New Source Review (NSR) Permits

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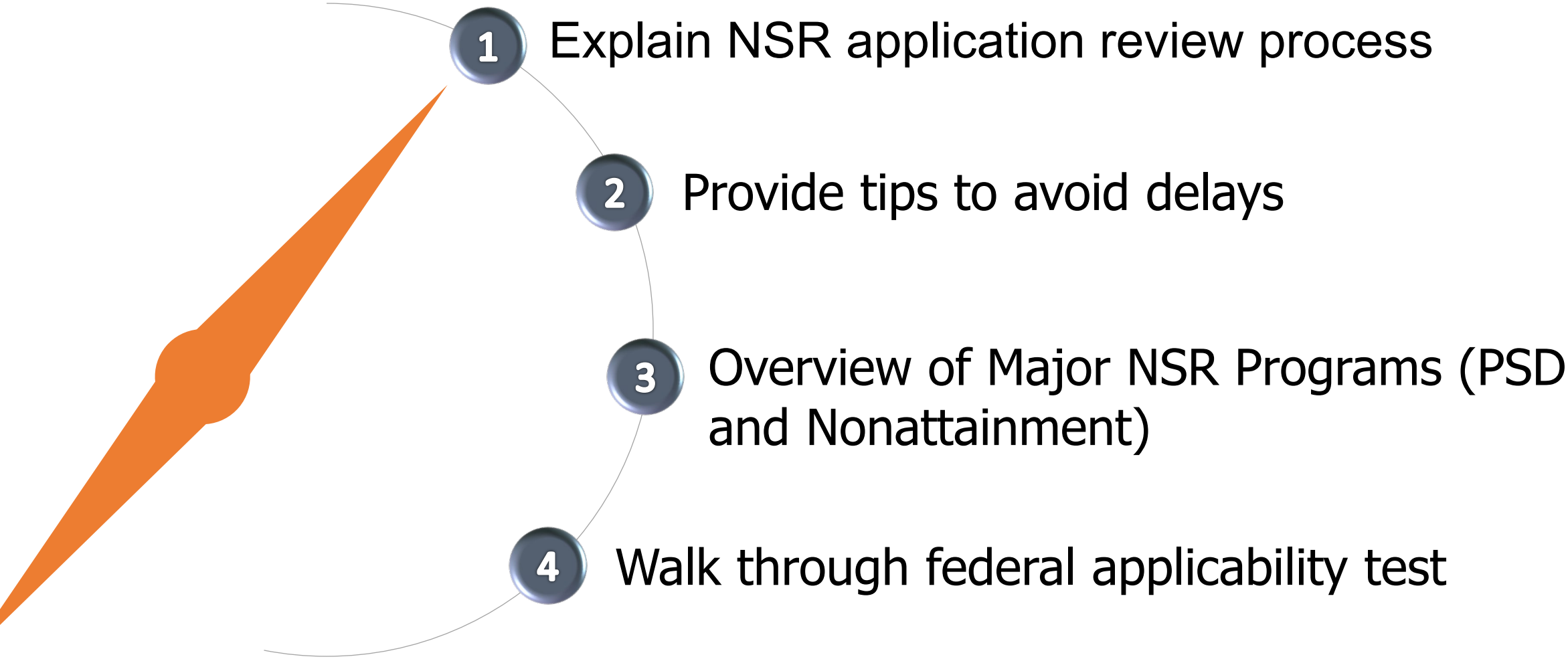
Environmental Trade Fair 2025

Objectives

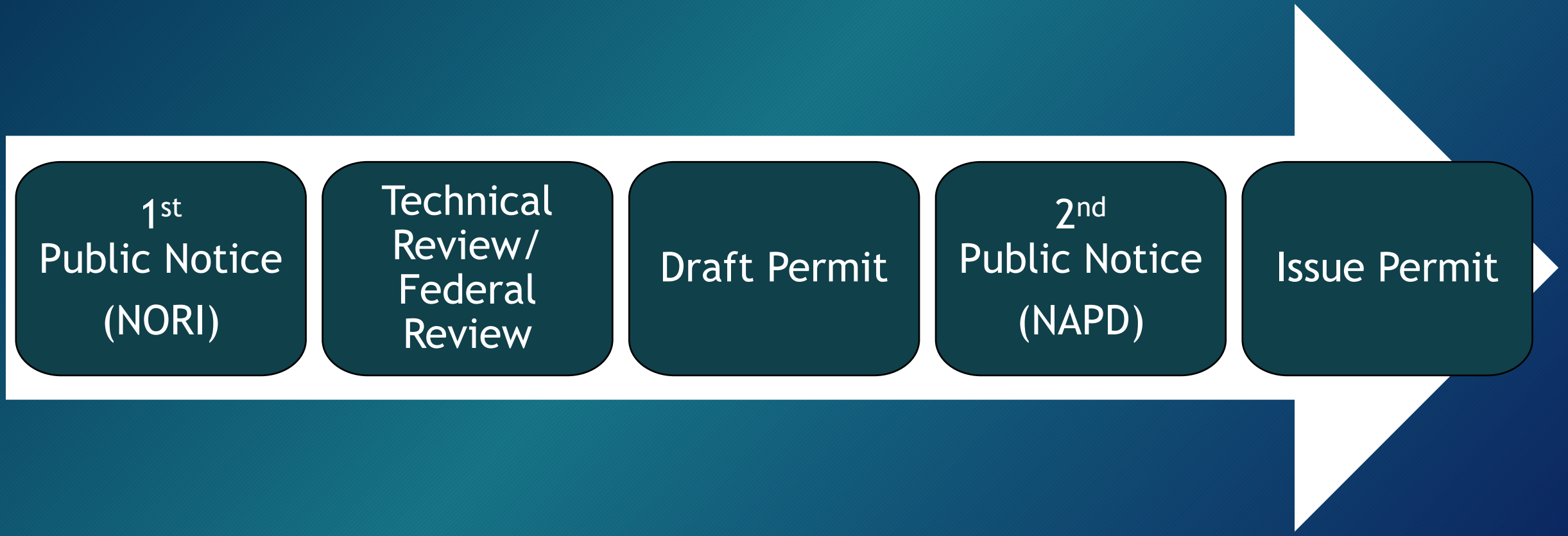

1
Explain NSR application review process
2
Provide tips to avoid delays
3
Overview of Major NSR Programs (PSD and Nonattainment)
4
Walk through federal applicability test

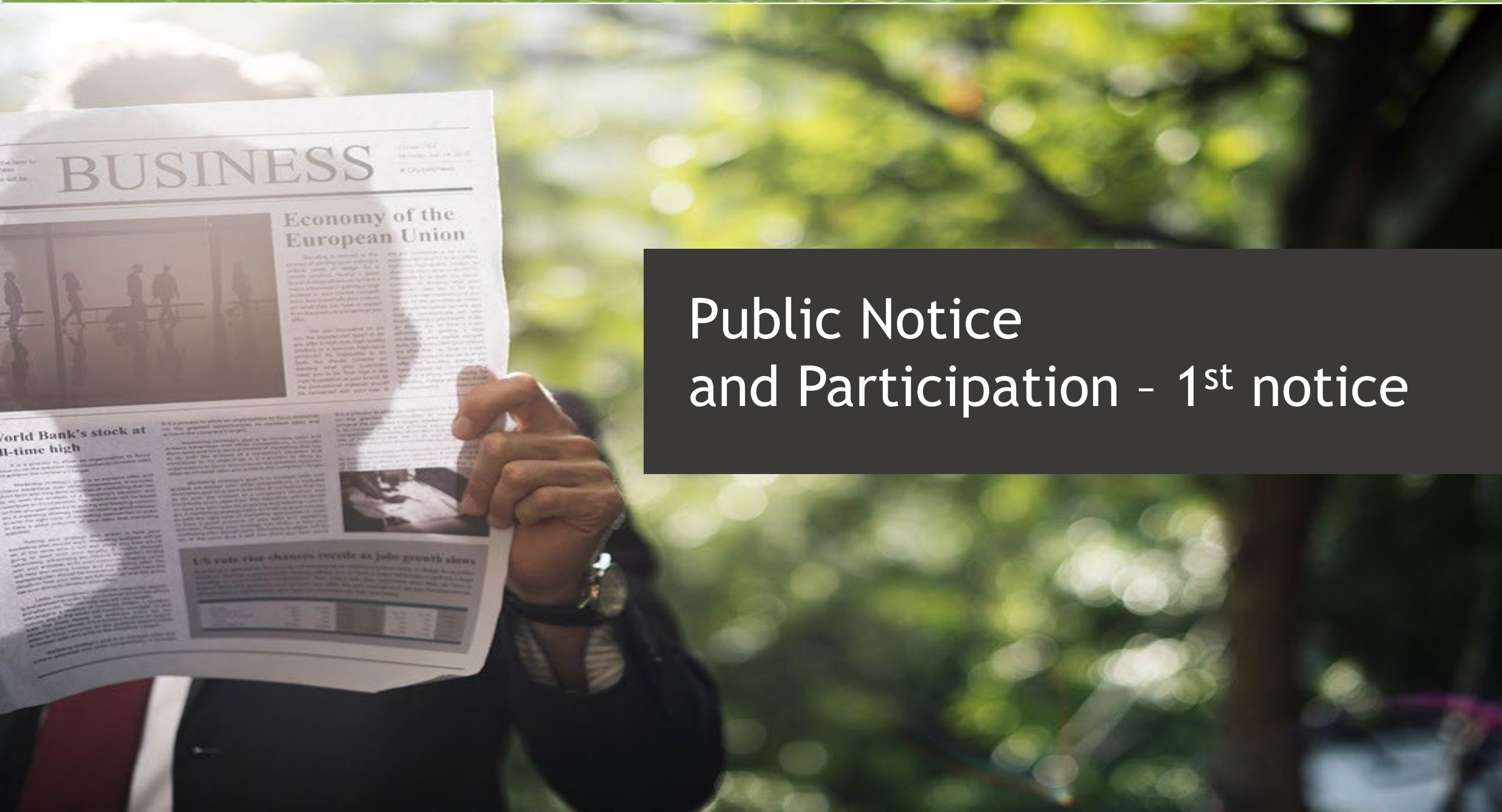
NSR Application Types

- Initial
- Renewal / Renewal Certification
- Amendment
- Alteration (aka Revision)

