

Oil and Gas Authorizations Air Permits Division

Anne M. Inman, P.E.

Manager, Rules Registration Section
Air Permits Division

Any Permitting Questions call 512-239-1250

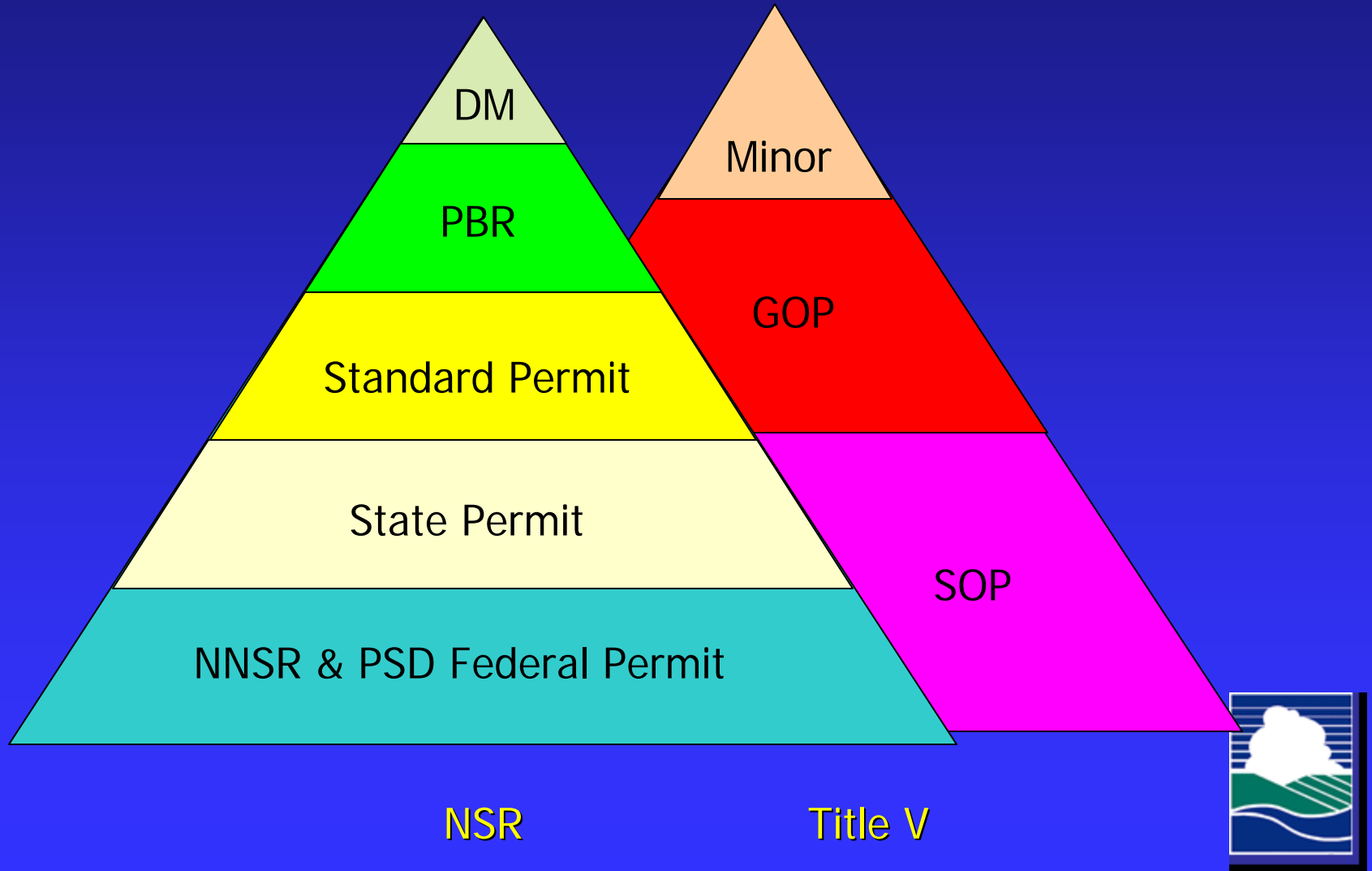


Overview of Air Permits

- New Source Review Authorizations
- Federal Operating Authorizations
- Emissions Quantification
- Controls and Recovery



NSR and Title V Perspective



What is a SITE?

