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Air Quality Rule Changes and Updates



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Rulemaking Goals

- Make rules clearer
- Update rules
- Address air quality problems



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Rulemaking Schedule

- Public Notice: October – November
- Public Hearing: November
- Proposed EQC Rule Adoption: March 2014
- SIP Submittal to EPA for Approval: ?



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Overview

- Rule clean-up
- Update particulate matter (PM) standards
- Categorically Insignificant Activities
- Splitting businesses
- New Source Review (NSR)
- Extensions for NSR permits
- Net air quality benefit for sensitive areas

Rule Clean-Up

Unclear rules, not organized well

- Reorganize by moving procedures out of definitions
- Provide clarification when needed, especially regarding compliance requirements
- Delete unused/redundant definitions
- Correct errors
- Maintain overall stringency

Rule Clean-Up

Outdated rules repealed:

- Consumer Spray Paint VOC limits replaced by EPA rules (19% vs. 15%)
- Western Backstop SO₂ Federal Trading Program – replaced by direct control of PGE Boardman

Rule Clean-Up

Repeal rules for sources that no longer exist in Oregon:

- Neutral Sulfite Semi-Chemical Pulp Mills
- Sulfite Pulp Mills
- Primary Aluminum Standards
- Laterite Ore Production of Ferronickel
- Charcoal Producing Plants

New sources must comply with more stringent federal requirements for new sources



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Rule Clean-Up





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PM and Opacity Standards - Topics



- Background
- Changes being considered
- Implementation schedule
- Affected sources
- Compliance issues



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PM and Opacity Standards - Background

- Standards adopted in early 1970's as part of initial State Implementation Plan (SIP)
- Rules include different standards for pre and post 1970 sources - grandfathering provision
 - Pre-1970: 40% opacity and 0.2 gr/dscf
 - Post 1970: 20% opacity and 0.1 gr/dscf
- PM standard inconsistent with current EPA policy for significant figures/compliance



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Opacity Standard – suggested changes

- Change all opacity standards to 6-minute block average
 - Replaces 3-minute aggregate in 60 minutes
 - Compliance can be based on EPA Method 9
 - Change is consistent with other states
 - No change in stringency



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Opacity Standard – suggested changes

- Repeal Portland 4-county standard
 - 20% opacity for 30 seconds for non-fuel burning equipment
 - No uniform procedures for determining compliance
 - Not a SIP provision
 - Still covered by statewide standards



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Opacity Standard – suggested changes

- Change opacity limit for old equipment from 40% to 20%
- Retain 40% limit for grate cleaning or soot blowing operations if:
 - Following grate or soot blowing plan; and
 - Plan to minimize emissions approved by DEQ
- Defer compliance until January 1, 2015 for businesses not located near sensitive air quality areas

“sensitive area” = nonattainment and maintenance areas; and proposed sustainment and reattainment areas (to be covered later in presentation)



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PM Standard – suggested changes

- Add significant digit to standards consistent with EPA policy
 - 0.1 » 0.10
 - 0.2 » 0.20
- Phase out 0.20 standard for older sources to help address newer/tighter ambient air quality standards
- All sources must comply with 0.10 standard by January 1, 2019.



PM Grain loading standards

Source	Grain Loading Standards (gr/dscf)		
	Current Limit	Effective upon Rule Adoption	2019
Built before 06/01/70	0.2	0.20	0.10
Built after 06/01/70 within 5 miles of “sensitive” area	0.1	0.10	0.10
Built after 06/01/70 outside 5 miles of “sensitive” area	0.1	0.1	0.10





PM Grain loading standards

- Analysis of a typical source with 40% opacity and 0.2 gr/dscf
- Located in Klamath Falls PM_{2.5} NAA

Grain Loading	Source Impacts	Source + Background
0.2 gr/dscf	30% of PM _{2.5} NAAQS	70% of PM _{2.5} NAAQS
0.10 gr/dscf	13% of PM _{2.5} NAAQS	53% of PM _{2.5} NAAQS



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PM Grain loading standards

- Other affected businesses are located in areas similar to Klamath Falls:
 - Small communities also have high background concentrations due to woodstoves
 - Similar terrain
 - Similar weather with potential for air stagnation periods in winter time.



