

US EPA ARCHIVE DOCUMENT

# ***Air Permitting Considerations for Casinos***

Operating Environment-friendly Gaming  
Facilities

for the: **“Greening” Tribal Casinos**

September 2, 2009 | Shingle Springs Rancheria

presented by:

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U.S. EPA Region 9, Air Permits Office

# Presentation Overview

- Regulatory Landscape
- Casino / Facility Landscape
- Green Opportunities and Alternatives
- Air Quality Permitting

# Presentation Elements

## *...will highlight*

- air quality regulatory and permitting landscape
- air pollutant emitting activities
- green opportunity examples
- EPA resources

## *... will not address*

- permit process streamlining strategies
- material substitution and technology evaluations
- emissions estimate methodologies
- project development process

# *Regulatory Landscape*

# Air Quality Framework

Federal

Tribal

Air Basin

- Federal Clean Air Act Amendments 1990
  - Permits: *Pre-Construction, Operating (for stationary activities)*
  - Other programs include, but not limited to: *motor vehicles, air toxics, enforcement acid rain, stratospheric ozone, alternative fuels*
- Air Basin or Region and Pollutants
  - National Ambient Air Quality Standards (NAAQS)
  - Attainment, Nonattainment, or Unclassifiable
  - Criteria (*CO, NO<sub>2</sub>, SO<sub>2</sub>, VOC, PM, PM<sub>10</sub>, PM<sub>2.5</sub>, Pb*)
  - Non-criteria, Hazardous Air Pollutant (HAP)

