Eastern Kern APCD

Rule Development Public Workshop

November 2, 2017

Workshop Agenda

- Proposed Rules
  1. Rule 422 – New Source Performance Standards (NSPS)
  2. Rule 423 – National Emission Standards for Hazardous Air Pollutants (NESHAPs)
  3. Rule 425 – Cogeneration Gas Turbine Engines
  4. Rule 425.2 – Boilers, Steam Generators, & Process Heaters
  5. Rule 425.3 – Portland Cement Kilns (NOx)
  6. Rule 210.1A - New And Modified Major Stationary Source Review (MNSR)
  7. Regulation II – Permits (List and Criteria)
  8. Rule 208.2 – Criteria For Finding of No Significant Environmental Impact (CEQA)

Code of Federal Regulations

CFR Background

- The Federal Clean Air Act (FCAA) requires EPA to establish New Source Performance Standards (NSPS) for sources emitting pollutants that affect National Ambient Air Quality Standards (NAAQS).
- EPA is also required to develop Maximum Achievable Control Technology (MACT) standards for Hazardous Air Pollutants (HAPs).
- MACT standards are titled: “National Emission Standard for Hazardous Air Pollutants” (NESHAP) in the Code of Federal Regulations (CFR).

Rule 422 NSPS

&

Rule 423 NESHAP

Amendments

Reasons for amending Rule 422 & 423

- EPA promulgates new standards and revisions to existing standards as needed.
- Authority to implement and enforce the standards is delegated to local air districts.
- Rule 422 incorporates by reference, NSPS as promulgated by EPA and codified in 40 CFR Part 60. Rule 423 incorporates by reference, NESHAPs as promulgated by EPA and codified in 40 CFR Parts 61 and 63.
- District periodically reviews the CFR for newly delegated source categories to include in Rules 422 and 423.

Rule 422 & 423 Amendments

- Rule 422 & 423 were last amended 1/13/2011 and due for an update.
- 422, NSPS has 12 updated subpart titles and 1 new subpart.
- 423, NESHAP has 34 updated subpart titles and 6 new subparts.
- Amendments to Rules 422 & 423 pose no significant economic cost to industry.

RACT SIP Requirements

RACT Definition

- Reasonably Available Control Technology (RACT): Lowest emissions limitation a source is capable of achieving by the application of air pollution control technology that is reasonably available, considering technological and economic feasibility.
- RACT will assure significant sources of Ozone precursors are controlled to a “reasonable” extent, but not necessarily to the more stringent BACT or MACT standards.

Control Techniques Guidelines

- RACT is required for all sources of air pollution subject to Control Techniques Guidelines (CTGs).
- EPA issues CTGs that define RACT for specific source categories emitting VOCs.
- RACT is also required for major sources of VOCs and NOx emission – “Non-CTG Major Sources”.

RACT SIP

- District was required to prepare a RACT SIP to demonstrate current rules fulfill RACT requirements for all applicable CTG source categories, and Non-CTG Major Sources.
- RACT Analysis:
  - District's current VOC rules satisfy RACT for applicable CTG sources.
  - Three District NOx rules do not satisfy RACT.

NOx Rules that require amendment

- The following NOx Rules must be amended in order to meet current RACT requirements.

1. Rule 425 – Cogeneration Gas Turbine Engines
2. Rule 425.2 – Boiler, Steam Generators & Process Heaters
3. Rule 425.3 – Portland Cement Kilns (Oxides of Nitrogen)

Rule 425

Cogeneration Gas Turbine Engines

(Oxides of Nitrogen)

Reasons for amending Rule 425

- Rule 425 (adopted 8/16/93), set NOx emissions limits produced by cogeneration gas turbines.
- Proposed amendments to Rule 425 will lower NOx limits to meet RACT requirements.
- Proposed amended Rule also contains new & revised definitions added for clarity.

