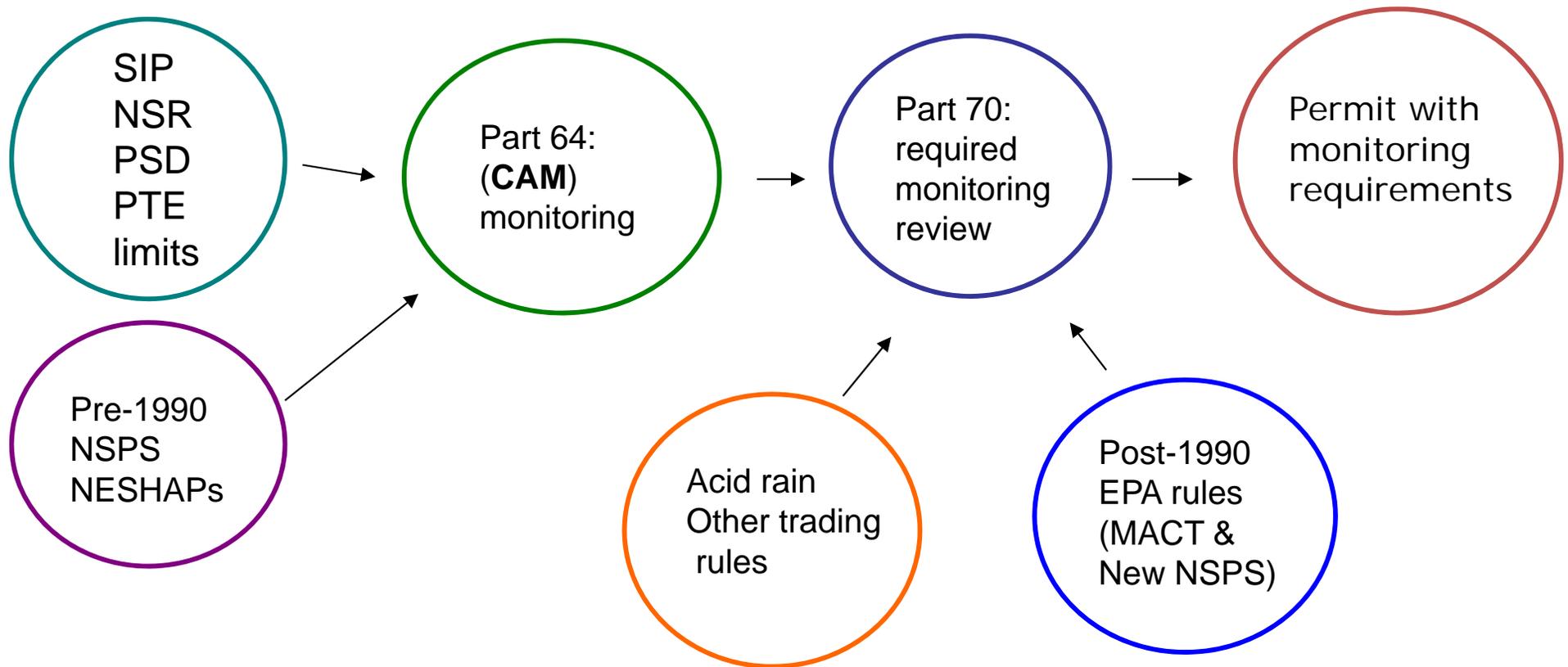
Who will be affected by CAM?

- Part 64 can and often will apply where existing rule or permit already includes some monitoring:
 - Data collection frequency not sufficient,
 - Operational data not well related to control device efficiency characteristics,
 - Indicator ranges not established or correlated with testing.

Who is exempt from CAM?

- Exemptions are by rule type, not facility type:
 - Acid rain rules,
 - Post-1990 EPA rules,
 - Rules with continuous compliance determination methods (e.g., Da facilities for SO₂),
 - Rules with annual caps or emissions trading.
- One exemption exception: Municipally-owned peaking units.

How does CAM rule work with other rules and Title V program?



What is required in part 70 for monitoring?

- Monitoring requirements from applicable rules including part 64, NSPS, NESHAP, SIP
- Monitoring to fill gaps
 - If applicable rule has no monitoring, no frequency, initial testing only,
 - Gap-filling monitoring to provide reliable data from relevant time period representative of compliance (70.6(a)(3)),
 - Possible adjustments to existing periodic monitoring if not sufficient to assure compliance (70.6(c)(5)(ii)) (e.g., once/term testing not really monitoring).

What must the source owner do to get a permit?