# AQ Framework (*cont'd*)

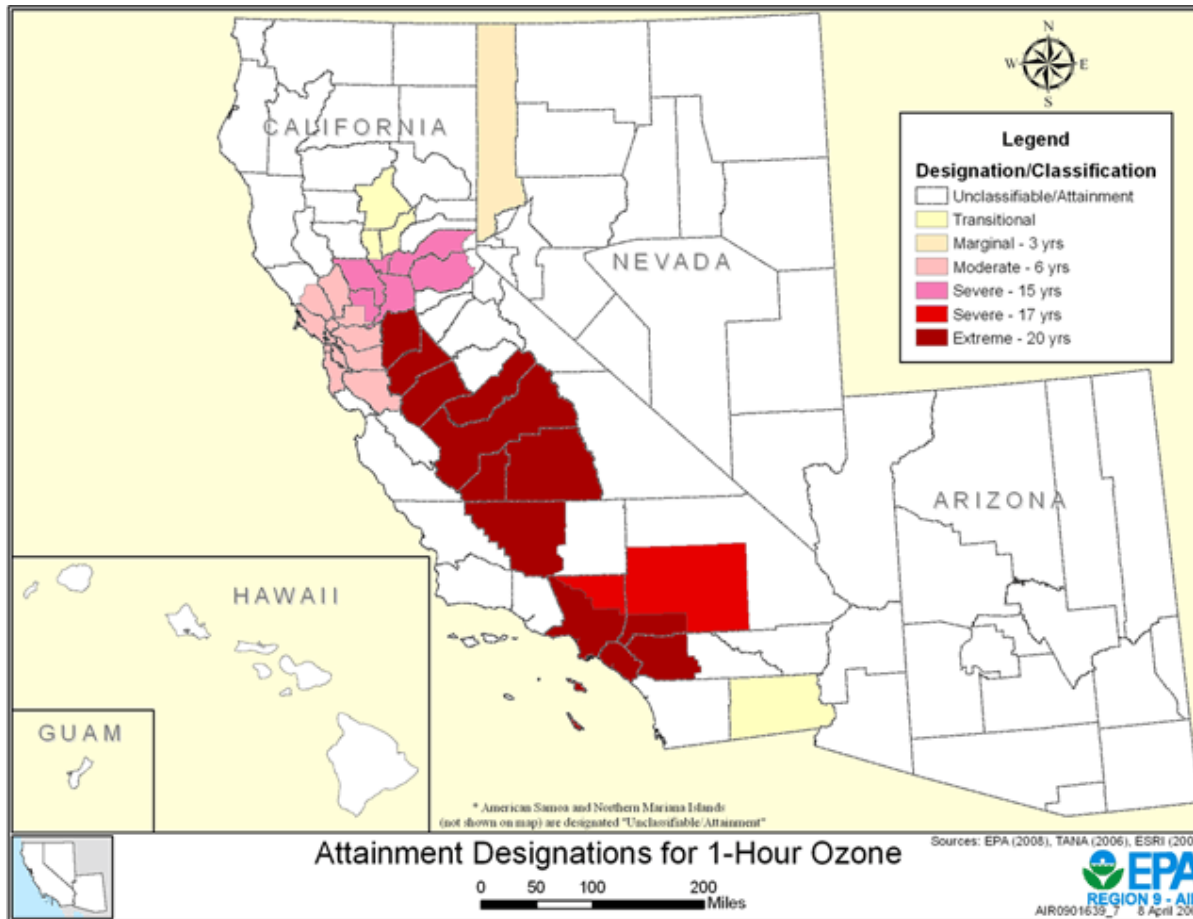
Federal

Tribal

Air Basin

- Permit Authority and Resources
  - EPA Region 9; Tribal Implementation Plan
  - Web-based Information includes, but not limited to:  
<http://www.epa.gov/air/tribal/airprogs.html>  
*(includes air permitting information and new source review)*
- MANY air permitting terms, nomenclature, and acronyms...
  - sources: *major, minor, new, existing, modified, replacement ...*
  - nonattainment (*e.g., extreme, severe, serious, moderate, marginal*)
  - new source review (NSR), nonattainment NSR (NNSR)  
prevention of significant deterioration (PSD), Title V operating