Rule 425 - Gas Turbines

Current Limits		
	NOx Limits (ppmv)	
	Gas	Liquid
Units ≥ 10 MW	**10**	**40**
Westinghouse 251B10	**96**	**114**

Rule 425 - Gas Turbines

Current Limits			Proposed Limits		
	NOx Limits (ppmv)			NOx Limits (ppmv)	
	Gas	Liquid		Gas	Liquid
			0.3 MW < Units < 2.9 MW	**42**	**65**
			2.9 MW ≤ Units < 10 MW	**25**	**65**
Units ≥ 10 MW	**10**	**40**	Units ≥ 10 MW	**9**	**25**
Westinghouse 251B10	**96**	**114**	Westinghouse 251B10	**25**	**65**

Rule 425.2

Boilers, Steam Generators, and Process Heaters

(Oxides of Nitrogen)

Reasons for amending Rule 425.2

- Rule 425.2 (adopted 10/13/94 and last amended in 7/10/97), set NOx emissions limits produced by boilers, steam generators, and process heaters.
- Proposed amendments to Rule 425.2 will lower NOx limits to meet RACT requirements.
- Proposed amended Rule also contains new & revised definitions added for clarity.

Rule 425.2, Boilers, Steam Generators, & Heaters

Current Limits		
	NOx Limits (ppmv)	
	Gas	Liquid
Units ≥ 5 MMBtu/hr	**70**	**115**

Rule 425.2, Boilers, Steam Generators, & Heaters

Current Limits			**Proposed Limits**		
	NOx Limits (ppmv)			NOx Limits (ppmv)	
	Gas	Liquid		Gas	Liquid
Units ≥ 5 MMBtu/hr	**70**	**115**	Units ≥ 5 MMBtu/hr	**30**	**40**

Rule 425.3
Portland Cement Kilns
(Oxides of Nitrogen)

Reasons for amending Rule 425.3

- Rule 425.3 (adopted 10/13/94), set NOx emissions standards produced by cement kilns to levels consistent with RACT requirements of the 1990 Federal Clean Air Act.
- Proposed amendments to Rule 425.3 will lower NOx limits to meet current RACT requirements.

Rule 425.3 Requirements

- Effective upon adoption, No person shall operate a Portland cement manufacturing facility unless the 30-operating day rolling average of NOx emissions from the kiln do not exceed:

  1. 2.8 lb/ton of clinker produced; or
  2. 3.4 lb/ton of clinker produced if low-NOx burner or low-NOx precalciner was installed and made operational by January 1, 2007.

Rule 425.3 Requirements continued

- All Portland cement manufacturing facilities shall provide, properly install, maintain, calibrate, and operate a continuous emission monitoring system (CEMS) for each emission point from the kiln.
- The proposed amended Rule also contains new & revised definitions added for clarity.

Rule 210.1A

Major New And Modified Stationary Source Review

(MNSR)

Reasons for Rule 210.1A

- EPA adopted a more stringent 8-hour Ozone NAAQS of 0.075 ppm.
- A portion of the District failed to meet the new standard by the applicable attainment date.
- The nonattainment area was reclassified to “Serious” nonattainment.
- As a result, the District prepared and adopted an Ozone attainment plan in July 2017.

Reasons for Rule 210.1A continued

- District rules are based on “Serious” nonattainment due to the attainment status, prior to the Eastern Kern/San Joaquin Valley APCD split.
- EPA found deficiencies in Rule 210.1 (NSR) concerning Major Stationary Source compliance with 2008 Ozone NAAQS.
- It was determined adopting a new NSR rule specifically designed for major sources, and leaving the current NSR rule for all other sources, to be the most streamlined approach.

Purpose of Rule 210.1A

- Rule 210.1A is intended for new major stationary sources, and major modifications of existing major stationary sources to:
  1. Provide for preconstruction review;
  2. Insure BACT has been proposed for each emission unit included; and
  3. Provide offsets for any significant net emissions increase of a nonattainment pollutant and its precursors.

Rule 210.1A Applicability

- Rule 210.1A is applicable to all major stationary sources which emit, or have PTE ≥ 100 tpy of any regulated NSR pollutant or precursor, except when:

  1. Source is located in ozone serious nonattainment area with PTE ≥50 tpy of NOx or VOCs.
  2. Source is located in PM10 serious nonattainment area with PTE ≥70 tpy of PM10.

Rule 210.1A Major Modification

- Major Modification is the physical change or change in method of operation of a major stationary source resulting in an increase in potential emissions of:

  1. 100 tpy of CO;
  2. 40 tpy of SOx (as SO2);
  3. 25 tpy of NOx or VOCs;
  4. 15 tpy of PM10, when aggregated with all other creditable decreases during last 5 calendar years.

