

New Source Review (NSR) Preconstruction Permitting in Indian Country

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Office of Air Quality Planning and Standards (OAQPS)
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Agenda

2

- New Source Review (NSR) Preconstruction Permitting
- Permits
- Evolution of Air Permitting in Indian Country
- Parts of the NSR Permitting Program and Requirements
- EPA-Developed Tribal NSR Efficiency Improvements
- Tribal Minor NSR Permitting Flowchart
- Tribal Minor NSR Source Registration
- Additional Information

New Source Review (NSR) Preconstruction Permitting

3

- An air permitting program that requires industrial facilities to install modern pollution control equipment when:

- They are built (i.e., new major/minor source) or



Undeveloped Land



New Power Plant

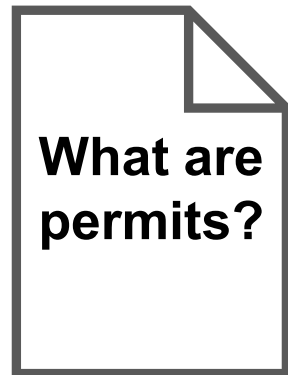
- When making a change that increases emissions significantly (i.e., major modification)



Industrial Facility Expansion

Permits

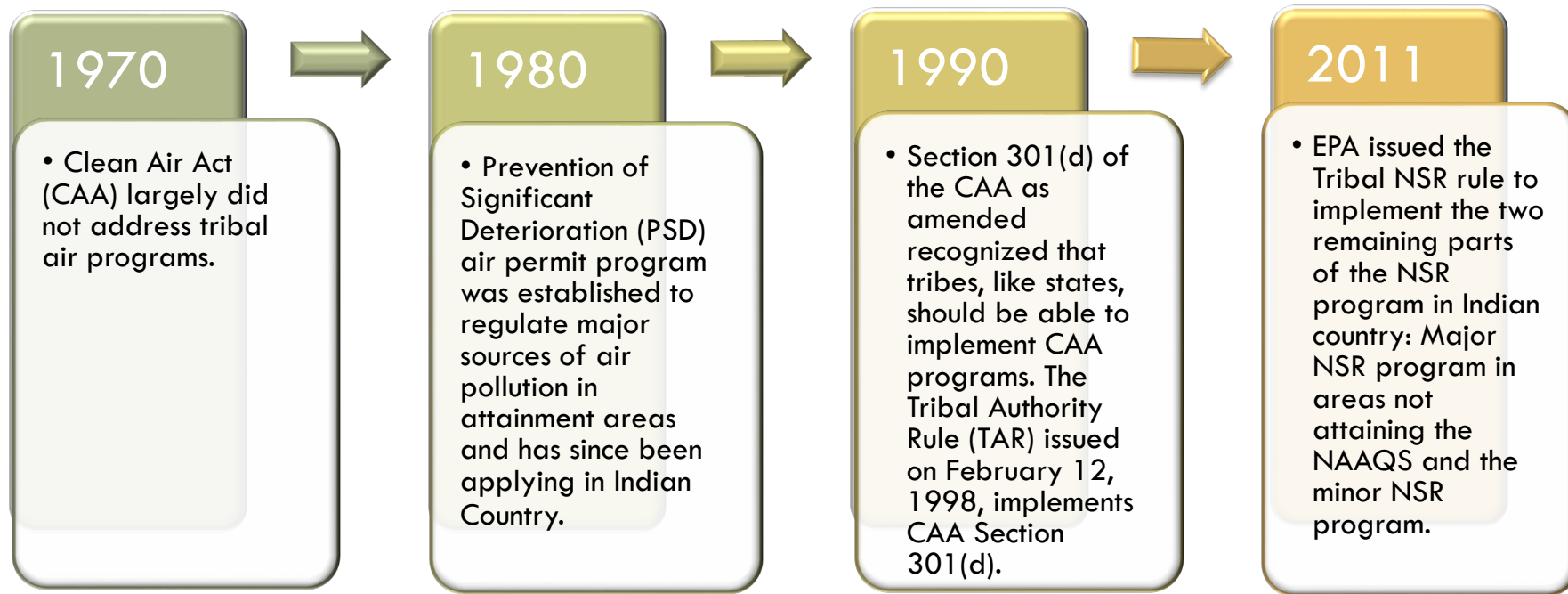
4



- Permits are enforceable legal documents that an *industrial facility*, or “*stationary*” source, must comply with. Permits may place restrictions on:
 - ▣ What construction is allowed
 - ▣ What air emission limits must be met
 - ▣ How the source can be operated
- To assure that sources comply with a permit’s emission limits, the NSR permit program requires sources to self monitor and maintain records of their continuous efforts to meet their pollution limitations (permit requirements).
- A permit almost always contains monitoring, recordkeeping, and reporting requirements.