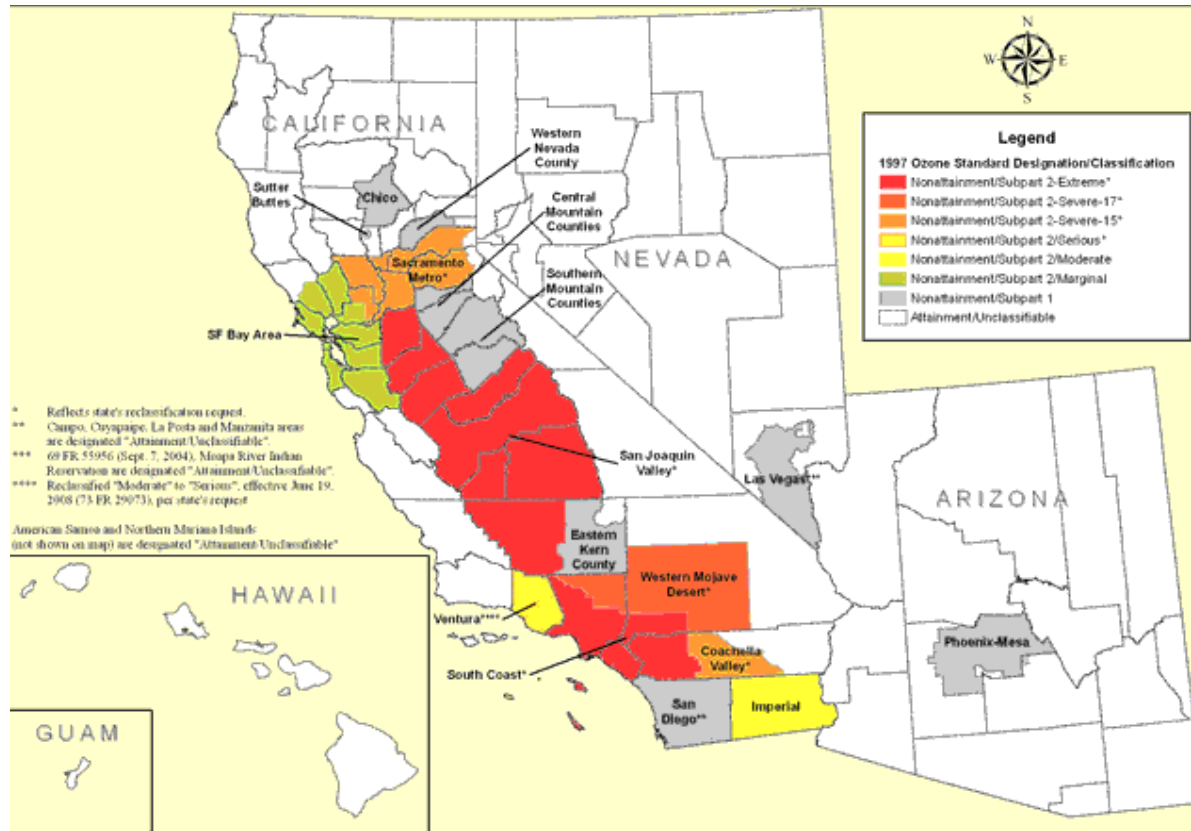
# Ozone Nonattainment Areas



**Location  
(1-hr)**



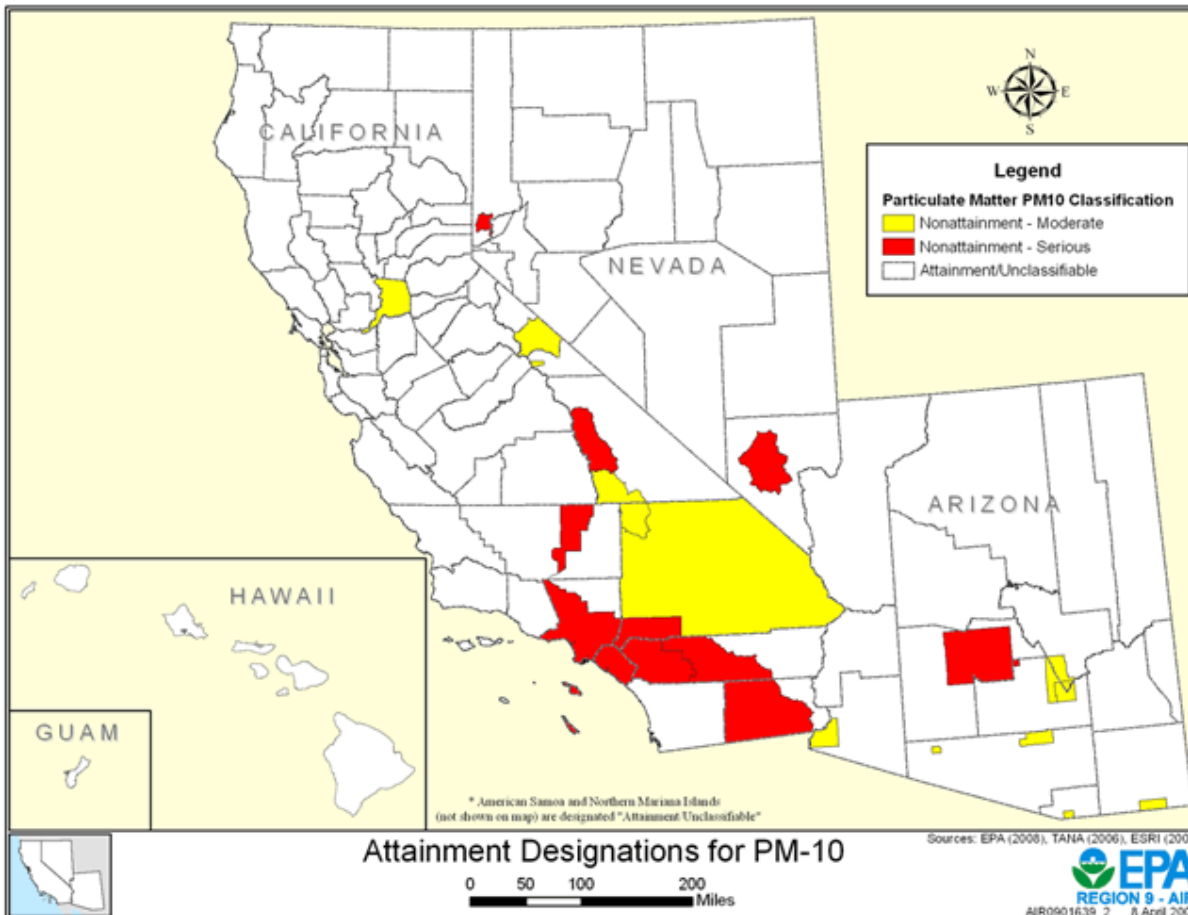
# Ozone Nonattainment Areas



**Location  
(8-hr)**

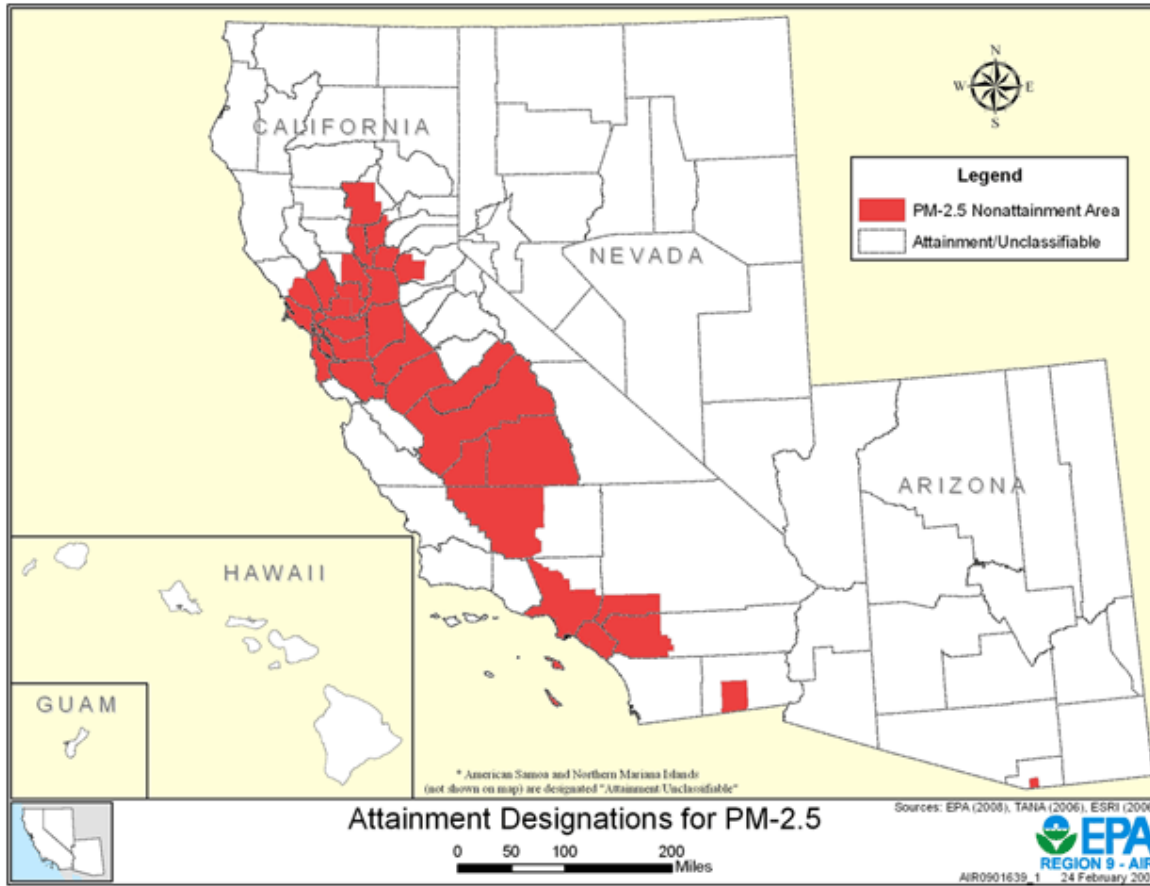
# PM10 Nonattainment Areas

## *Location*



# PM2.5 Nonattainment Areas

## *Location*



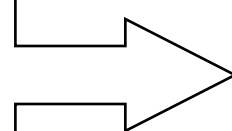
# Air Permits: *Now & Soon*

- **Current:** Major Sources in Attainment / Unclassifiable Areas
  - Pre-construction Permits (PSD - Prevention of Significant Deterioration)
  - Operating Permits (Part 71)
- **Proposed:** Major Sources in Nonattainment Areas
  - Pre-construction Permit (NSR - New Source Review)
  - Operating Permits (Part 71)
- **Proposed:** Minor Sources in Attainment/Unclassifiable and Nonattainment Areas
  - Pre-construction Permits (Minor NSR)
  - Includes Synthetic Minor Source Permits

# *Casino / Facility Landscape*

# Activities and air quality (AQ)

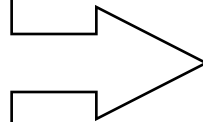
- guest / employee comfort
  - heating, cooling
- facility operations and maintenance
  - power generation
  - landscaping
  - building upkeep
  - emergency generators
- fleet vehicles
- other activities?
- activities off-site of casino operations
  - landfill, hospital, schools, wastewater treatment



- air pollutant emitting equipment and processes
  - boilers
  - gas turbines