PI-1 General Application Workbook required for **all** projects

Permitting Steps





Public Notice and Participation – 1st notice

1st Public Notice Applicability

- All Initial Permits
- All Renewals and Renewal Certifications
- Amendments that:
  - Exceed levels listed in 30 TAC § 39.402(a)(3)
    - 50 tpy of CO
    - 10 tpy of SO2
    - 0.6 tpy of lead
    - 5 tpy of NOx, VOC, PM or any other contaminant
  - New air contaminant
  - Change in character of emissions

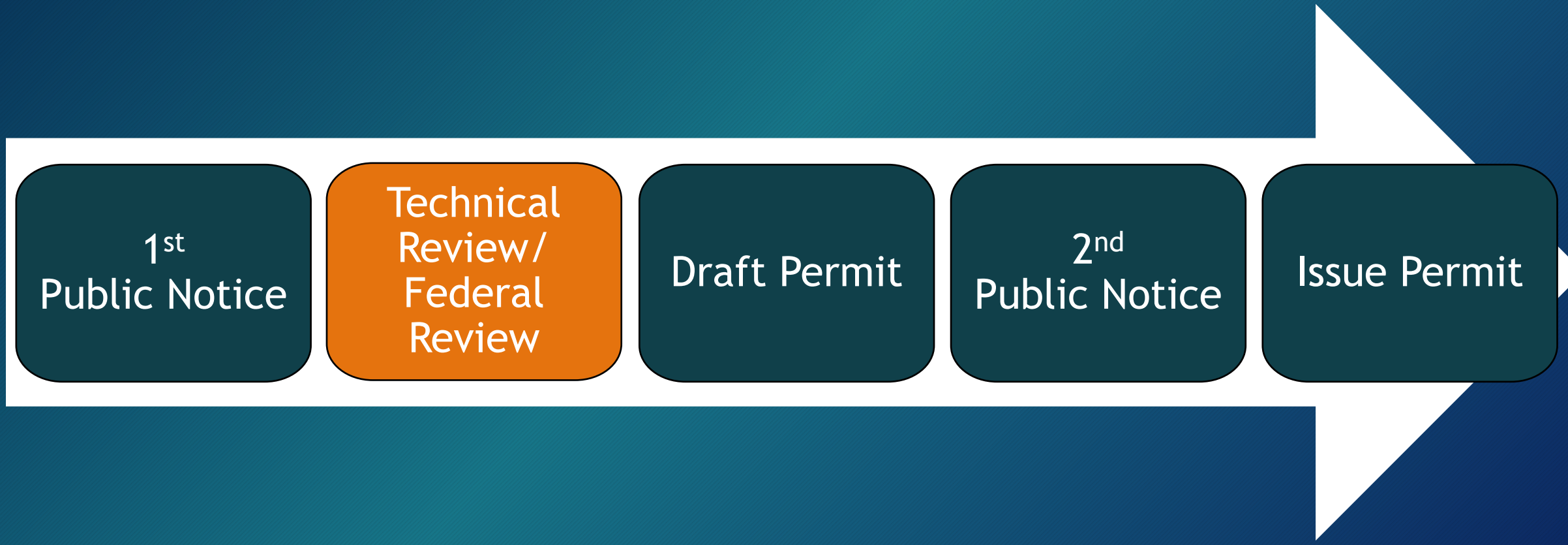
1st Public Notice Requirements

- Publication in newspaper of general circulation
- Publication in alternative language (if applicable)
- Sign posting at proposed/existing site
- Application available for public viewing and copying
- Public Involvement Plan (PIP)
- Plain Language Summary (PLS)

Things to watch out for

- Incorrect or missing pollutants
- Failure to meet public notice deadlines
- Failure to publish in alternative language paper
- Missing **BOLD text**
- Incorrect contact information
- Missing HAPs
- Pollutants not translated into the alternative language

Permitting Steps



Technical Review

- Process Description and Process Flow Diagram
- Area Map and Plot Plan
- Emission Rates Discussion, Data Sheets, and Calculations
- Best Available Control Technology
- Regulatory Analysis
- Federal Applicability Discussion
- Impacts Analysis and Modeling

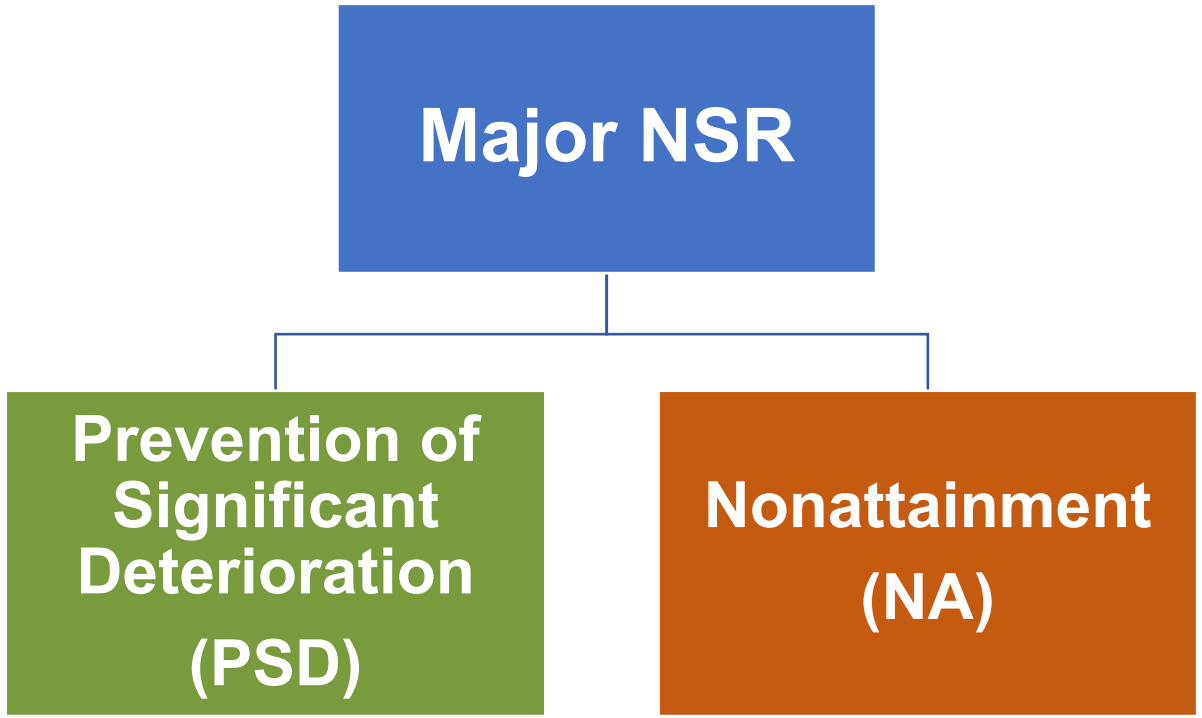
Notice of Deficiency

- If components needed for technical review are missing/unclear, a **Notice of Deficiency (NOD)** will be sent within 90 calendar days after TCEQ receives application
- Additional NODs may be sent for an additional 60 calendar days after receipt of applicant response to 1st NOD

Best Available Control Technology (BACT) Analysis

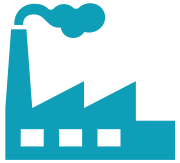
- Applicable to all Initials, Amendments, and anytime PBRs are incorporated by consolidation
- Follow TCEQ guidance on Tier I, II, or III analysis
- PI-1 workbook generates Tier I BACT technology for inputted sources (as available)

Federal Applicability Discussion



- Applicable to all Initials and Amendments
- Include federal applicability discussion even if source is minor
- Submit Table 1Fs and 2Fs
- Detailed discussion needed if any project changes are retrospective