- Develop and propose monitoring in permit application that at a minimum:
 - Satisfies part 64, as applicable, and
 - Includes applicable monitoring requirements.
- May also propose monitoring to fill gaps including applying or improving existing monitoring.

How is the monitoring described in a permit?

- Permit elements (EPA's part 64 guidance has example format)
- Description of monitoring (what is measured, how, frequency, averaging time)
- What defines excursions and consequences (e.g., excursion triggers corrective action and reporting obligation), excess emissions, deviations.
- QA/QC schedules and procedures.

What does source owner do with monitoring results?

- Use the data to assure and assess compliance with applicable requirements by:
 - Operating control device(s) within designated CAM or other indicator ranges, and
 - Responding to excursions, excess emissions, deviations with appropriate corrective action; and
 - Operating other control measures in accordance with applicable conditions.

Title V and Greenhouse Gasses

Pollutants Covered

- Sets thresholds for GHG emissions, addressing emissions from six GHGs:
 - Carbon dioxide (CO₂)
 - Methane (CH₄)
 - Nitrous oxide (N₂O)
 - Hydrofluorocarbons (HFCs)
 - Perfluorocarbons (PFCs)
 - Sulfur hexafluoride (SF₆)

Pollutants Covered

- To determine applicability, a source's GHG emissions are calculated as the sum of the six gases on a CO2 equivalent (CO2e) basis and compared against the relevant threshold

U.S. Supreme Court Decision

- U.S. Supreme Court changed the GHG game
- Disagreed with parts of “Tailoring Rule”
- June 23, 2014 *Utility Air Reg. Group v. EPA* decision

U.S. Supreme Court Decision

- PSD cannot be triggered solely because of GHG emissions
- Do need GHG BACT if PSD “anyway” source
- Don’t need TV solely because of GHG emissions
- Can incorporate PSD GHG requirements into TVs

When will GHG permitting be tripped?

- Install or modify facility where criteria pollutant trips PSD, and
- Federally enforceable GHG emissions $\geq 75,000$ tpy
- Best Available Control Technology (BACT) will apply to GHGs
- GHG limits/requirements will be established
- GHG limits/requirements incorporated into TV

Permits that might need changed

- Permits issued between January 2, 2011 and August 1, 2014
- Installation permits that tripped PSD solely because of GHGs (only three of them)
- Installation permits that used synthetic minor restrictions to avoid PSD because of GHGs
- TV permits that included either of the above scenarios

Solely GHG PSD Permits

- “Step 2” sources
- If you received a PSD permit on or after January 2, 2011, and
- It was PSD only for GHGs, then
- You can ask to modify the permit to remove GHG PSD
- Becomes minor NSR permit
- Also ask to modify Title V permit

PSD for criteria and GHGs

- Called “Step 1” or “anyway”
- Court action does not change these
- GHG language will be incorporated into TV permit
- Will need to continue to comply with GHG BACT

GHG avoidance synthetic minors

- GHG synthetic minor restrictions can be relaxed or removed
- Careful...
 - synthetic minor restriction may be needed for other purposes (modeling, MACT, etc. avoidance)
 - Synthetic minor may be avoiding PSD for criteria
 - Synthetic minor restriction also limited criteria emissions
- Talk to permit writer to determine issues

GHG avoidance synthetic minors

- Removing or revising synthetic minor may mean:
 - Revising criteria emission limits
 - Revised (relaxed) restriction level
- Will need to submit modification application
- Could be installation permit and/or TV permit

PSD GHG Technical Information and Guidance

- U.S. EPA guidance:
<http://www.epa.gov/nsr/ghgpermitting.html>
- Includes Q&A's, implementation guidance, training slides, source type white papers
- Ohio EPA rule: 3745-31-34:
http://epa.ohio.gov/portals/27/regs/3745-77/3745-31-34_Final.pdf

Where do I get information or assistance on Title V?

- Engineering Guides
 - <http://www.epa.ohio.gov/dapc/engineer/eguides.aspx>
- Customer Support Center:FAQ
 - <http://ohioepa.custhelp.com/app/home>
- eBusiness Center online help
 - <https://ebiz.epa.ohio.gov/PortalHelp.jsp>
- Ohio EPA TV Information
 - http://www.epa.ohio.gov/dapc/title_v/titlev.aspx

Where do I get information or assistance on Title V?

- Talk to your permit writer:
 - <http://www.epa.state.oh.us/dapc/general/dolaa.aspx>
- Consultants
- Can be complex
- Work with someone experienced
- Questions?