Rule 210.1A Requirements

- No new major stationary source or major modification to an existing major stationary source, shall begin construction without first obtaining an ATC pursuant to Rule 210.1A, which include:

Calculations to Determine NSR Applicability	Best Available Control Technology
Projected Actual Emissions Test	Statewide Compliance
Secondary Emissions	Analysis of Alternatives
Application Submittal	Sources Impacting Class I Areas
Application Content	Application & Permit Fees

Emissions Offsets

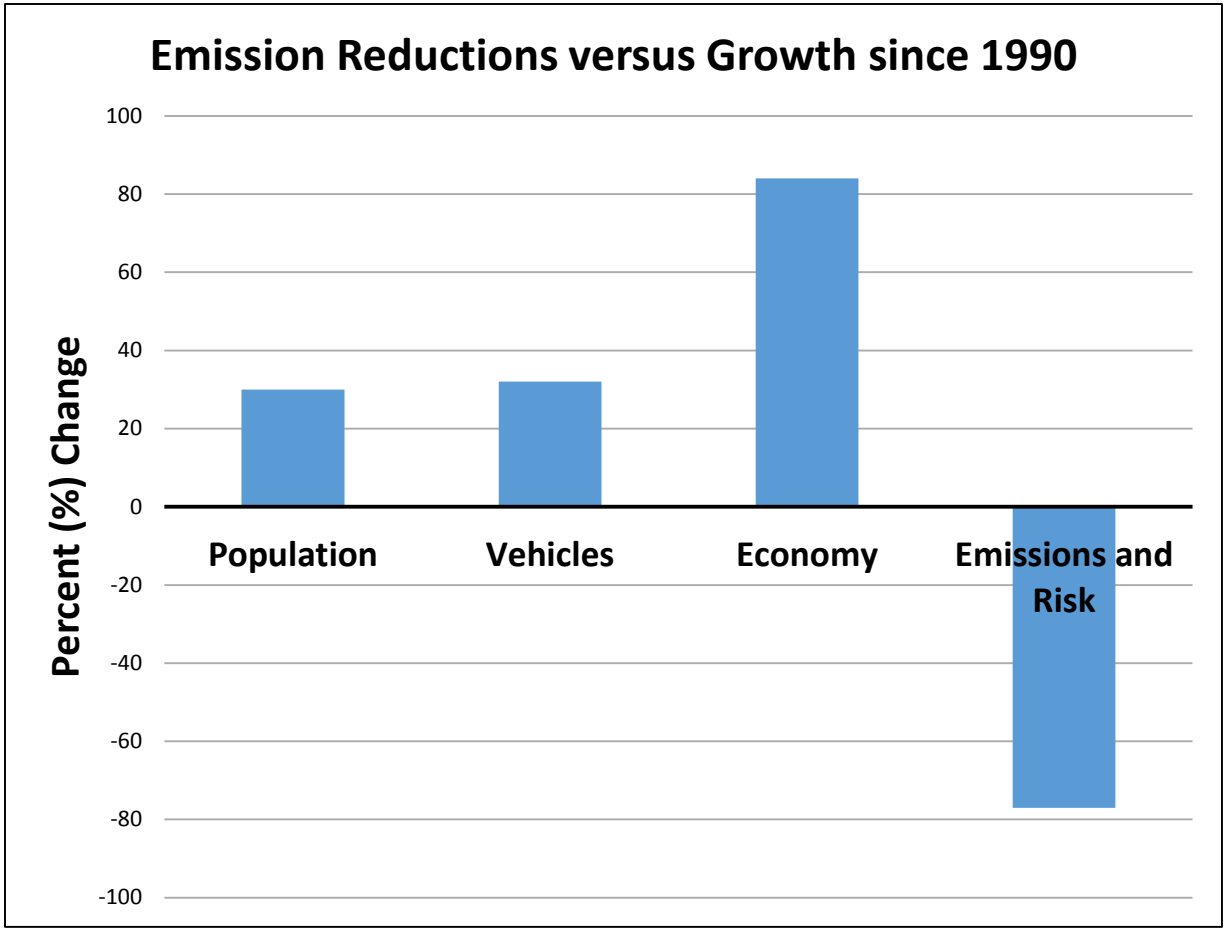
- Pollutant-specific emissions shall be offset with ERCs or with internal emission reductions.
- ERCs from one or more source may be used alone or in combination with internal emission reductions.
- ERCs must be real, surplus, permanent, quantifiable, federally enforceable, & surplus at issuance of ATC.