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PM Grain loading standards

- Changes are proactive measures for helping to prevent violations of current PM_{2.5} standards and potentially more stringent standards in the future
- Changes are similar to more stringent changes adopted for PM₁₀ nonattainment areas as reactive measures



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Affected Businesses

- Approximately 11 wood-fired boilers
- Two asphalt plants
- Many of the units comply but not all the time.
- Test results range from 0.06 to 0.21 gr/dscf
- Individual outreach to these businesses after stakeholder meetings



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What might be necessary to comply with standards

- Conduct more frequent tuning/maintenance
 - 1977 28 MMBtu wood fired boiler; pre-test out of compliance; post-test less than 0.1 gr/dscf
- Maintain consistent/high quality fuel
- Improve combustion controls
- Install additional control equipment
- Add co-firing of natural gas
- Replace boiler with natural gas-fired boiler

PM Standards – suggested changes





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Categorically Insignificant Activities

- Background
- Suggested changes
- Effect of changes in relation to other regulatory programs

Categorically Insignificant Activities - background

- Categorically insignificant activities identified in mid 90's for Title V program – examples:
 - Janitorial activities
 - Groundskeeping activities
 - Instrument calibration
 - Maintenance and repair shop activities
- Some activities at facilities that were previously considered insignificant are not actually insignificant when considered in aggregate

Categorically Insignificant Activities - background

- Some of these activities are subject to new standards issued by EPA
- Emissions from these activities were not considered when:
 - Determining what permits are necessary;
 - Establishing Plant Site Emissions Limits

Emergency generators and pumps

- Currently considered insignificant no matter how large or how many at site
- Proposing to change categorically insignificant criteria to:
 - Any individual engine rated at less than 500 horsepower (375 kW); or
 - emissions in aggregate less than de minimis levels of 1 ton/year (2,756 tons/yr for GHG) based on the readiness and maintenance testing hours of operation specified in the regulations or permit.



Small fuel burning equipment

- Currently considered categorically insignificant no matter how many at a source
- Proposing to change categorically insignificant criteria to:
 - Retain current size threshold for individual units; and add (0.4 MMBtu/hr oil; 2 MMBtu/hr gas)
 - emissions in aggregate are less than de minimis levels of 1 ton/year (2756 tons/yr for GHG)





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Regulatory Considerations

- The following regulatory programs may now apply to emergency generators and boilers:
 - Notice of intent to construct (NC) may apply to small sources not otherwise required to have permits
 - Air Contaminant Discharge Permits (ACDP) may be required for some sources – e.g., data centers with numerous emergency generators



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Regulatory Considerations

- Plant Site Emissions Limits (PSELs) for existing sources may need to be revised
 - Adding emissions to PSELs for existing sources will not trigger other requirements solely as a result of this rule change
 - PSELs will be revised at next permit renewal after rules are adopted

Categorically Insignificant Activities





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Extensions for NSR/PSD permits

- Background
- Suggested Rule Changes
- Public Notice



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Extensions for NSR/PSD permits - Background

- Current rules allow extensions provided there is a “demonstrated need”
 - No limit on the number of extensions
 - No criteria for approving extensions
- If projects are delayed without further review, there is the potential for proposed projects to:
 - tie up increment indefinitely
 - cause significant impacts on air quality
 - not have current control technology



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Extensions for NSR/PSD permits – Suggested Rule Changes

- Add provisions for two 18-month extensions – no additional extensions
- Add criteria for approving extensions
- Add procedures for requesting extensions
- Add procedures for approving extensions



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Extensions for NSR/PSD permits – Suggested Rule Changes

- For the first 18-month extension:
 - Review control technology analysis for the original pollutants subject to NSR/PSD
 - Review limited to whether new control technologies have become commercially available since the original control technology analysis