Impacts Analysis

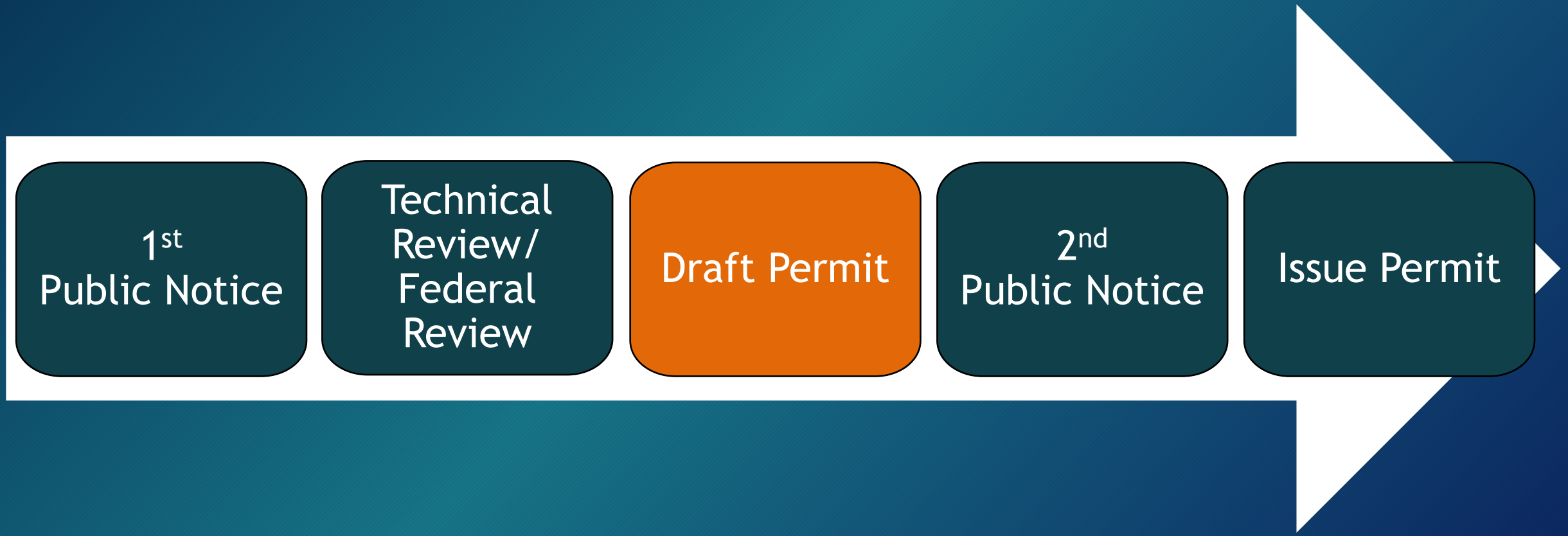


- Applicable to all projects with emissions increases
- Potentially applicable when proposing changes to stack parameters or source locations
- Electronic Modeling Evaluation Workbook (EMEW) is required with application and initial modeling files are recommended
- Include detailed source descriptions and complete supporting documentation

Things to watch out for

- **Inconsistent representations**
- EPNs or labels not legible
- Lack of technical basis or explanation of assumptions used for emission rates
- Impractical proposed emission rates
- Insufficient BACT analysis
- Missing Table 1Fs and 2Fs with federal applicability discussion

Permitting Steps



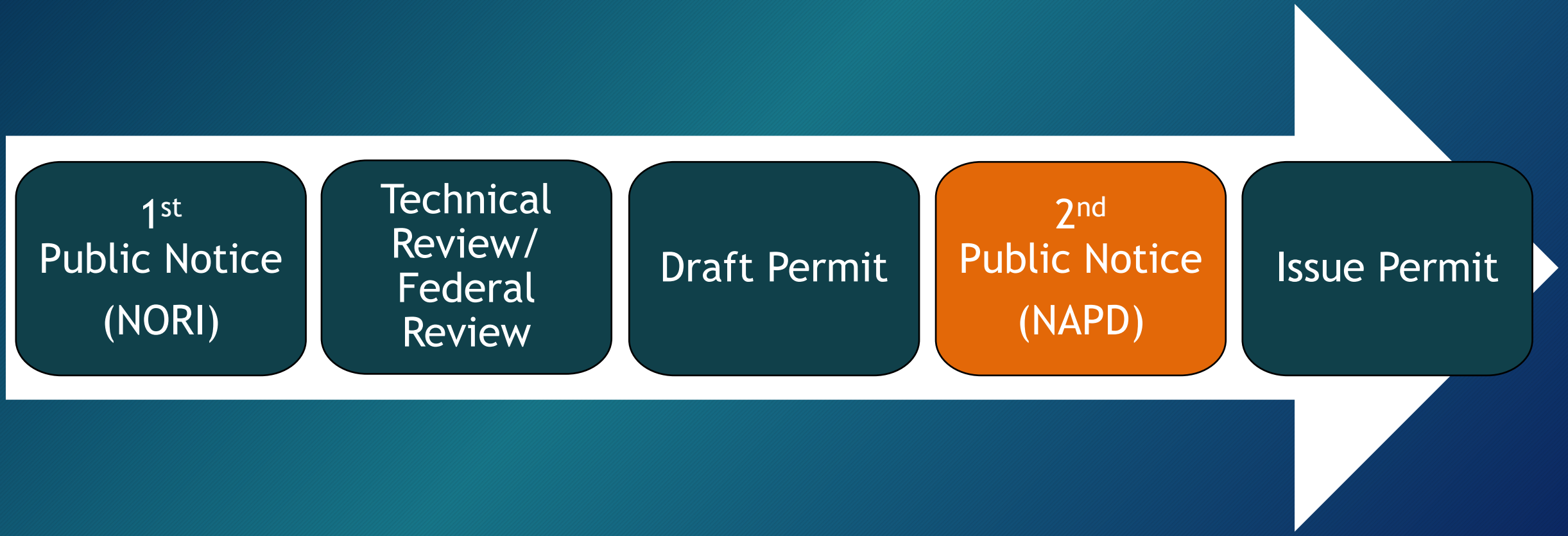
Draft Special Conditions

All representations in the application may be used to create permit conditions:

- Federal Applicability
- Emission Standards
- Operational Restrictions
- Stack Testing
- MSS Activities
- Monitoring
- Recordkeeping
- Referenced PBRs/SPs

Boilerplate language is starting point.

Permitting Steps



Public Notice and Participation – 2nd notice

2nd Public Notice Applicability

- All Initial Permits
- Amendments that triggered 1st public notice
- Consolidated 1st and 2nd public notice may be required if project changes during the technical review

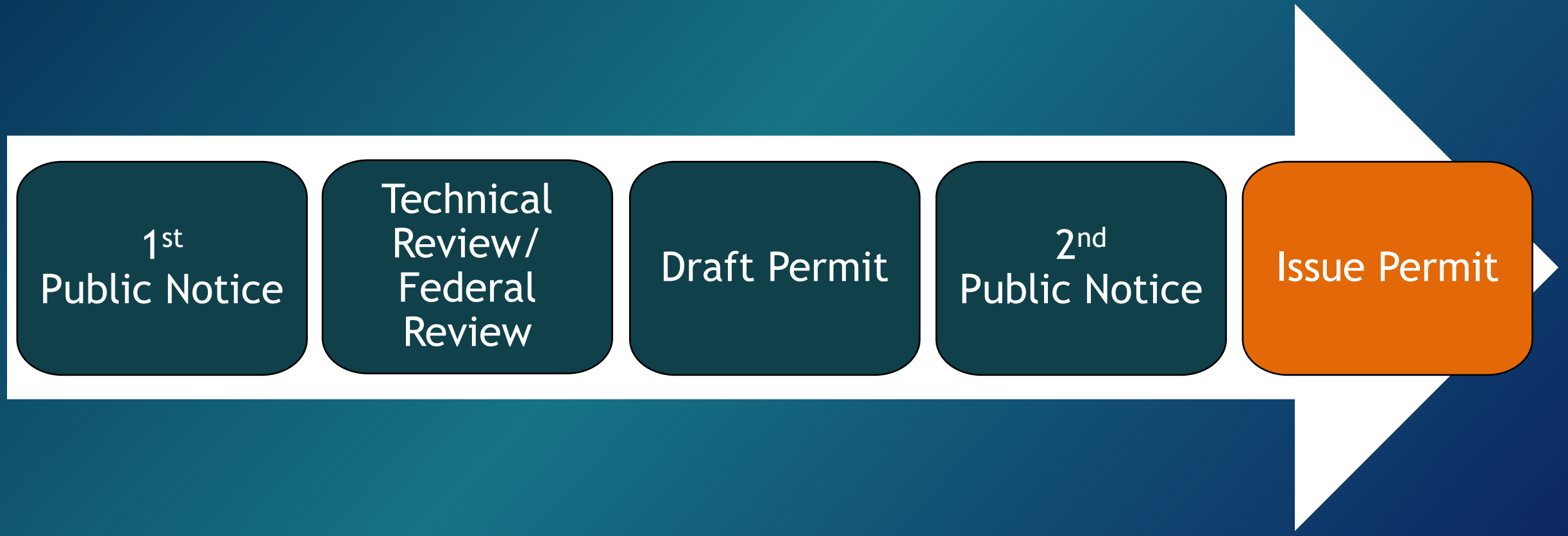
Response to Comments and Contested Hearing Requests

- If timely public comments are received, TCEQ will prepare a Response to Comments (RTC) to address concerns
- If a Contested Case Hearing request is received:
  - It goes before the Commissioners at Agenda for consideration, including affected party status, to either deny, grant or refer to State Office of Administrative Hearings (SOAH)
  - If referred to SOAH: After the first day of the preliminary hearing, the Administrative Law Judge has 180 days to issue a Proposal for Decision which is then considered by TCEQ Commissioners.

