State Implementation Plan Process

- **Model Episode**
  - Atmospheric Chemistry
  - Global Models
  - Test against Monitored Data

- **Base Model**
  - Proposed Controls
  - Stakeholder Meetings / Input
  - Changes in Emissions – Population/Economic Growth

- **Future Modeled Attainment Year**
  - **Attainment Demonstration SIP Proposal**
    - Public Comment
    - Response to Comment

- **Adoption**
  - RACT/RACM
  - WOE
  - Ongoing and Future Analysis

**Acronyms:**
- EI = emission inventory
- RACT = reasonably available control technology
- RACM = reasonable available control measures
- WOE = weight of evidence

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Texas Approaches to Ozone Controls
Strategies in the Houston Area

• Stationary Sources (Market/Science and Technology Based)
  – TexAQS Field Studies – Highly Reactive Volatile Organic Compounds (HRVOC)
  – Optical imaging cameras – Tank Landings
  – Remote Sensing – Flares
  – Near real-time fenceline and HRVOC stack monitoring
  – Market based allocation and banking/trading programs (NOx sources; HRVOC)

• Mobile Sources (Financial Incentive Based)
  – Expanded banking and trading opportunities for mobile and area sources
  – Texas Emission Reduction Plan – targeting heavy duty (HD) diesel and alternative fuels
Ozone SIP Implementation Challenges in Texas

- Availability and price of additional emission reductions
  - Major source NOx emission reductions exceed 80% in last 20 years
  - Emission reduction credit cost has gone from <$5k to >$150k in Houston in last 8 years
- Locally formed anthropogenic ozone can represent a small percentage of the total ground level ozone
  - 32% of Bexar County 2017 ozone design value (DV) from San Antonio area sources
- Population/Economic Growth
  - Mobile sources represent the majority of NOx emissions in nonattainment areas
- Implementing Multiple National Ambient Air Quality Standards (NAAQS)
  - Spending a significant amount of resources over the next year addressing 1-hr and original 8-hr ozone NAAQS when those standards have been met for years or decades
  - A five year review cycle does not make sense if the timeframe to implement and attain a NAAQS is 8-20 years
- Public perception that air quality is degrading when the opposite is true