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Extensions for NSR/PSD permits – Suggested Rule Changes

- For the second extension:
 - Review whether any new control technologies have become commercially available
 - Review original control technology analysis for potentially lower limits
 - Review the air quality analysis for:
 - any new competing sources or changes in ambient air quality, including any redesignation of the area impacted
 - any new ambient standards or increments
 - any changes to EPA approved models that would affect results



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Extensions for NSR/PSD permits – Suggested Rule Changes

- No third extensions:
 - Original NSR/PSD permit automatically terminated five years after it was issued
 - For approval beyond second extension, a new major NSR/PSD permit application must be submitted.
 - May continue to use original emission reduction credits
 - Same two digit SIC code
 - Emission reduction credits contemporaneous and satisfy requirements



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Extensions for NSR/PSD permits – Process to request extension

- Business submits application for extension 30 days prior to end of current 18-month construction approval
- DEQ will review extension request
- DEQ will issue 18-month extension after public notice



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Extensions for NSR/PSD permits – Public Notice

- Public participation procedures for extensions:
 - If no air quality analysis:
 - 30 days to submit written comments; or
 - If air quality analysis:
 - 35 days to submit written comments; and
 - public hearing if requested.

Extensions for NSR/PSD permits





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Splitting Businesses

- Background/issues
- Suggested Rule Changes
- Program integrity



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Splitting Businesses – Background/Issues

- If a business shuts down, splits, and/or repurposes, what happens to its allowable emissions?
- Potential for new business to avoid construction approval if they use emissions from shutdown of one source to operate another source.
- Clean Air Act construction approval ensures:
 - State of the art control technologies
 - No adverse impacts on air quality



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Splitting Businesses – Suggested Rule Changes

- Clarify how emissions are treated when a business splits
- Emissions may only be transferred to:
 - New business(es) with same primary 2-digit SIC, or
 - A combined heat and power unit that supported the original primary activity
 - Amount of emissions transferred cannot exceed the “new” source’s potential to emit



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Splitting Businesses – Program Integrity

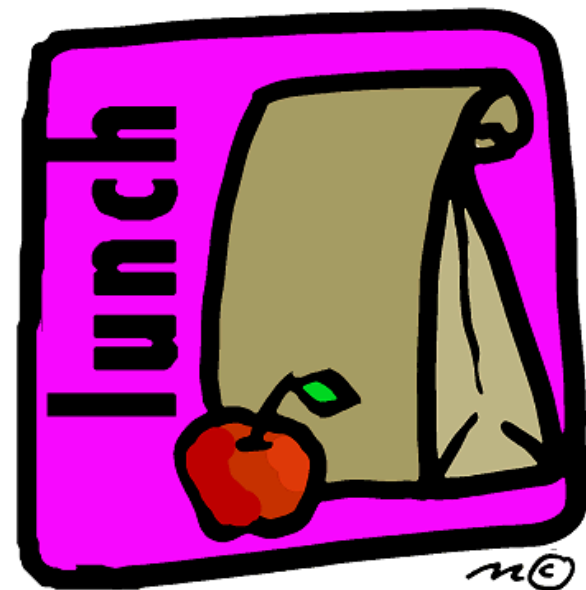
- Limits ability to use emissions for unrelated projects
- Clarifies rules to ensure new source, if different than existing source, is subject to construction approval
 - Consistent with the provisions that apply to physical changes or changes in the method of operation that apply to all sources.

Splitting Businesses



LUNCH?

- Next section about NSR and changes,
- Break for lunch?
- Can leave or come back after lunch





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New Source Review (NSR)

- Proposing revisions to New Source Review program



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New Source Review (NSR)

- Pre-construction permitting program mandated by Clean Air Act
 - Maintain and protect air quality
 - Requires pollution control devices where appropriate
- Three distinct programs
 - Prevention of Significant Deterioration (PSD) in attainment areas
 - Nonattainment NSR
 - Minor NSR

} *Major
NSR*



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Things unique to DEQ's program

- Major source definition in nonattainment and maintenance areas
 - Lower threshold than EPA definition
- Offsets and Net Air Quality Benefit
 - NAQB requires air dispersion modeling
 - EPA program only requires offsets

...