Tips for Public Meetings

- Venue for meeting
  - Should be in area where community plant will be located or close to it
  - Parking should be free
- Prepare opening remarks
  - Explain what you are doing, when you will operate, etc.
  - Highlight if you are from the community
- Answer questions
  - Be engaged and ready to provide full responses to questions from public
- Don’t attend competitor’s public meetings
- Be a good neighbor

Permitting Steps



Renewing, Amending, or Altering a NSR Permit

Renewals

Renewals can…

- ✓ Update calculation methodology in accordance with TCEQ and/or EPA guidance
- ✓ Incorporate PBR authorizations
- ✓ Remove sources

Renewals cannot…

- × Authorize new sources
- × Modify sources
- × Change character of emissions
- × Authorize new control technology

Amendments vs Alterations

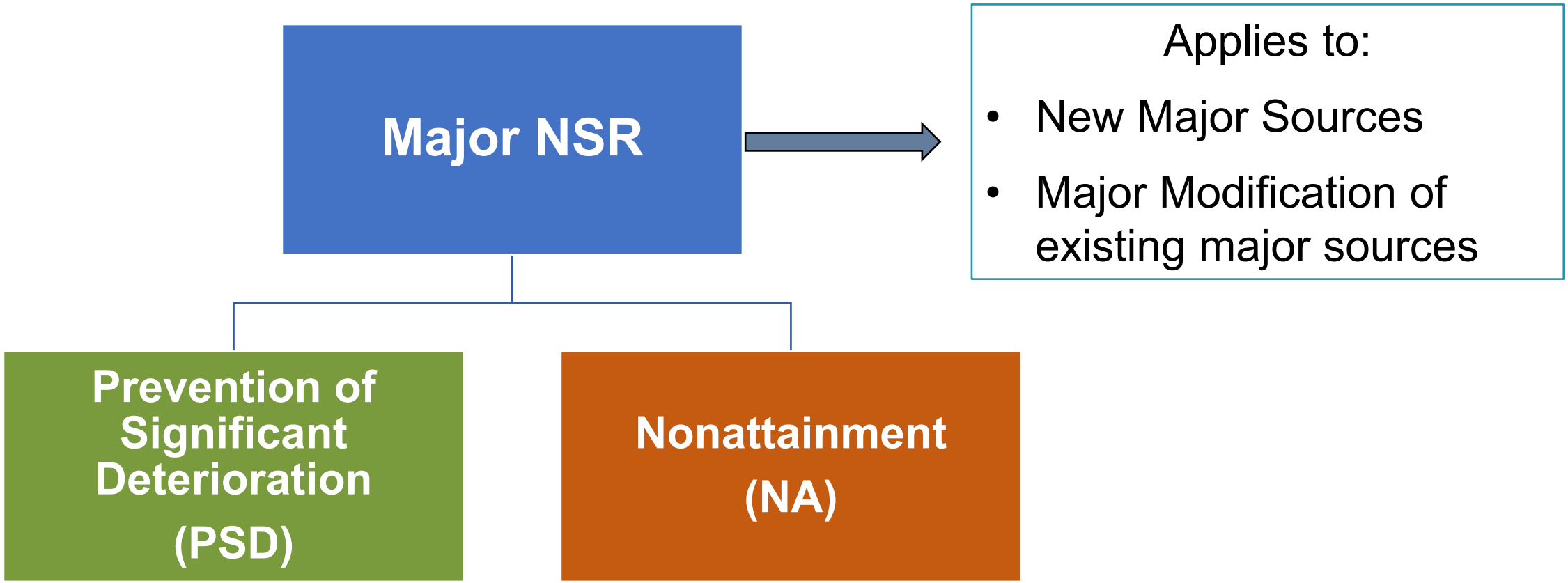
Amendments

- May require public notice
- Fee required
- Lots of supporting documentation
- Can authorize minor **or major modifications**

Alterations

- No Public Notice
- No Fee
- Limited supporting documents
- **No** increase in emissions (allowable **or actual**)
- **No** change in character of emissions
- **No** change in method of control

Major NSR : PSD / NA

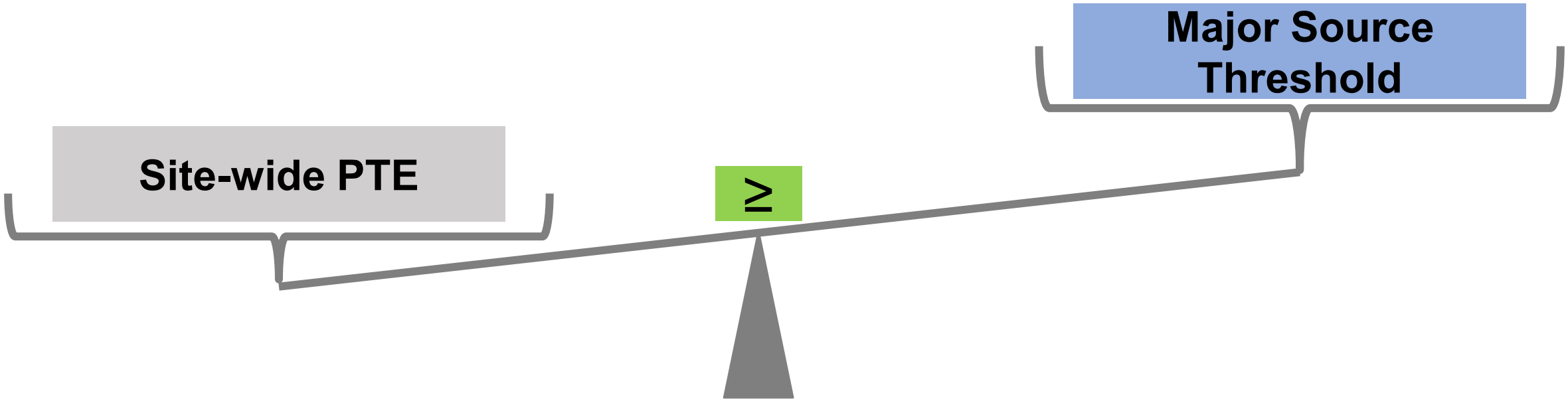


Major NSR Programs

Major NSR	Pollutant	Area Designation	Major Source / Modification Threshold
PSD	Regulated pollutants: Criteria & Non-Criteria	Attainment / Unclassifiable	Named sources Unnamed sources
NA	Criteria Pollutants	Nonattainment	NA classification for area

Major Source

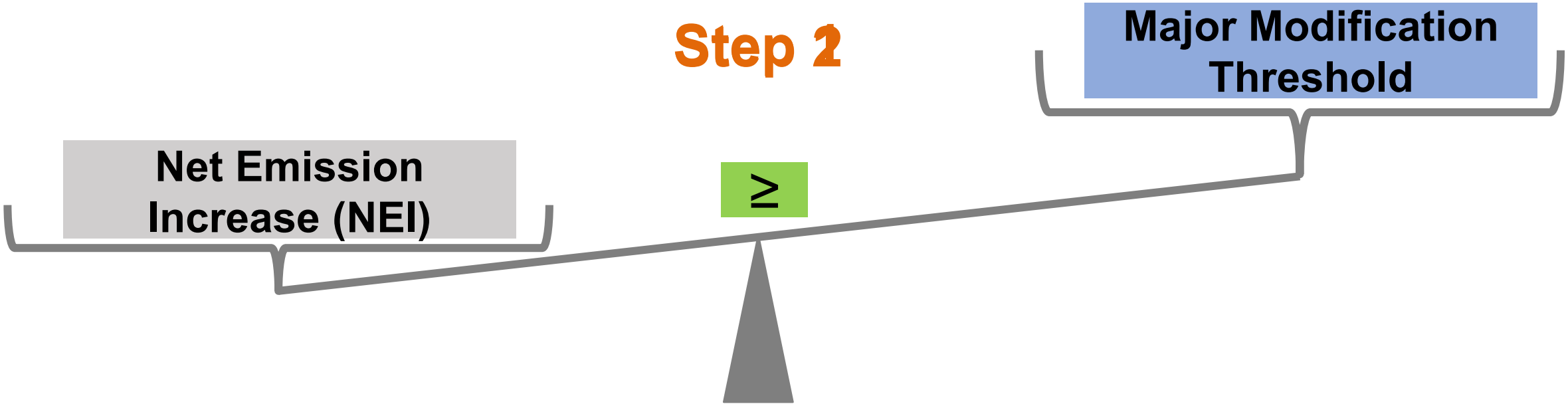
Any stationary source that emits, or has the potential to emit (PTE), emissions of air contaminants that are greater than or equal to the Major Source threshold.



Refer to 30 TAC §116.12(19), 40 CFR §52.21(b)(1)(i), 40 CFR §51.166(b)(1)(i), & 40 CFR § 51.165(a)(1)(iv)(A)

Major Modification

A physical change or change in method of operation at an **existing major source** that causes a significant project emissions increase (PEI) and a significant net emissions increase (NEI).



Definition in 30 TAC §116.12(20)
Exceptions in 30 TAC §116.12(20)(B)

PSD: Major Source Thresholds

Source Category*	Regulated Pollutant	Major Source (TPY)
Named	All	100
Un-Named	All	250

*40 CFR §52.21(b)(l)(i) Named and unnamed sources.