  - spark-ignited engines (*e.g., gas-fired*)
  - compression ignition engines (*e.g., diesel*)
  - lawn mowers, grass trimmers
  - gasoline stations with vapor recovery and tanks
  - paint spray operations
  - medical activities (*e.g., sterilizers, medical waste*)
  - *others?*

# Equipment and features

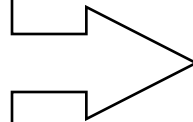
- air pollutant emitting equipment and processes
  - boilers
  - gas turbines
  - spark-ignited engines (e.g., gas-fired)
  - compression ignition engines (e.g., diesel)
  - lawn mowers, grass trimmers
  - gasoline stations with vapor recovery and tanks
  - paint spray operations
  - medical activities (e.g., sterilizers, medical waste)
  - others?



- features to consider for AQ permitting
  - type of coating (e.g., low VOC, water based, specialty coating)
  - type of fuel (e.g., natural gas, diesel, biodiesel)
  - frequency of use (e.g., emergency, full-time, peak time)
  - size and number of equipment (e.g., one, multiple, back-up)
  - location of equipment
  - others

# Translating for air permit

- features to consider for AQ permitting
  - type of coating (e.g., low VOC, water based, specialty coating)
  - type of fuel (e.g., natural gas, diesel, biodiesel)
  - frequency of use (e.g., emergency, full-time, peak time)
  - size and number of equipment (e.g., one, multiple, back-up)
  - location of equipment
  - others



- details, details, details
  - MSDS (material safety data sheet)
  - equipment/manufacture specifications sheet
    - spray guns
    - engine equipment
  - control equipment specifics
    - air to fuel ratio controllers
    - spray gun efficiency
    - catalyst systems
  - estimating emissions
  - hours of operations
  - many others



## ***“to permit or not to permit ...”***

- Pre-construction permits - NSR (NNSR / PSD) permits are required BEFORE you construct - this includes construction of entirely new facilities, and expansions, additions, process changes and other modifications at existing facilities.
- After you obtain a PSD or NSR permit, you must submit a an application to EPA for a Title V Operating Permit (*Part 71 Permit*) within 12 months of commencing operations.

**bottom line:**

***“when in doubt, seek us out”***

# *Green Opportunities and Alternatives*

# ***“to permit or not to permit”***

## ***... check-in with us***

- power generation
  - photovoltaic systems
  - microturbines
  - fuel cells
  - low-use and/or small sized equipment
  - emergency engines
  - electric motors
- material substitution
  - low-VOC materials
- EPA resources

## ***... permit with us?***

- power generation
  - peak-use, baseload use
  - gas turbines
  - IC engines
  - boilers
  - demand response
- process materials
  - low-VOC materials
- EPA resources