Things unique to DEQ's program, cont.

- DEQ program requires air quality impact analysis for minor sources
- Maintenance areas
 - Former nonattainment areas
 - DEQ program has more stringent requirements than federal program



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Why make changes?

- Areas of the state are close to or are exceeding the PM_{2.5} National Ambient AQ Standards
 - New PM_{2.5} standards adopted in 2007 – much lower than PM₁₀ standards

AQ problems mainly due to area sources, not industrial sources
- Current rule structure
 - does not adequately address PM_{2.5} ambient air quality problems
 - prohibits development



How will the changes improve the program?

- New or modified sources can help address ambient air quality problems
- Allows for development while improving or maintaining air quality



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What are the changes?

- Align definition of major source with EPA's definition
 - Different requirements for small and large sources
- Create 2 new area designations
 - Help prevent nonattainment
 - Eliminate permitting roadblock
 - Get to maintenance faster
- *Primarily affect **Minor** New Source Review*

Major / Minor NSR – currently

With construction or change in method of operation
(Major Modification)

Area designation, major mod	Emission Rate> SER or more	Less than SER
Nonattainment	<i>Major</i>	n/a
Maintenance	<i>Major</i>	n/a

Area designation, major mod?	Emission Rate> 100*/250 tpy or more	SER to 99*/249	Less than SER
Attainment	<i>Major</i>	Minor	n/a

* Applies to 28 source categories listed in rule (e.g. pulp and paper mills, iron and steel mills, chemical process plants)

Major / Minor NSR – proposed

With construction or change in method of operation
(Major Modification)

Area designation, major mod	Emission Rate> 100 tpy or more	SER to 99	Less than SER
Nonattainment	<i>Major</i>	Minor	n/a
Maintenance	<i>Major</i>	Minor	n/a

Area designation, major mod?	Emission Rate> 100*/250 tpy or more	SER to 99*/249	Less than SER
Attainment	<i>Major</i>	Minor	n/a

- *Overall stringency remains the same*



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PERMITTING PROGRAM UPDATES RULEMAKING

Significant Emission Rate (SER)

Pollutant	SER, tons per year
PM2.5	10
PM10	15
NO _x , VOC, SO ₂	40
CO	100
GHG	75,000