PSD: Major Modification Thresholds

Regulated Pollutant	Major Modification (TPY)
CO	100
VOC / NO_x / SO_2	40
PM / PM_{10} / $PM_{2.5}$	25 / 15 / 10 respectively.
Pb	0.6
TRS (includes H_2S)	10
H_2SO_4	7
Fluoride (excludes HF)	3
Greenhouse Gases *	GHG > 0 and $CO_2e \geq 75{,}000$

***GHGs only trigger PSD review if at least one other federally regulated pollutant triggers PSD review.**

Nonattainment: Ozone Thresholds

Classification	Major Source (TPY)	Major Modification (TPY)	Netting Threshold (TPY)	Texas Area
Extreme	10	10	--	N/A
Severe	25	25	5	**HGB / DFW**
Serious	50	25	5	**Bexar**
Moderate	100	40	40	N/A
Marginal	100	40	40	N/A

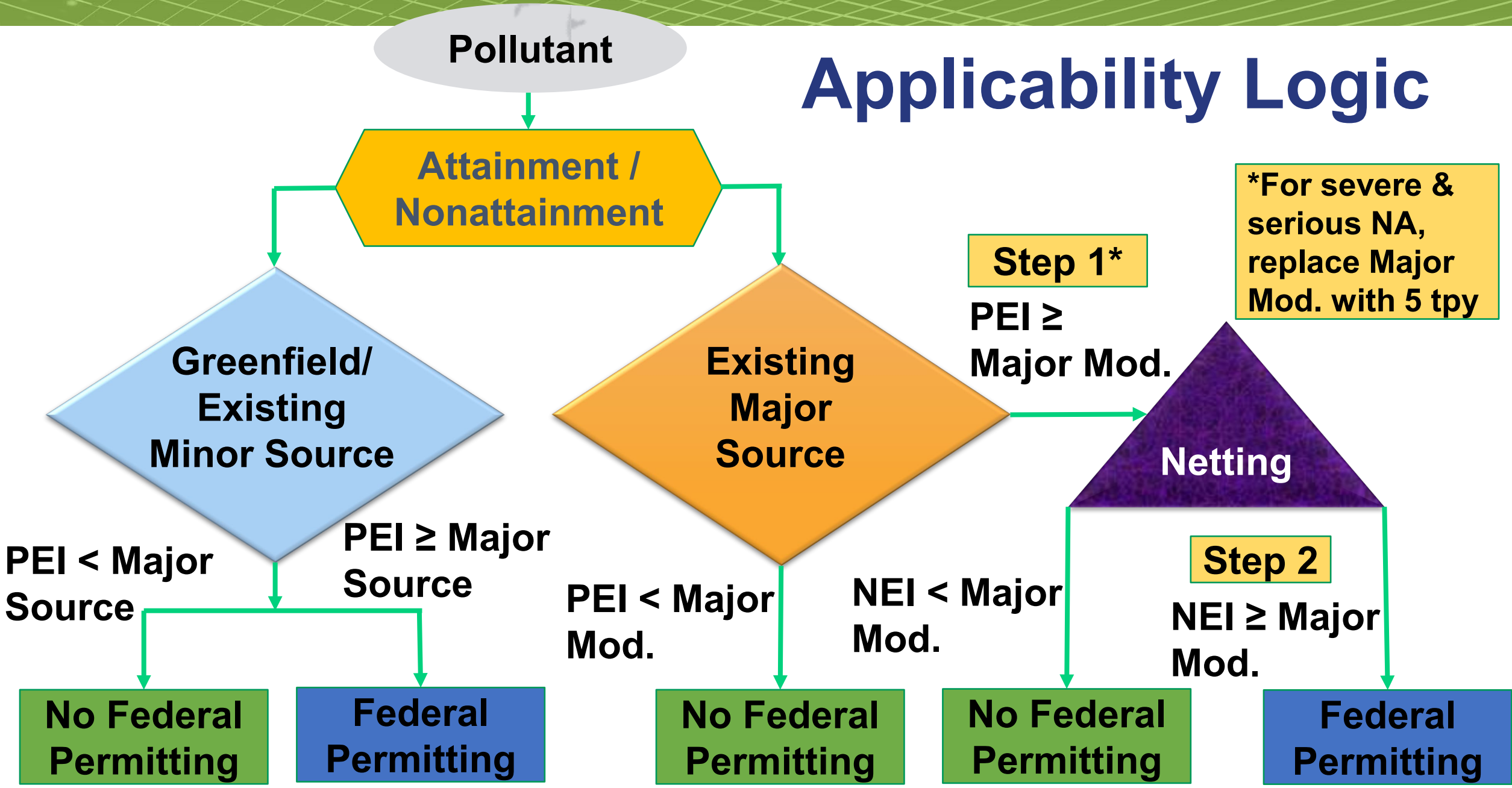
Ozone regulated through precursors (VOC & NOx).

Nonattainment: Other Thresholds

Pollutant	Classification	Major Source (TPY)	Major Modification (TPY)	Netting Threshold (TPY)	Texas Area
PM_{10}	Moderate	100	15	15	City of El Paso
SO_2	Nonattainment	100	40	40	Portions of Titus, Panola, Rusk, Anderson, Freestone, Howard, Hutchinson, & Navarro

Currently, there are no areas of Texas designated as nonattainment for Lead, Carbon Monoxide, Nitrogen Dioxide, or $PM_{2.5}$.

Applicability Logic



Step 1 : Project Emissions Increase (PEI)

Emissions from all **new**, **modified**, and **affected facilities** associated with the project.

- Table 2F: Used to show PEI for each pollutant.
- Table 1F: Summarizes results for all pollutants.

Affected Facility: Not modified, but actual emissions increase due to a change or modification elsewhere.

- Must be included in PEI and NEI
- No BACT or LAER analysis required
- No offset required

Step 1: Project Emissions Increase (PEI)

New Facility

PEI = Potential To Emit (PTE)

Facility with < 2 years Operation

PEI = Proposed Potential to Emit (PTE) minus Current Potential To Emit (PTE)

Existing Facility

PEI = Potential To Emit (PTE) minus Baseline Actual Emissions (BAE)

PEI = Projected Actual Emissions (PAE) minus Baseline Actual Emissions (BAE)

PEI* = Projected Actual Emissions (PAE) minus Baseline Actual Emissions (BAE) minus Could Have Accommodated (CHA)

*Cannot be a negative number

Baseline Actual Emissions (BAE)

Emissions (tpy) emitted during a **consecutive 24-month period out of the previous 10 years** (previous 5 years for electric utilities) from the date immediately preceding either:

- the date the owner or operator begins actual construction of the project, or
- the date a complete permit application is received for a permit.

BAE

- Typically, highest actual (TPY) average is used for lowest PEI.
- All sources of single pollutant have same 24-month period for a given project.
- Different pollutants may have a different 24-month period.
- Baseline period can extend back 10 years.

Pollutant : VOC		
Year	Unit A (TPY)	Average (BAE)
2023	190	
2022	175	182.5
2021	180	177.5
2020	200	190
2019	200	200
2018	190	195
2017	185	192.5
2016	175	180
2015	166	170.5
2014	176	171

Projected Actual Emissions (PAE)

The maximum annual rate (tpy) at which an existing facility is projected to emit a federally regulated pollutant in any rolling 12-month period. [30 TAC §116.12(31), §116.127]

- Provide relevant information used to determine the projected rate
- Requires monitoring and recordkeeping of actual emissions
- Not an enforceable limit but exceeding the PAE could mean that federal applicability needs to be reevaluated for the project
- Cannot be used to define contemporaneous increases and decreases

PTE vs. PAE

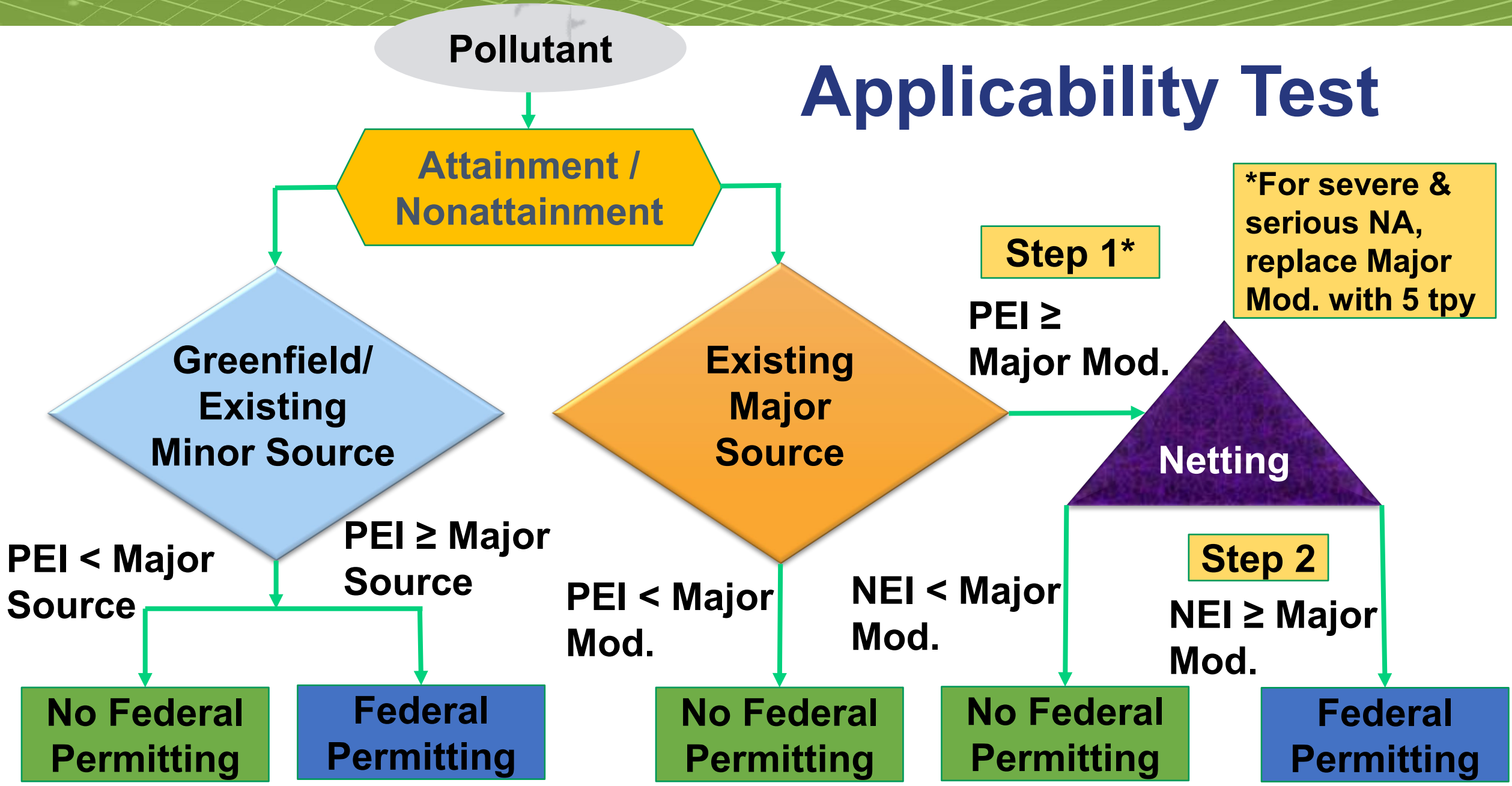
PTE	PAE
• Must be used for new facilities • No additional recordkeeping / monitoring unless otherwise required • Delta is higher, most conservative and easy • Enforceable limit	• Only used for existing units • Documentation and recordkeeping permit condition added to maintain records 30 TAC §116.127 • Delta is less • Not Enforceable limit