# Opportunities & Alternatives

- EPA's Combined Heat and Power (CHP)
  - Hotels and Casinos
    - Waste heat recovery, improve efficiency, on-site energy, reliability, economic benefits
- EPA's Partnership Programs
  - **Air Quality includes - Green Power, Combined Heat and Power**
  - Renewable and alternative fuel technologies, e.g., solar, wind
- Other opportunities and alternatives
  - **Demand response**
    - existing emergency generators for on-site peak demand
  - **Material substitution / fuel switch, e.g., biodiesel**
  - **Electrification**
  - Distributed generation (electric only)
  - Possible incentives and funding opportunities

# Recommendations

- When planning, constructing, modifying site:
  - Consider air quality impacts
  - Consider installing air pollution control equipment
  - Consider alternative energy sources
- Identify activities, equipment and features
  - Translating site plans and operations to air quality terms
- EPA resources are available
  - Talk to EPA before you construct or modify – NSR/PSD are Pre-construction Programs

## a few other tidbits ...

- ***Location, location, location***
  - attainment status
- ***Which way do I go?***
  - It's a numbers game!
- ***To permit or not to permit***
  - When in doubt, seek us out!

# Air Division | *Contact Us!*

## Air Permits Office

- **Roger Kohn** ([Kohn.Roger@epa.gov](mailto:Kohn.Roger@epa.gov)), 415-972-3973
  - *Part 71 (Title V) Operating Permits*
- **Anita Lee** ([Lee.Anita@epa.gov](mailto:Lee.Anita@epa.gov)), 415-972-3958
  - *New Source Review (NSR) Permits*
- **Gerardo Rios, Chief** ([Rios.Gerardo@epa.gov](mailto:Rios.Gerardo@epa.gov)), 415-972-3974
- **Shirley Rivera** ([Rivera.Shirley@epa.gov](mailto:Rivera.Shirley@epa.gov)), 415-972-3966
  - *Permits Office*

## Clean Energy and Climate Change Office

- **Ben Machol, Chief** ([Machol.Ben@epa.gov](mailto:Machol.Ben@epa.gov)), 415-972-3770

## CHP Partnership

- Neeharika Naik-Dhungel ([Naik-Dhungel.Neeharika@epa.gov](mailto:Naik-Dhungel.Neeharika@epa.gov)), 202-343-9553

# *Air Quality Permitting*



# AQ Permits: “Which way do I go?”

## “the stats and the math ...”

- 2 types of permits: *pre-construction & operating*
- 2 types of air quality standards: *attainment/unclassifiable & nonattainment*
- 2 types of source categories: *major & minor*
- 5 nonattainment classifications: *extreme, severe, serious, moderate, marginal*
- several emissions “tons per year” (TPY) thresholds
  - 0, 0.1, 0.6, 1, 3, 2, 5, 10, 70, 100, 250 (and some in “betweensies”)

**bottom line:**

**“it’s a numbers game!”**

# Air permitting “6+6”

## *Application Process*

1. Application Preparation
2. Pre-Application Meeting
3. Responding to Agency Data Requests
4. Obtain Permit with Conditions
5. Confirm Emissions, Equipment, e.g., testing
6. Facility Inspection

## *Compliance Demonstration*

7. Emission Limits & Testing
8. Monitoring
9. Notification
10. Recordkeeping
11. Reporting
12. Work Practices, e.g., operations, maintenance, inspections