- Common control and interest
- SIC code
- Proximity of related or unrelated activities
- Prefer single NSR authorization mechanism per site
- Federal Major Source must follow defn



De Minimis & Site Def'n

- Too small to need authorization
- Site-wide, pollutant specific
- See web list & §116.119
 - Isolation valve sites
 - incidental operations (repair shop area)



ALL Technical Reviews

- Clear process description
- Facility/site diagram
- How facility meets requirements
- Characterize and quantify emissions
- Identify associated permits / PBR / SP
- Upstream, downstream effects
- Maintenance, start-up, and shutdown



Permits by Rule

- Insignificant sources §106 (25/250)
- Must meet all conditions exactly
- Representations not limits unless certified
- NNSR & PSD netting if needed
- §115, 117, all state rules
- NSPS, NESHAPS, MACT



SP Technical Review

- Meet the applicability requirements
- Meet the general conditions §116.611-615
- Meet all conditions and limits of claimed standard permit (261/262)
- Meet state and federal rules
- Renew every ten years



Permit Technical Review

- Identify emission sources
- Determine BACT
- Check public notice and compliance history
- Confirm emissions calculations
- Analyze off-property health impacts
- Determine applicability of state/federal regulations



Permit Modifications

- Methods of making changes to an existing NSR permit:
 - PBR
 - Permit alteration
 - SB 1126
 - Permit amendment



Permit Modifications & PBR Incorporation

- PBRs must be incorporated into the NSR permit with any renewal or amendment
 - *see memo on web*
- Incorporation
 - Mandatory roll-in
 - Voluntary roll-in
 - Voluntary reference