Could Have Accommodated (CHA)

In estimating the project emission increase, the source owner can exclude emissions that could have been accommodated during the selected baseline period. [30 TAC §116.12(32)(A)]

- Can **only** be used with the BAE to **PAE** option.
- Must provide **data** to support the accommodation.
- Facility must have been **legally** and **physically** capable to sustain the higher production rate during the baseline period.
- Emissions **unrelated** to the proposed project. Project emissions cannot be accommodated.

Applicability Test



Step 2: Net Emission Increase (NEI)

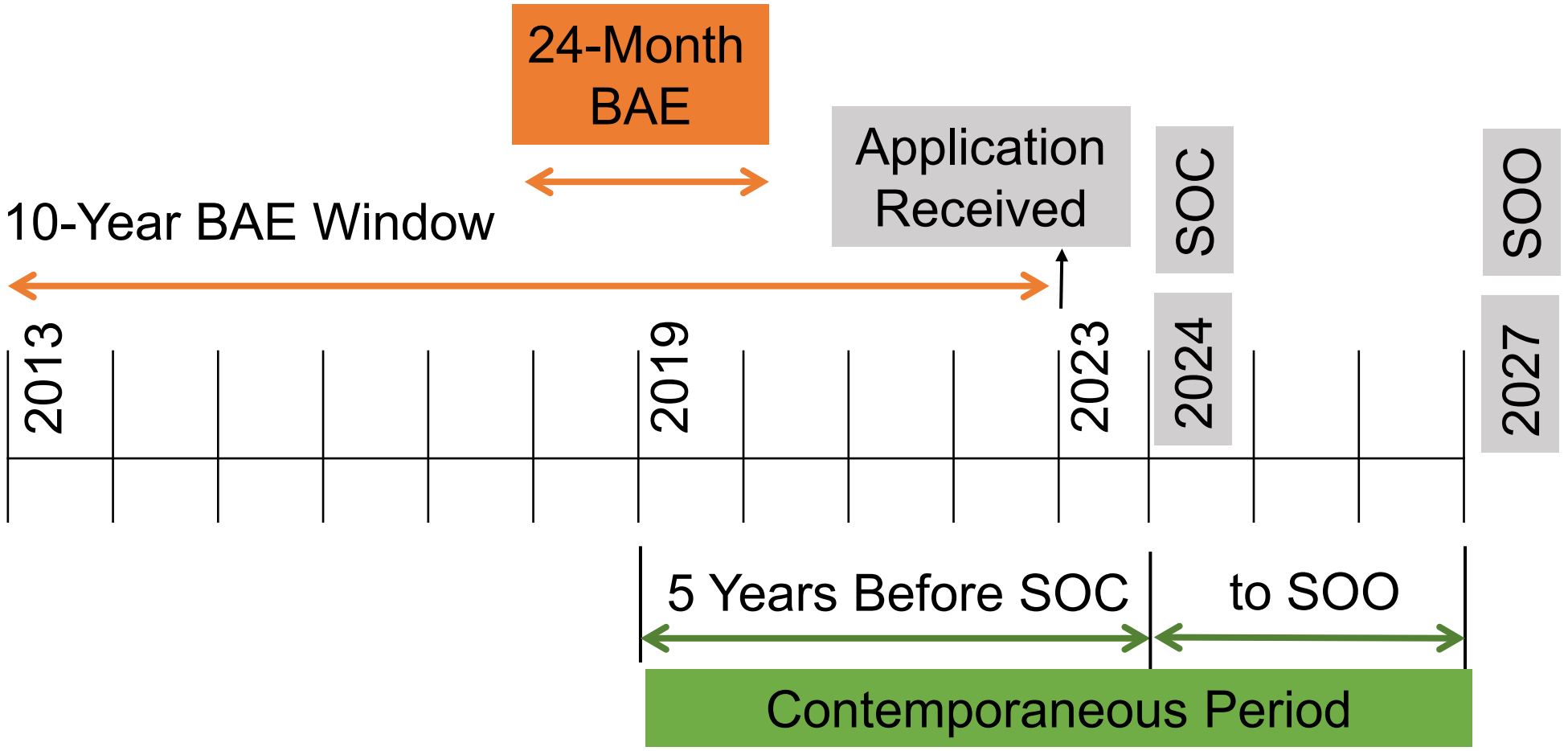
Sum of creditable emission increases and decreases within the project's **contemporaneous window.**

- Applies only to existing major sources
- Table 3F: shows ∑ Creditable emissions (increases + decreases)
- Determined per pollutant

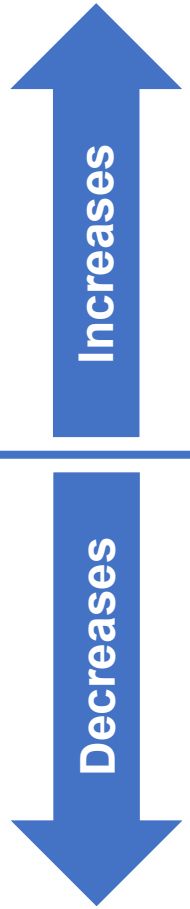
Contemporaneous Window

= [5 years prior to Start of Construction (SOC) to Start of Operation (SOO)].

BAE Window vs Contemporaneous Period



Creditable Increases and Decreases



During contemporaneous period (TCEQ Table 3F).

Based on records of actual emissions.

Include planned projects up to the start of operation.

Not previously relied upon for issuance of a major NSR permit.

During contemporaneous period (TCEQ Tables 3F and 4F).

Must be real and enforceable prior to start of operation.

Not creditable if it is required to meet permit limit / SIP.

Not previously relied upon for issuance of a major NSR permit or used as an offset in a Nonattainment NSR permit.

Major New Source Review - Applicability Determination (APDG 5881)

Step 2 - Net Emissions Increase (NEI)

NEI = Proposed Project Emissions Increase (PEI) (Table 2F) +

[Creditable Contemporaneous Increases - Creditable Contemporaneous Decreases]