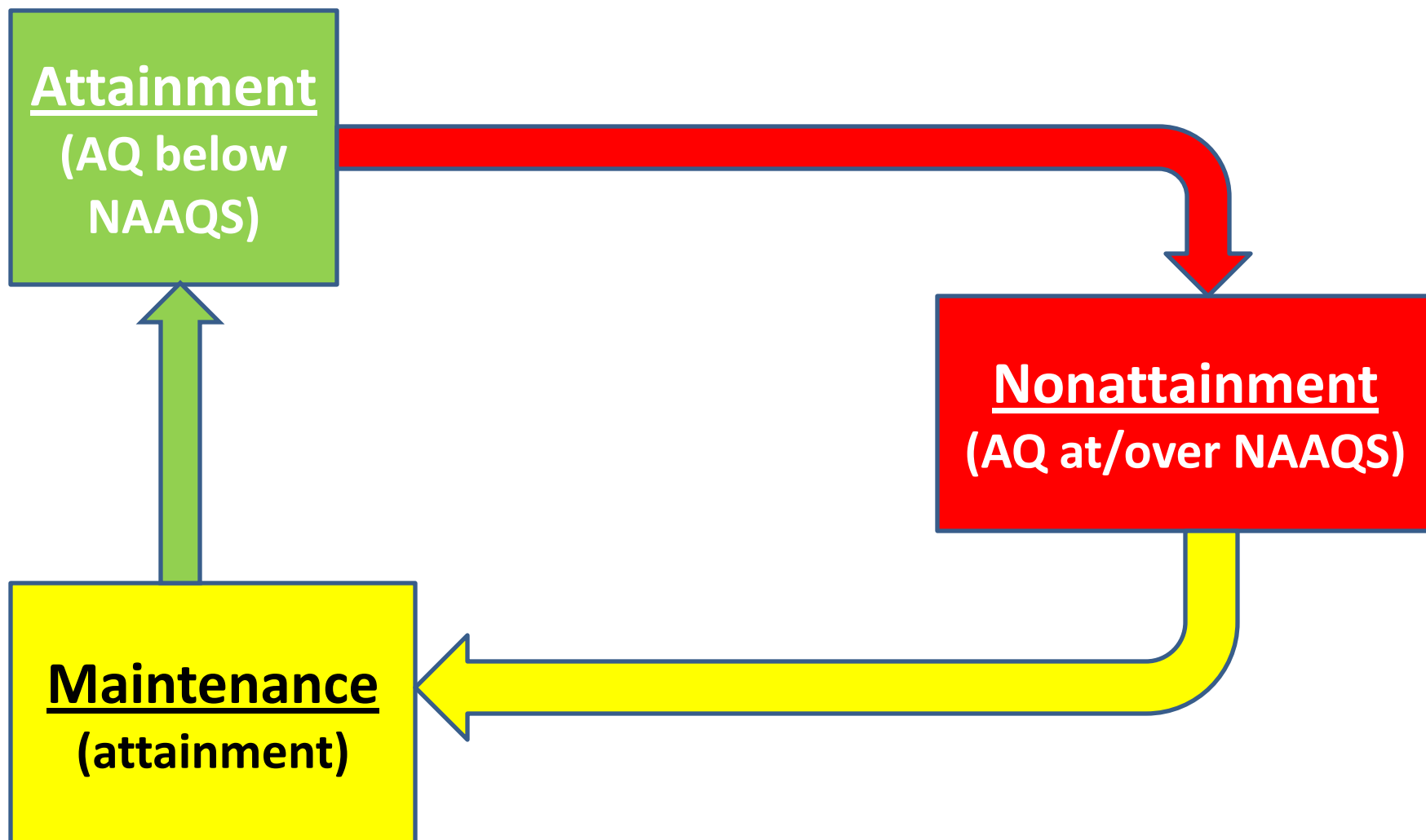
Two New Area Designations

- Sustainment area
 - Proposed rules designed to help keep area from becoming nonattainment
- Reattainment area
 - Proposed rules designed to be more flexible for smaller sources to allow development, but still protect air quality