Evolution of Air Permitting in Indian Country

5



Note:

- Unless tribes elect to, EPA generally implements the NSR permitting requirements in Indian country. Tribes can request delegation to implement the federal program or develop Tribal Implementation Plans (TIP) for them to administer one or more parts of the NSR program.
 - An implementation plan is a set of programs and regulations developed by the appropriate regulatory agency to ensure that the NAAQS are attained and maintained.

Parts of the NSR Permitting Program in Indian Country

6

Prevention of Significant Deterioration (PSD) of Air Quality in Attainment Areas

- Established August 7, 1980
- §52.21

Major NSR Program for Nonattainment Areas (NNSR)

- Established July 1, 2011
- §§49.166 – 49.173

Minor NSR Program for Attainment and Nonattainment Areas (Minor NSR)*

- Established July 1, 2011
- §§49.151 – 49.165

Types of Permits:

- True Minor/Site-Specific Permit
- General Permits
- Permits by Rule
- Synthetic Minor Source Permits
- Minor Mods. at Major Sources

*Amendments to this rule were issued May 2014, April 2015, June 2016 and March 2020 to develop easier permit application processes or alternative requirements.

NOTE:

- A major or minor NSR permit is required if a source has the potential to emit one or more pollutants above certain pre-established thresholds. PSD and NNSR are known as major NSR permitting.
- A source may have to meet PSD, NNSR and/or minor NSR simultaneously.

PSD Program Permitting Requirements

7

- Regulated pollutants: NAAQS, Greenhouse Gases (GHGs) and other pollutants.
- Applies to new major sources, and major modifications at existing major sources of air pollution in attainment areas.
 - ▣ New sources with the potential to emit (PTE) regulated NSR pollutants in amounts equal to or higher than 100/250 tons per year.
 - 100 tons per year (tpy) threshold applies to 28 source categories.
 - ▣ Major modifications at existing major sources with emissions in amounts equal to or higher than the applicable significant emission rates based on a two-step process:
 - Significant emissions increase of a regulated NSR pollutant from the proposed modification.
 - Significant net emissions increase of that same pollutant.
 - ▣ For sources that emit GHGs, a 75,000 tpy Carbon Dioxide equivalent (CO₂e) threshold applies to both new and modified sources if another pollutant also triggers NSR.

PSD Program Permitting Requirements (Cont.)

8

□ Main requirements:

1. **Install Best Available Control Technology (BACT)**

- Emission limitation based on the maximum degree of emission reduction (considering energy, environmental, and economic impacts) achievable through application of production processes and available methods, systems, and techniques.

2. **Perform air quality analysis to assess impacts on air quality standards and increments**

- Assessment of existing air quality and air quality modeling projection of the air quality impact that will result from the proposed project and future growth associated with the project.

3. **Perform class I area analysis to assess impacts on national parks and wilderness areas**

- Air quality modeling projection of the impact of the project on a nearby Class I area.

4. **Perform additional impacts analysis**

- Assesses the impacts of air pollution on soils, vegetation and visibility caused by any increase in emissions of any regulated pollutant from the source.

NNSR Program Permitting Requirements

9

- Regulated pollutants: NAAQS only.
- Applies to new major sources, and major modifications at existing major sources of air pollution in nonattainment areas.
 - ▣ New sources with PTE equal to or higher than 100 tpy. For ozone, the threshold could be lower than 100 tpy depending on the nonattainment severity.
 - ▣ Major modifications at existing major sources with emissions in amounts equal to or higher than the applicable significant emission rates based on a two-step process:
 - Significant emissions increase of a regulated NSR pollutant from the proposed modification.
 - Significant net emissions increase of that same pollutant.
- Main requirements:
 1. **Install Lowest Achievable Emission Rate (LAER) technologies**
 - The rate of emissions that reflects: (1) the most stringent emission limitation included in the implementation plan of any state for a similar source unless the facility owner or operator demonstrates such limitations are not achievable; or (2) the most stringent emissions limitation achieved in practice, whichever is more stringent.

NNSR Program Permitting Requirements (Cont.)