# Obtain Permit

## Facility

Drawings - site plan  
Nearby community  
Equipment parameters  
Emissions

### **Maintain permit at facility**

Equipment tests;  
confirm same as permit application

Site compliance with conditions

===== >

Application Preparation

Pre-App Meeting

Respond to Agency

Obtain Conditions

Use, emissions, test

Facility Inspection

## Agency

**Application Forms  
Tech Support Doc'ts  
Emissions, Toxics**

**(Public Comment)**

**Permit to Construct**

**Permit to Operate**

# Comply with Permit

## Facility

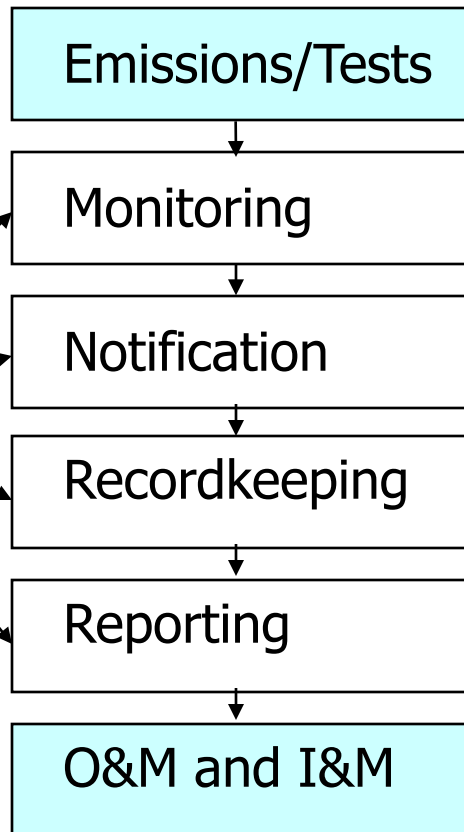
**Post permit at site  
Operations  
I & M**

Completion of  
paperwork

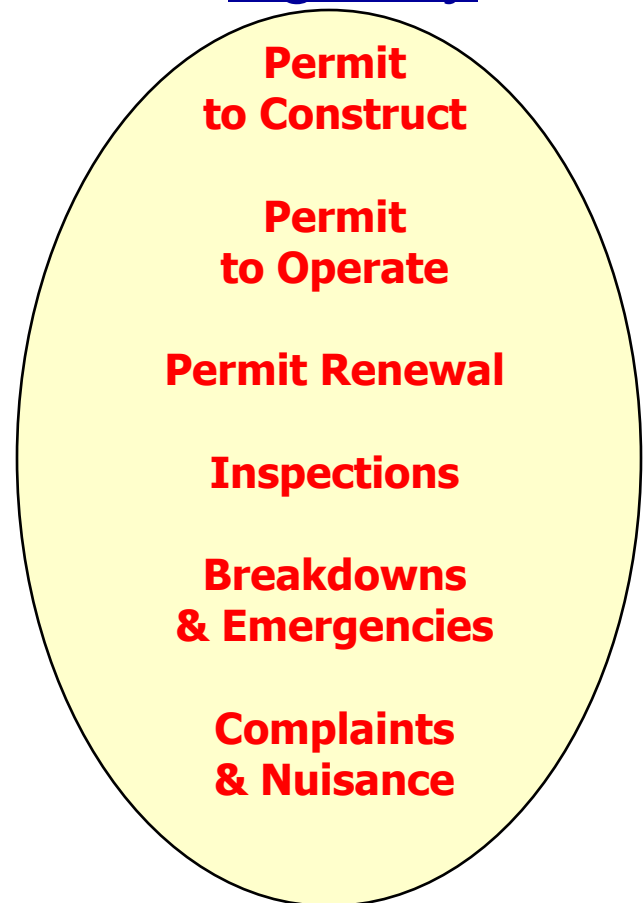
**Facility/Site  
Procedures**

**Equipment  
Procedures**

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## Agency



# Air Permits: *the “fine” print*

- **Emission / Usage Limits**
  - ppmvd, gm/bhp-hr, lb/hr, etc.; averaging period (e.g., 1-hr, 3-hr, rolling 24-hr)
  - gallons per day, gallons per year
- **Monitoring**
  - visual for opacity, totalizing meter for hours, I&M log book
  - operating parameters of engine & catalyst: T, O<sub>2</sub>, A/F ratio, inlet/outlet info
- **Notification**
  - complete construction, breakdown reporting
- **Recordkeeping**
  - operating parameters of engine & catalyst: T, O<sub>2</sub>, A/F ratio, inlet/outlet info
  - sulfur content
  - coatings usage, MSDS,
- **Reporting**
  - construction completion, test protocol, test results
- **Source Testing and/or Portable Analyzer**
  - examples: none, quarterly, annually,  $\leq 24$  months,  $\leq 3$  years; semi-annual analyzer