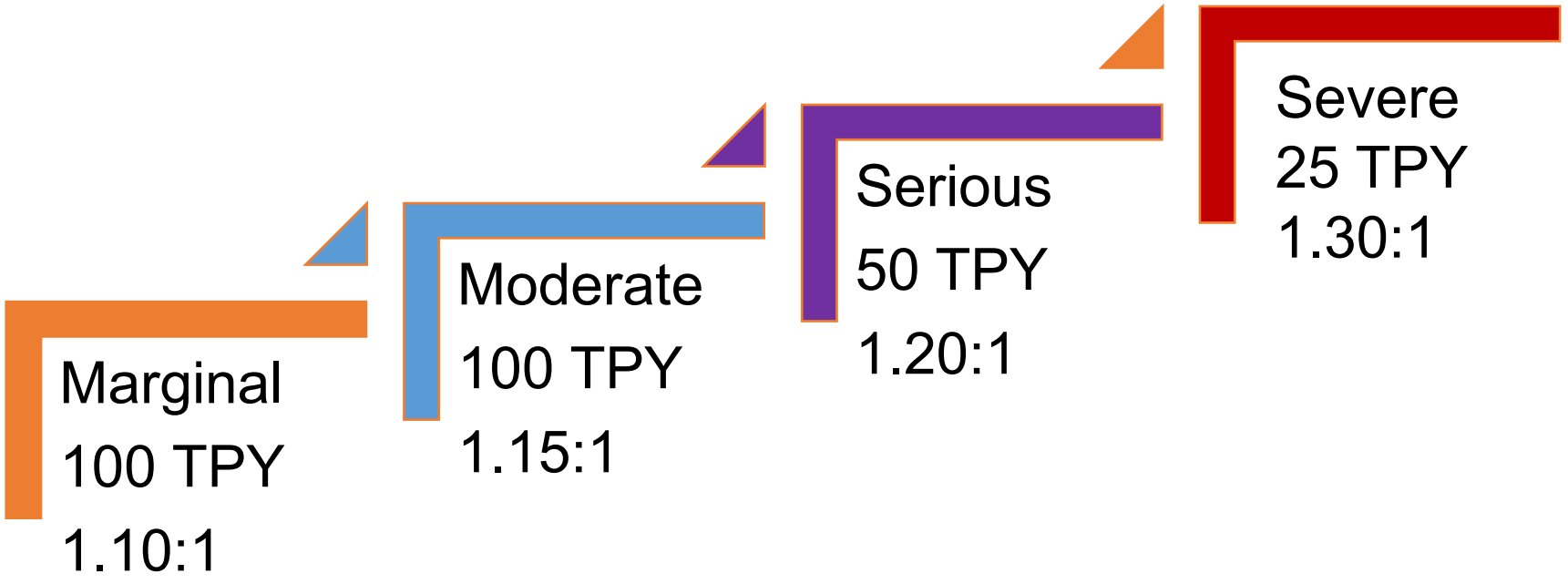
Table 3F

Table 4F

Major NSR Triggered

	Control Technology	Air Quality Analysis	Emission Offsets	Public Involvement
PSD	BACT (EPA's Top-Down or TCEQ's Three-Tier Method)	Increment Analysis, Additional Impacts Analysis, & Class I Area Analysis	None	Opportunity to comment and request contested case hearing
NA	Lowest Achievable Emission Rate (LAER)	Alternative Site Analysis	Actual emission reduction ≥ increases from new & modified facilities	Opportunity to comment and request contested case hearing

Offsets:
Ozone Precursors (VOC & NOx)



Offsets = (Emission Increases from New and Modified Facilities) x Offset Ratio

Example

Project: Site C is a major unnamed source of VOC in a severe nonattainment area for ozone. The March 2024 application is seeking authorization of new facilities and modified facilities. The proposed start of construction date is May 2025, and the estimated start of operation date is May 2027.

Will Site C need a federal NSR permit?

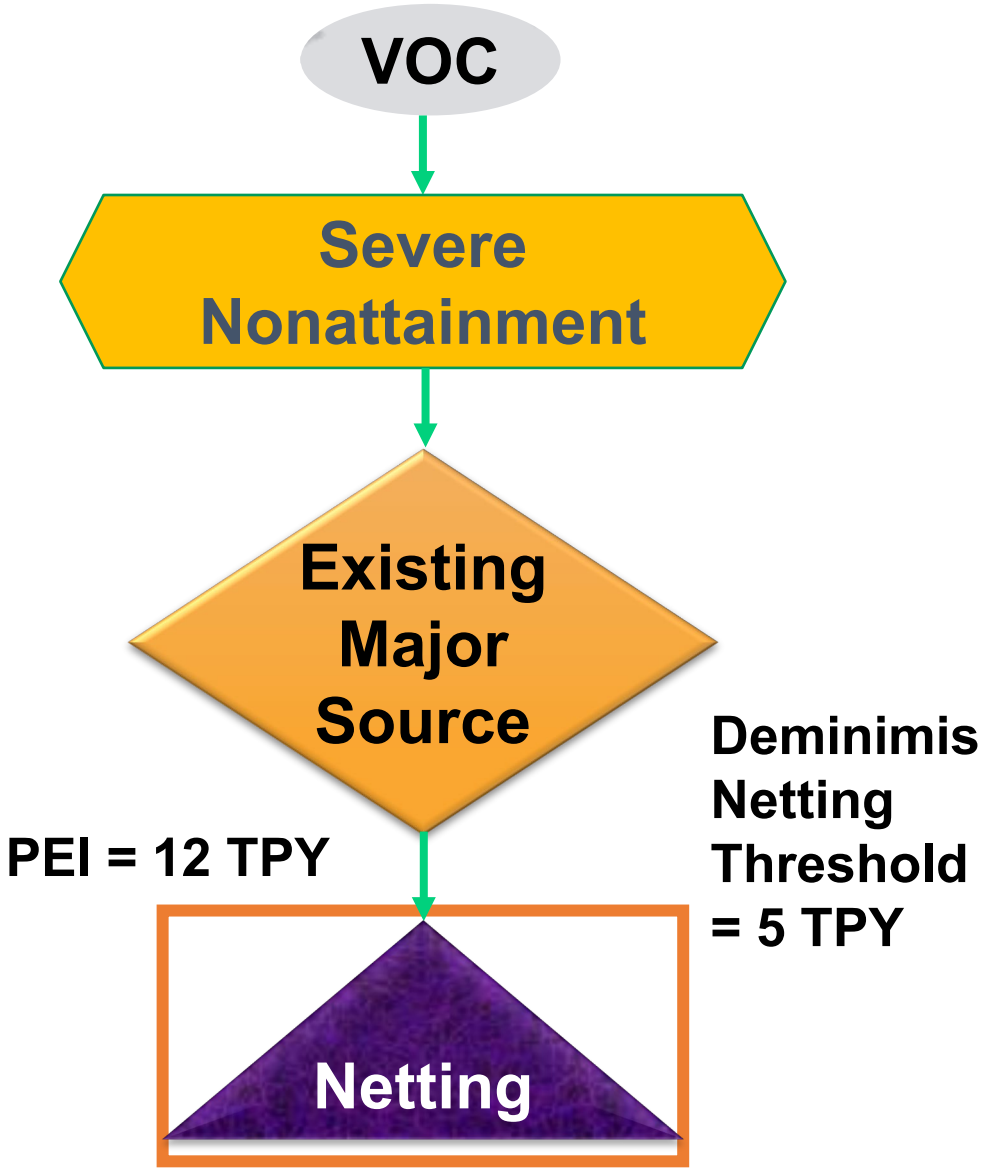
Project Details	
Pollutant	VOC
New / Existing	Existing (Major)
Source Category	Unnamed
Classification	Nonattainment (Severe)

Example
Step 1 – PEI (VOC)

EPN	Facility	Proposed PTE (B) (TPY)	Baseline (A) (TPY)	Difference (B-A) (TPY)
Tank 1				
Tank 2				
Tank 3				
Boiler 1				
Boiler 2				
Flare				

Example Step 1

Step 1 Check	
PEI (TPY)	12
Major Modification Threshold (TPY)	25
Netting Threshold (TPY)	5
Major Source for PSD	No
Major Source for NNSR	**Yes**

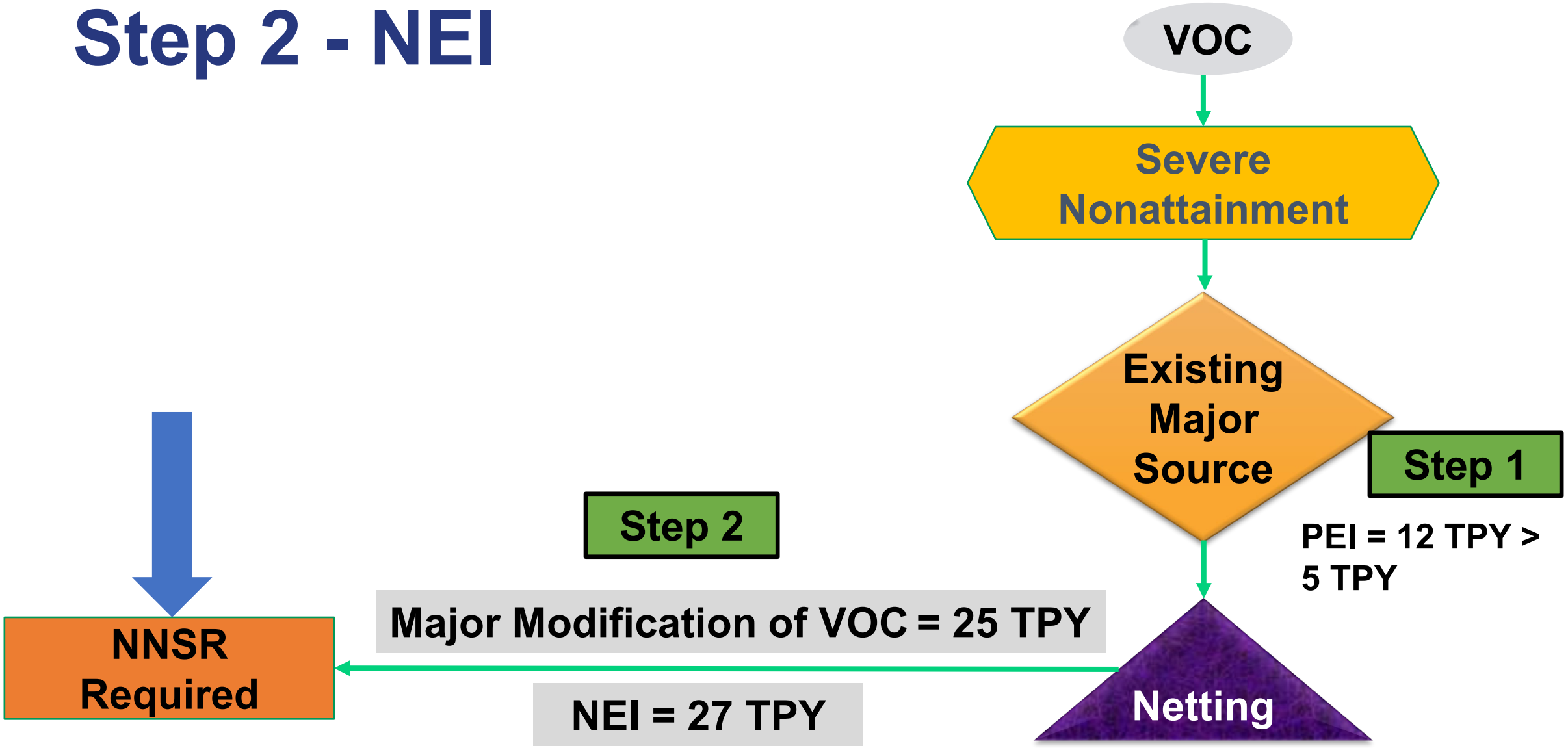


Example
Step 2: NEI (VOC)

Contemporaneous Window	Creditable Increase (TPY)	Creditable Decrease (TPY)	Net Emissions Increase (NEI)
March 2024 (Current Project = PEI)			
January 2024			
May 2023			
December 2022			
November 2018*			

*Note: The contemporaneous period goes back in time five years from the proposed start of construction (SOC = May 2025).