10

□ Main requirements:

2. Obtain emission offsets

- To avoid overall increases in emissions, proposed emissions increases from new or modified facilities are balanced by equivalent or greater reductions from existing sources.

3. Perform alternative sites analysis

- Alternative sites, sizes, production processes, and environmental control techniques analysis for the proposed source that demonstrates that benefits of the proposed source significantly outweigh the environmental and social costs imposed because of its location, construction, or modification.

4. Show statewide facility compliance w/air regulations

- Demonstration by new or modified source owner or operator that all major stationary sources owned or operated by such person in such State are subject to emission limitations and are in compliance, or on a schedule for compliance, with all applicable emission limitations and standards.

Minor NSR Program Permitting Requirements

11

- Regulated pollutants: NAAQS and other pollutants at the discretion of each permitting authority.
- Apply to new or modified sources with air emissions below major NSR thresholds for both attainment and nonattainment areas.
- Main requirements:
 - ▣ CAA lacks specific requirements. States must have a program that regulates the modification and construction of stationary sources as necessary to ensure that the NAAQS are achieved.
 - ▣ EPA finalized a minor NSR program for Indian country in 2011 with a specific set of requirements tailored for Indian Country (i.e., Tribal Minor NSR Rule).
 - Sets minor NSR thresholds for NAAQS and other pollutants.
 - Attainment Areas: 0.1 to 10 tpy; Nonattainment Areas: 0.1 to 5 tpy.
 - Exempts a few units and activities from permitting.

Minor NSR Program Permitting Requirements and FIP

12

- Tribal Minor NSR Rule establishes provisions for various types of site-specific permits:
 1. Minor Source Permits or True Minor Source Permits
 - Permit for a source who's potential to emit is never above those for major sources. Permit includes case-by-case determinations of the source emission limits and control technology requirements.
 2. Synthetic Minor Permits
 - Permit for a source that otherwise has the potential to emit regulated NSR pollutants in amounts that are at or above those for major sources, but that has taken a restriction so that its potential to emit is less than such amounts for major sources.
 3. Minor Modifications at Major Sources
 - Permit for major sources that underwent a modification that resulted in air emissions below the applicable major NSR and above the minor NSR thresholds.
- Permit Streamlining Actions:
 1. General Permits (GP) and Permits-by-Rule (PBR)
 - Permits that have been developed for a several similar equipment types and facilities to simplify the permit issuance process for selected source categories.
 2. Oil and Gas Federal Implementation Plan (FIP)
 - Streamlined approach for regulating construction air emissions from this sector, rather than requiring a source-specific minor source permit.
- Note: EPA issued a FIP (SAN 5872.1) for the Uintah and Ouray Indian Reservation in Utah to address VOC control for Ozone in the Uintah Basin. If you have questions about how sources are authorized to construct in this reservation, please contact EPA Region 08.

EPA-Developed Tribal NSR Efficiency Improvements

13

Bundle #1 (proposed 12/13, finalized 4/15)

- Gas dispensing facilities (*permit by rule*)
- Auto body repair and miscellaneous surface coating operations (*permit by rule*)
- Petroleum dry cleaners (*permit by rule*)
- Stone quarrying, crushing and screening facilities (*general permit*)
- Hot mix asphalt plants (*general permit*)

Bundle #2 (proposed 7/14, finalized 9/16)