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Current Area Designations

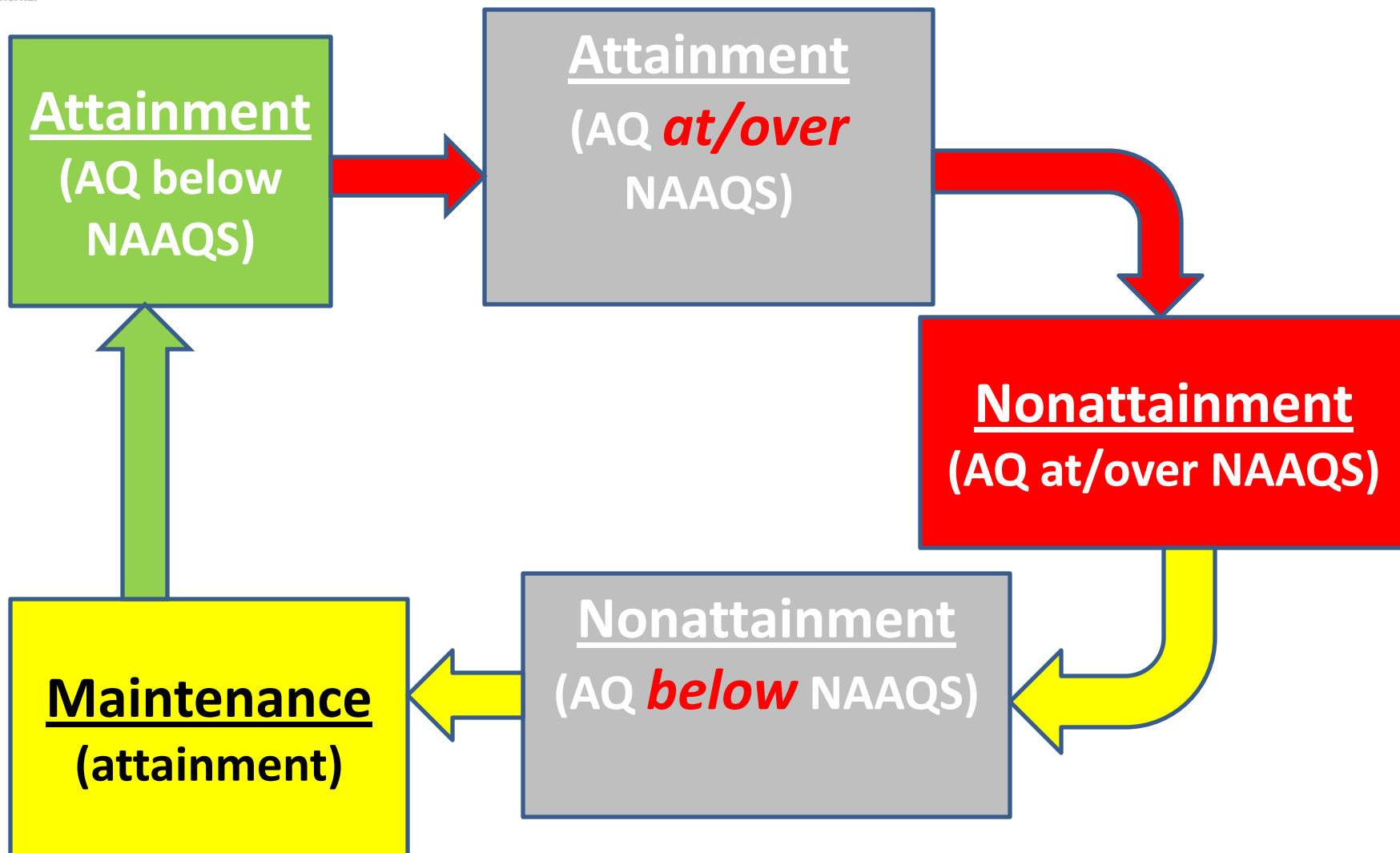




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Areas in transition

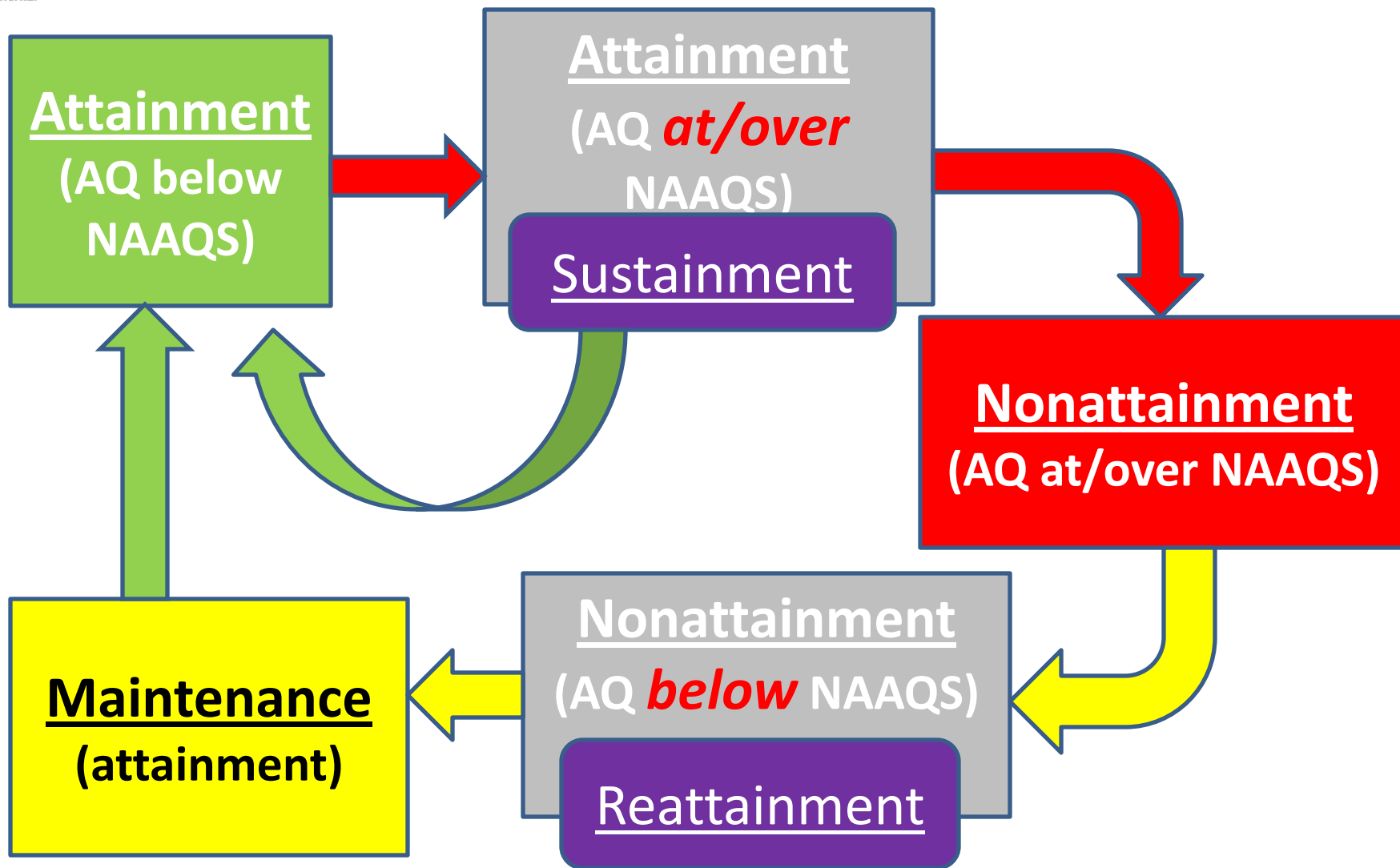




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New Area Designations





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Changes to Improve Air Quality

- “Priority sources” are primarily responsible for poor air quality (e.g. woodstoves in some communities)
- Provide incentives for reducing priority source emissions
 - More credit for emission reductions from priority sources
- EQC can specify Priority Sources



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Offset Changes

- Major NSR, some ratios higher than current (1.2:1)
- Minor NSR, ratios lower than major NSR
- Ratios area-specific
- Ratios reducible for priority source offsets
 - e.g. 1.2:1 → 1:1
- *No changes to ozone offset requirements*

Net Air Quality Benefit Changes

- Current NAQB criteria nearly impossible
- Revise NAQB criteria
 - Protect air quality:
 - Focus on areas with worst air quality, and
 - Prevent further degradation
 - Reduce emphasis on industrial emission offsets where area sources are the main contributors
 - Eliminate problem with current criteria



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Last: Rule Organization

- Minor New Source Review rules applicable to SER and over called *State* NSR program
 - No change to requirements applicable to minor sources less than SER
- Division 224 {
 - Major NSR
 - State NSR
 - Offset requirements
 - Net Air Quality Benefit



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Summary of Proposed Changes

- Raise Major source threshold to 100 tpy in nonattainment and maintenance areas
- Create two new area designations: sustainment and reattainment
- Identify Priority Sources
- Revise offset requirements
- Revise Net Air Quality Benefit requirements
- Major and State NSR in Division 224



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PERMITTING PROGRAM UPDATES RULEMAKING

New Source Review (NSR)





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For further questions:

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