Example
Step 2 - NEI



Example Offsets

EPN	Facility	Proposed PTE (B) (tpy)	Baseline (A) (tpy)	Difference (B-A)* (tpy)
Tank 1				
Tank 2				
Tank 3				N/A
Boiler 1				
Boiler 2				
Flare				

*Note that this is not the PEI from Step 1. Project decreases should not be considered while calculating offsets.

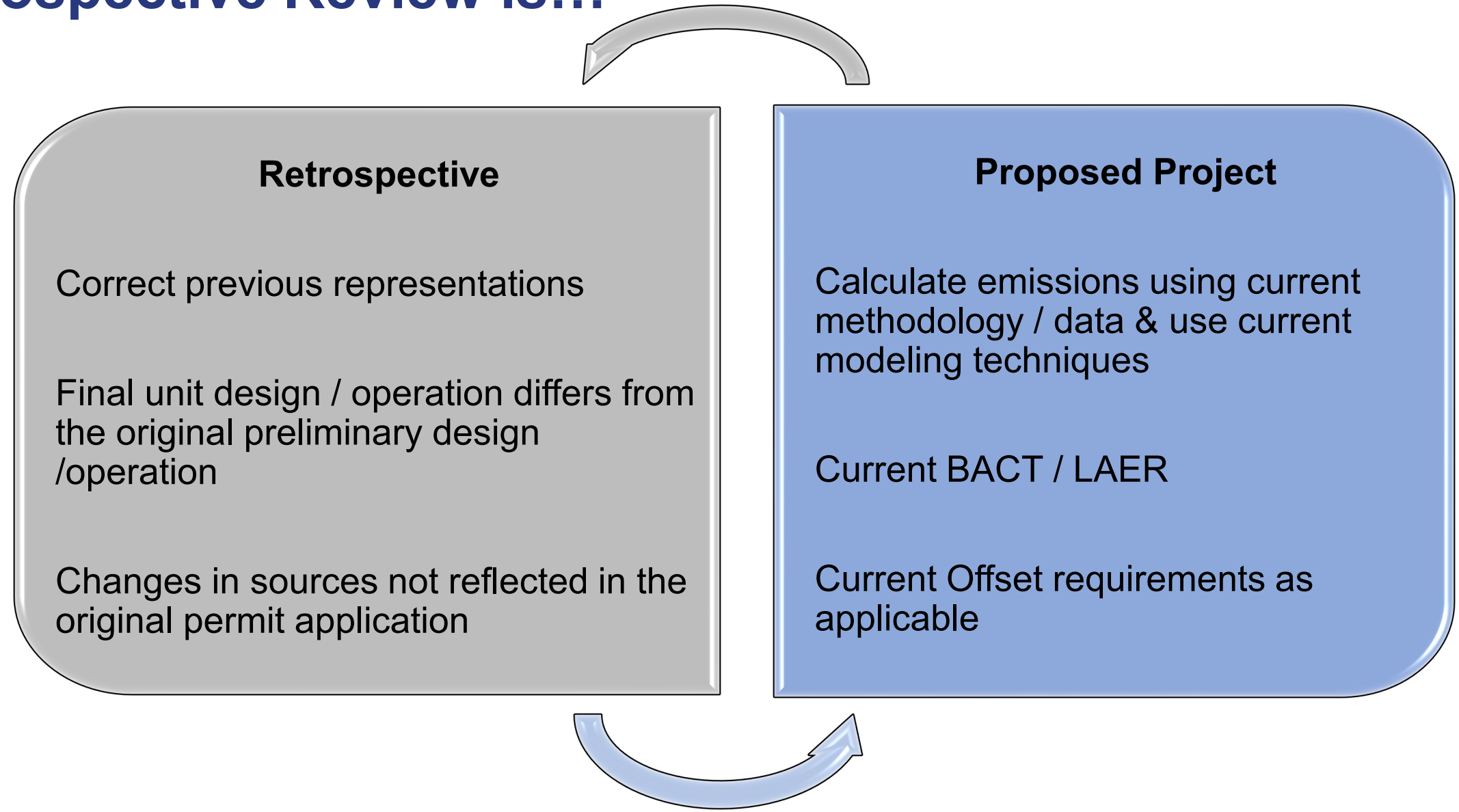
Example Offset

Pollutant	Classification	Offset Ratio	(PTE-BAE) Increases only (TPY)*	Offset Amount (TPY)
VOC	**Severe**	1.3 to 1	**Emissions Increases only**	1.3 * 37 = 48.1

Based on the county classification and pollutant

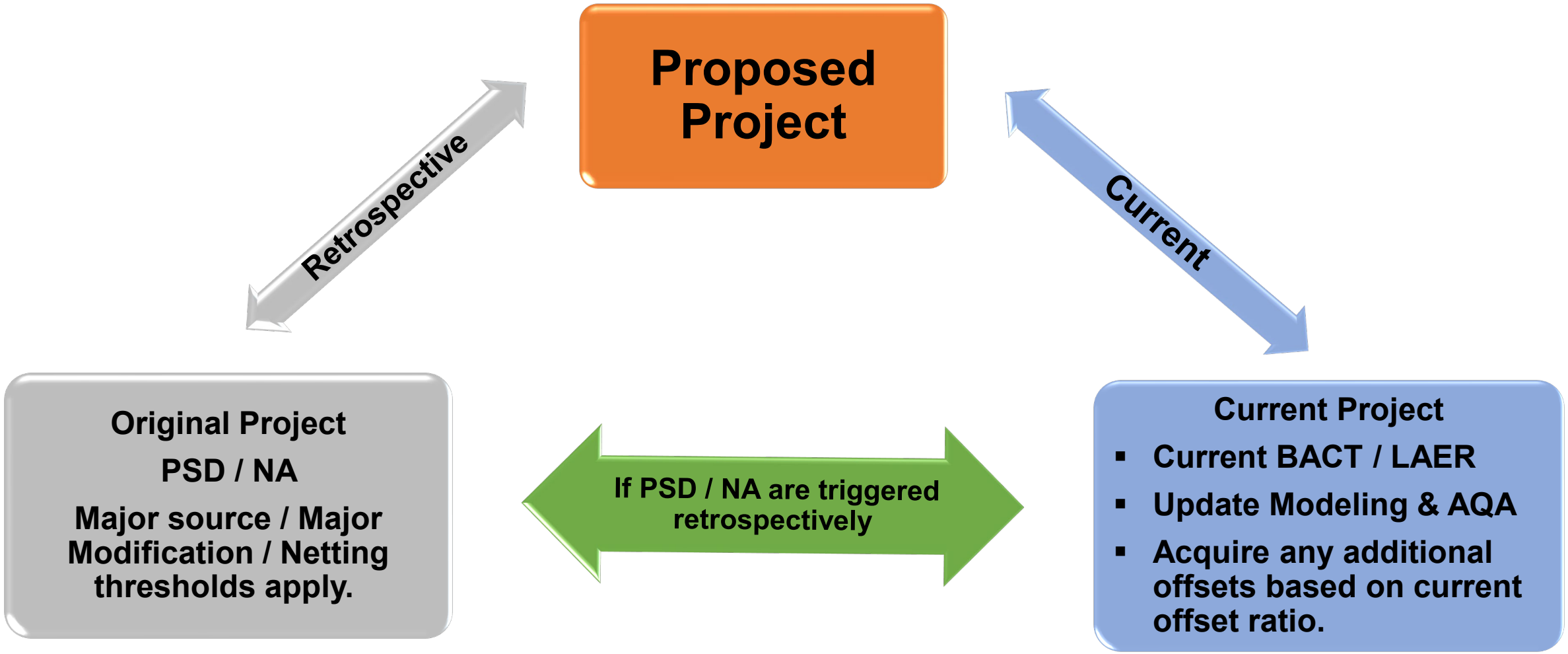
Classification	Offset Ratio
Extreme	1.50 to 1
Severe	1.30 to 1
Serious	1.20 to 1
Moderate	1.15 to 1
Marginal	1.10 to 1

Retrospective Review is…



Not used to authorize changes that constitute a new modification

Federal Retrospective Review



Offset ratios if NA is triggered (ratio depends on area classification at the time of new permit issuance **as per 30 TAC §116.150(a)**).

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