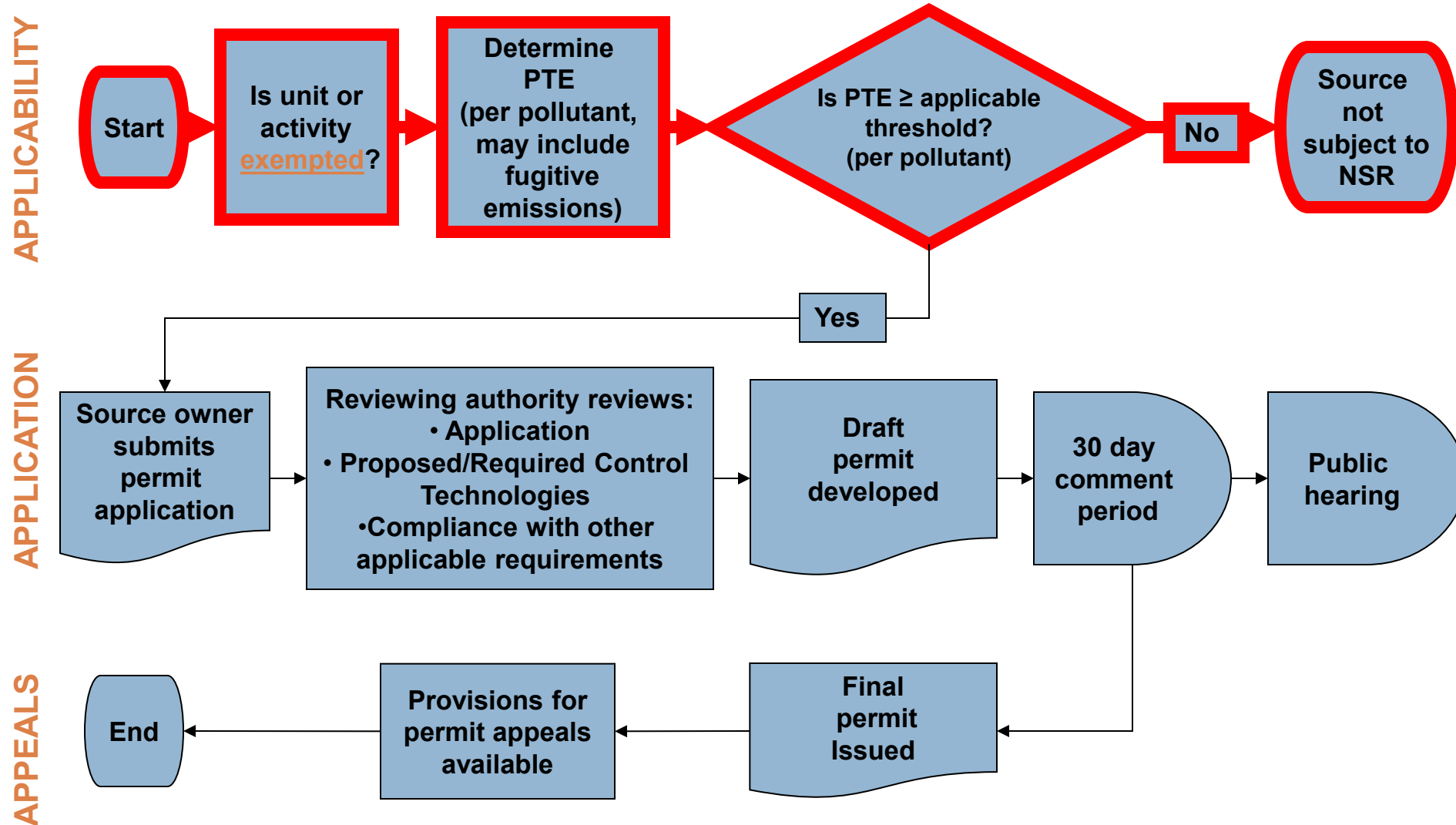
- Boilers and emergency engines (*general permit*)
- Spark ignition engines (*general permit*)
- Compression ignition engines (*general permit*)
- Graphic arts and printing operations (*general permit*)
- Concrete batch plants (*general permit*)
- Sawmill facilities (*general permit*)

Bundle #3 (proposed 8/15, finalized 5/16)

- National Oil and Natural Gas FIP (Part 1 and Part 2 Oil and Gas Form Registrations)