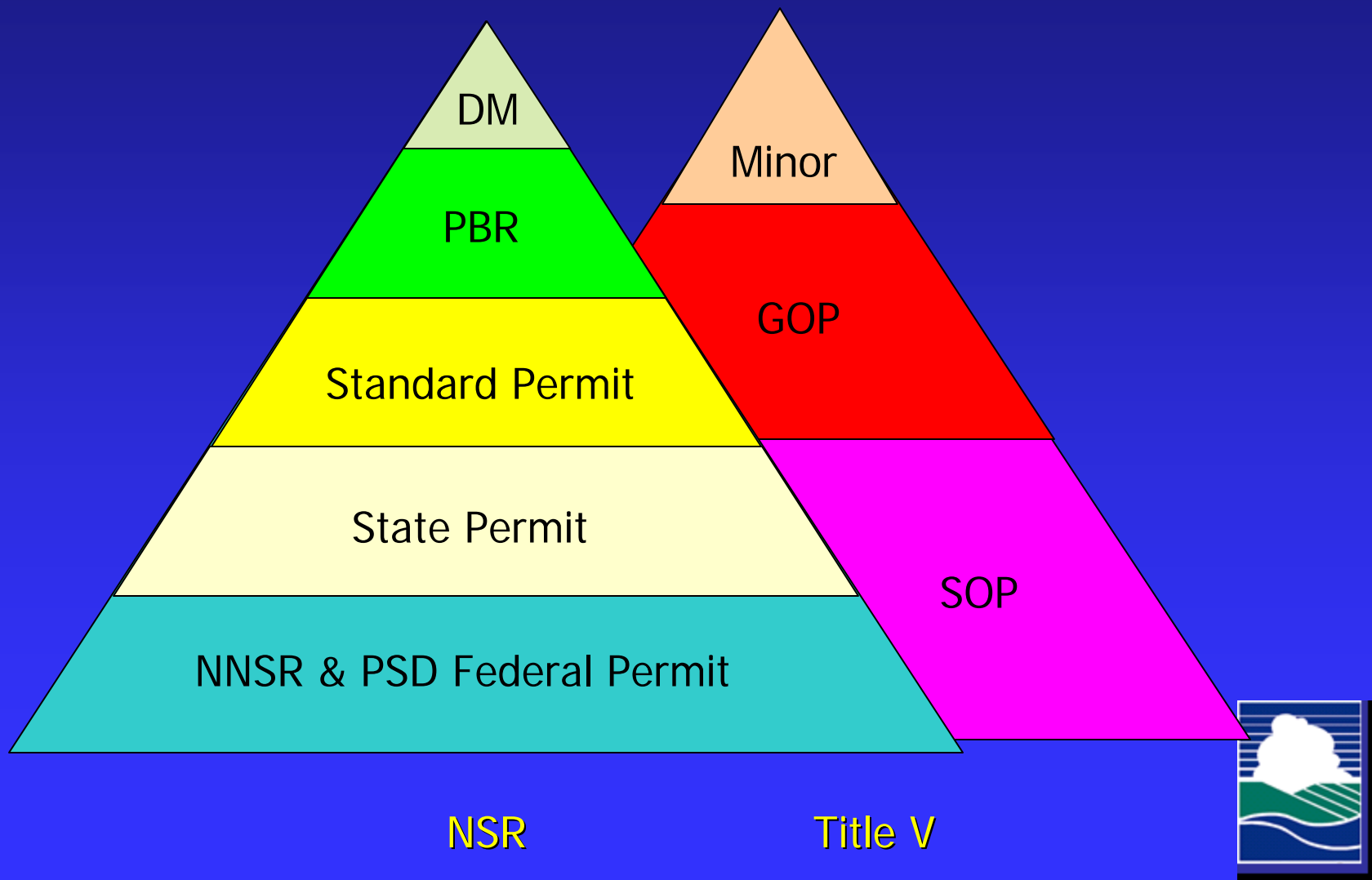


Other Preconstruction Reviews

- Prevention of Significant Deterioration federal preconstruction permit
- Nonattainment federal preconstruction permit
- Flexible Permit (state)
- Plant-wide Applicability Limit (PAL) federal preconstruction permit



NSR and Title V Perspective



General Operating Permits

- Major sources and specific industries
- Must have PBR or SP authorization
- Less time and expense than Site Operating Permits (SOPs)
- Fees based on emissions
- Renew every five years



Oil & Gas Production Emission Estimate Updates



Overview of Topics

- Flash Loss Calculations
- Produced Water Calculation Issues
- Hydrogen Sulfide Calculation Issues
- Fugitives
- Stream Analysis
- Engines & Formaldehyde Calculation Issues
- Planned MSS Calculation Notes



Flash Losses

Most Accurate Methods

- Direct Measurement
 - Based on sampling & analysis
 - Very accurate
 - Less expensive than Process Simulators
 - Snap-shot unless run for 24-hrs
- Process Simulator Programs
 - Based on site-specific data
 - More Accurate than most other methods
 - Expensive



Preferred Methods

- Laboratory GOR
 - Flashing of pressurized oil/condensate sample in lab
 - Reasonably accurate
- E&P 2.0
 - Needs pressurized liquid/gas sample from separator
 - Reasonably accurate
 - Less expensive than Process Simulators



Less Preferred Methods

- Vasquez-Beggs Equation
 - Inputs from site data
 - Needs API gravity, separator gas gravity, molecular weight, VOC fraction
 - Variables must be in range
 - Less accurate, high variability
- E&P Geo Data
 - Must justify why defaults chosen
 - Wide variability, low reliability



Flash Losses Future

Guidance Memo on Web with

Responses to all comments received

Will update as new information
becomes available



Produced Water VOCs

- Historically assumed negligible or 1%
- Some applicants finding > > 2 % VOC
- Most conservative assume oil or condensate
- Seeking confirmation of VOC content thru liquid samples or GOR Flash testing (worst-case may require periodic info)



Produced Water H₂S

- Use the percentage of H₂S in H₂O known at the site
- Process Simulator
- Needing more info to better calculate H₂S



Sulfur (H₂S)

- Historically allowed inlet concentration to be used for most calculations thru plant
- For all facilities, use the mole % in each calculation
- Concentration may change in each stream as the gas is conditioned
- Tutwiler, Stain Tube, or full sulfur analysis
- Need more info



Fugitive Components

- Use the latest TCEQ guidance for numbers
- VOC Weight %
- Prefer actual component count, or that of similar site
- Don't forget LDAR



Stream VOC Analysis

- Actual site analysis needed, especially for any reductions
- Greenfield-give representative site & justify
- Recommend that site is verified and if needed revise
- Don't forget to use for Loading



Speciation for Standard permit

- Sources applicable
- How far to speciate?
 - BTEX especially
 - All others must be listed to remaining being less than 1 lb/hr



Engines

- NSPS / MACT applicability
- Manufacturer's Specs NO_x, CO, VOC
- Catalyst Manufacturer's Specs NO_x, VOC, COHO
- AP-42 PM, SO₂, H₂S



Formaldehyde

- Total engine HP is over 3000 sitewide
- AP-42, Manufacturer's Data
- NMNE Manufacturer's Data include Formaldehyde?
- Encouraging to sample to verify
- Need info



Planned MSS

- Blowdowns
 - Vary greatly
 - Encouraging prevention, capture or control if hourly high
- Degreasing, Lubrication
- Tank Cleaning
- OTHER??



Issues Seeking Input

- Produced Water
- Fugitive Components LDAR
- Engine Formaldehyde
- H₂S quantification methods
- Blowdowns and other MSS