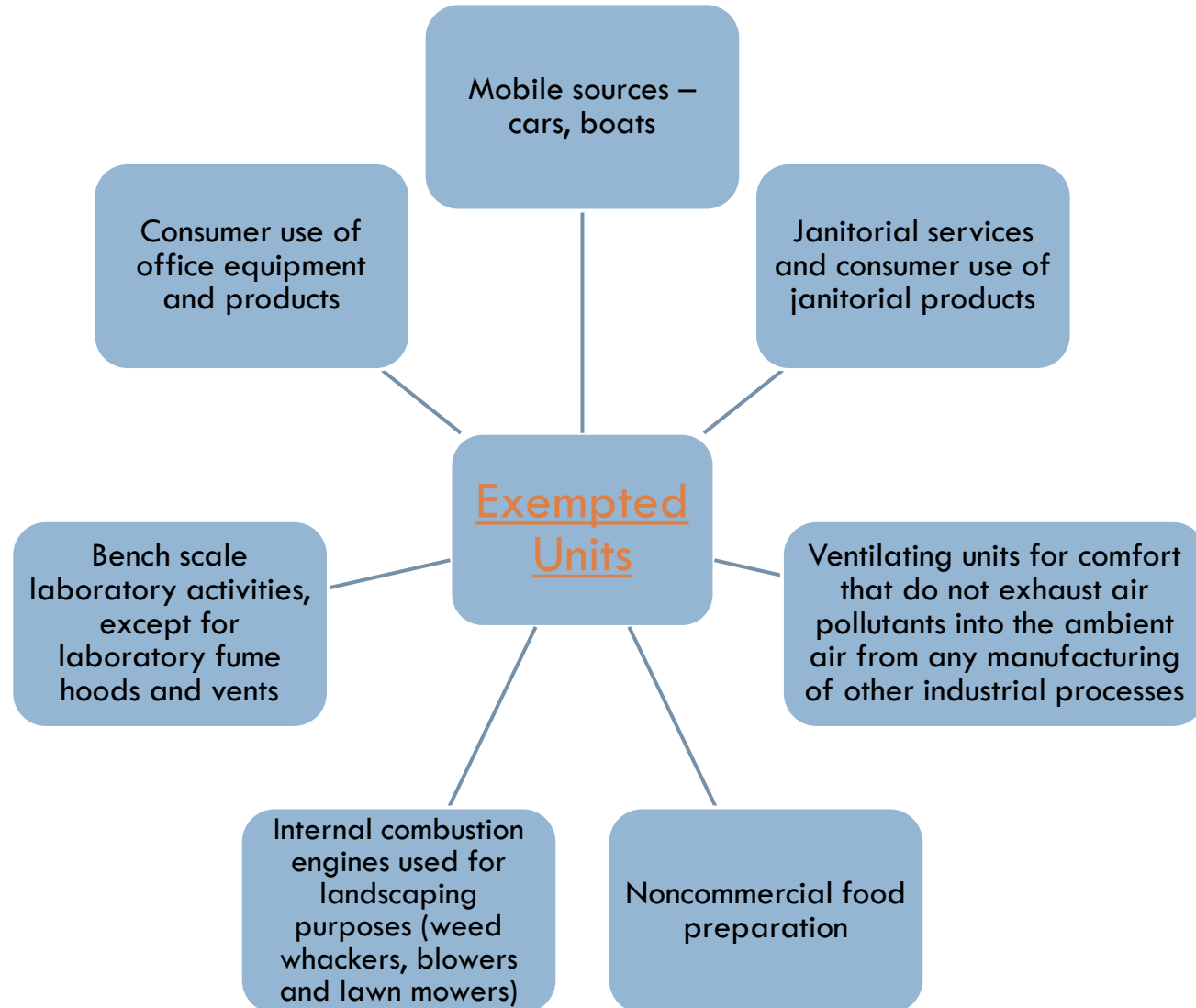
Tribal Minor NSR Permitting Process (Simplified): Emphasis on Applicability

14



Tribal Minor NSR Program Exempted Units

15



Tribal Minor NSR Program Source Registration

16

- 2011 Tribal NSR Rule (and subsequent amendments) requires existing sources to register their air emissions information with the Agency:
 - ▣ On or before September 2, 2014; for all source categories except oil and gas sources
 - ▣ On or before October 3, 2016; for existing oil and gas sources
- Sources might still register today if they:
 - ▣ Discover that they failed to register as existing sources when they should have and are correcting that, or
 - ▣ Are new or modified O&NG sources subject to the FIP for such sources.
- Other considerations:
 - ▣ A source constructed on or after September 2, 2014, that is subject to the Tribal Minor NSR Rule can use the permit application information to fulfill its registration requirements.
 - ▣ For the Indian reservations in Idaho, Oregon, and Washington State subject to the Federal Air Rules for Reservations (FARR) registration requirement under 40 CFR 49.138, the emissions information being collected under the FARR can be used to fulfill the Tribal NSR R registration requirements.

Additional Information

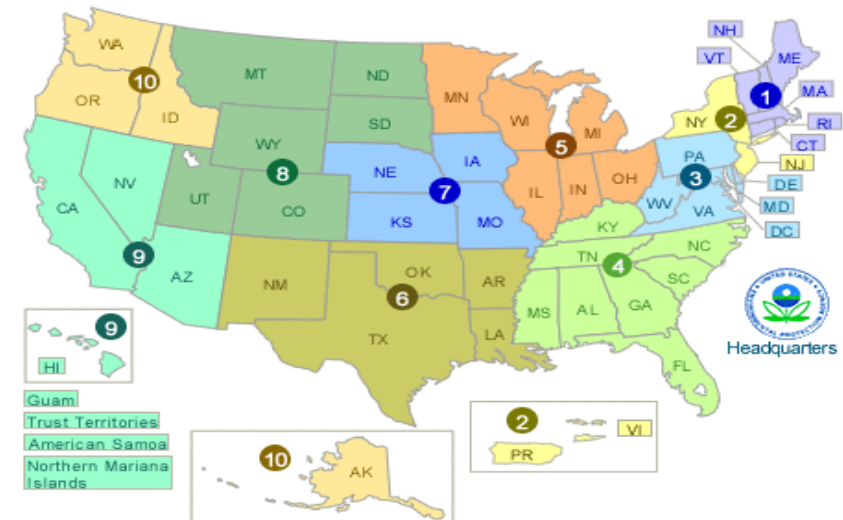
17

Toolbox



Tribal Managers by EPA National Office or Regional Office

- <https://www.epa.gov/tribal/epa-tribal-program-managers>



Contacts

18

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Appendix

Major and Minor Source NSR Permitting PTE Thresholds for New Sources in Indian Country

20

Pollutant	Attainment Areas		Nonattainment Areas		
	Minor Source Threshold	PSD Major Source Threshold	Classification	Minor Source Threshold	NNSR Major Source Threshold
Ozone	5 tpy of VOC 10 tpy of NOx	250* tpy of VOC or NOx	Marginal	2 tpy of VOC 5 tpy of NOx	100 tpy of VOC or NOx
			Moderate		100 tpy of VOC or NOx
			Serious		50 tpy of VOC or NOx
			Severe		25 tpy of VOC or NOx
			Extreme		10 tpy of VOC or NOx
Particulate Matter	10 tpy	250 tpy*	Moderate	5 tpy	100 tpy
			Serious		70 tpy
Carbon Monoxide	10 tpy		Moderate	5 tpy	100 tpy
			Serious		50 tpy
Lead	0.1 tpy		N/A	0.1 tpy	100 tpy
Sulfur Dioxide and Nitrogen Oxides	10 tpy		N/A	5 tpy	100 tpy

*For certain industrial source categories, this threshold is 100 tons per year (tpy). Minor NSR thresholds for other non-NAAQS pollutants in attainment areas include fluorides (1 tpy), Hydrogen sulfide (2 tpy), total reduced sulfur (2 tpy), reduced sulfur compounds (2 tpy), municipal waste combustors (2 tpy) and municipal solid waste landfill emissions (10 tpy).

Emissions Rates for Modifications in Indian Country

21

Significant Emission Rate (SER) – a rate of emissions that would equal or exceed any of the following rates. Apply in attainment and nonattainment areas.

Pollutant	SER (tpy)	Pollutant	SER (tpy)
Carbon Monoxide	100	Sulfuric Acid Mist	7
Nitrogen Oxides	40	Hydrogen Sulfide (H ₂ S)	10
Sulfur Dioxide	40	Total Reduced Sulfur (Includes H ₂ S)	10
Particulate Matter (PM10)	15	Reduced Sulfur Compounds (Includes H ₂ S)	10
Particulate Matter (PM2.5)	10 direct PM; 40 for NO _x or SO ₂	Municipal Waste Combustor Organics	3.5*10 ⁻⁶
Ozone	40 VOCs or NO _x	Municipal Waste Combustor Metals	15
Lead	0.6	Municipal Waste Combustor for Acid Gases	40
Fluorides	3	Municipal Solid Waste Landfills Emissions	50

Major NSR 28 Source Category List (100 tpy Threshold)

22

1. Coal cleaning plants (with thermal dryers)
2. Kraft pulp mills
3. Portland cement plants
4. Primary zinc smelters
5. Iron and steel mills
6. Primary aluminum ore reduction plants
7. Primary copper smelters
8. Municipal incinerators capable of charging more than 250 tons of refuse per day
9. Hydrofluoric acid plants
10. Sulfuric acid plants
11. Nitric acid plants
12. Petroleum refineries
13. Lime plants
14. Phosphate rock processing plants
15. Coke oven batteries
16. Sulfur recovery plants
17. Carbon black plants (furnace process)
18. Primary lead smelters
19. Fuel conversion plants
20. Sintering plants
21. Secondary metal production plants
22. Chemical process plants
23. Petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels
24. Taconite ore processing plants
25. Glass fiber processing plants
26. Charcoal production plants
27. Fossil fuel-fired steam electric plants of more than 250 million British thermal units (BTU) per hour heat input
28. Fossil-fuel boilers (or combination thereof) totaling more than 250 million BTU/ hour heat input