Offset Ratios:

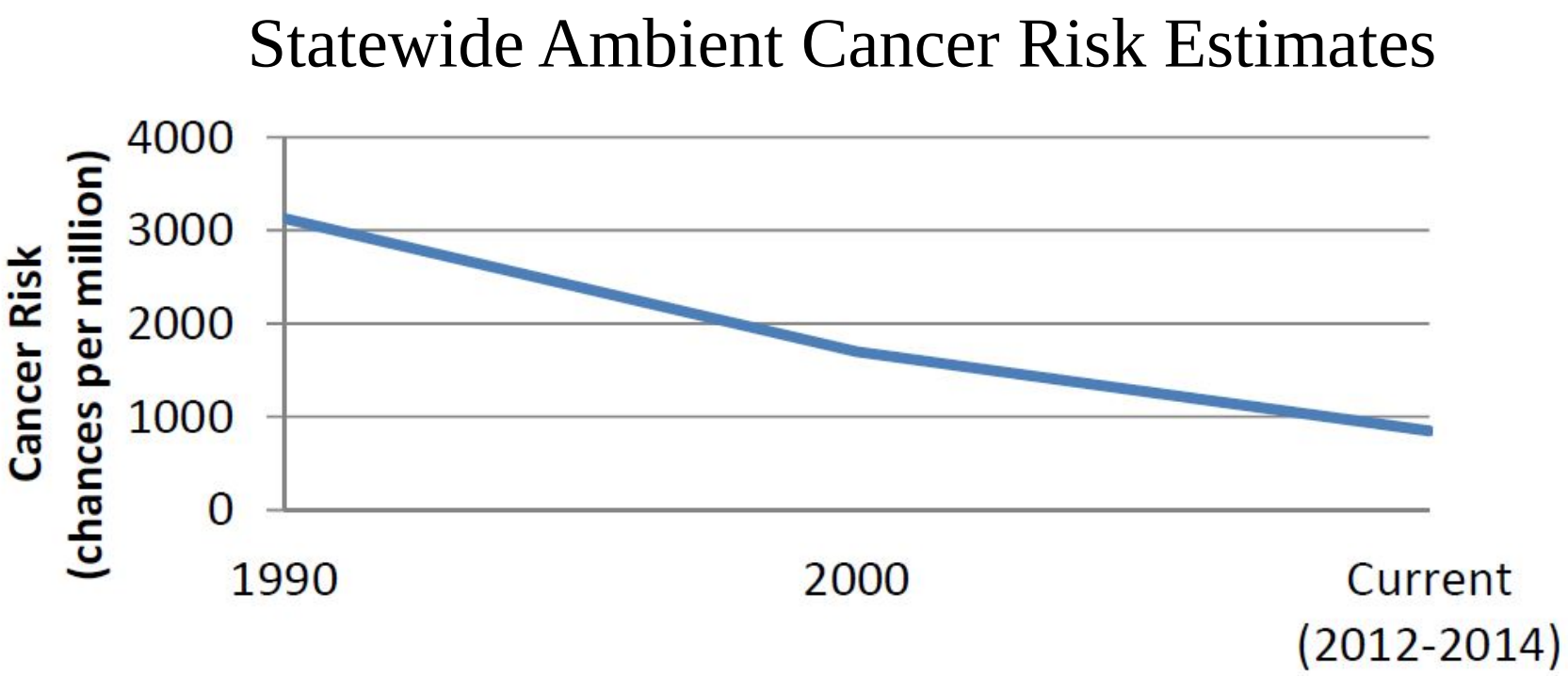
Area Designation	**Pollutant**	**Offset Ratio**
Serious Ozone Nonattainment Area	NOX or VOC	1.0 to 1.2
PM10 Nonattainment Area	PM10, SOx or NOx	1.0 to 1.0

Risk Management Rules

State's Current Air Toxic Program



Progress in Ambient Cancer Risks



Background

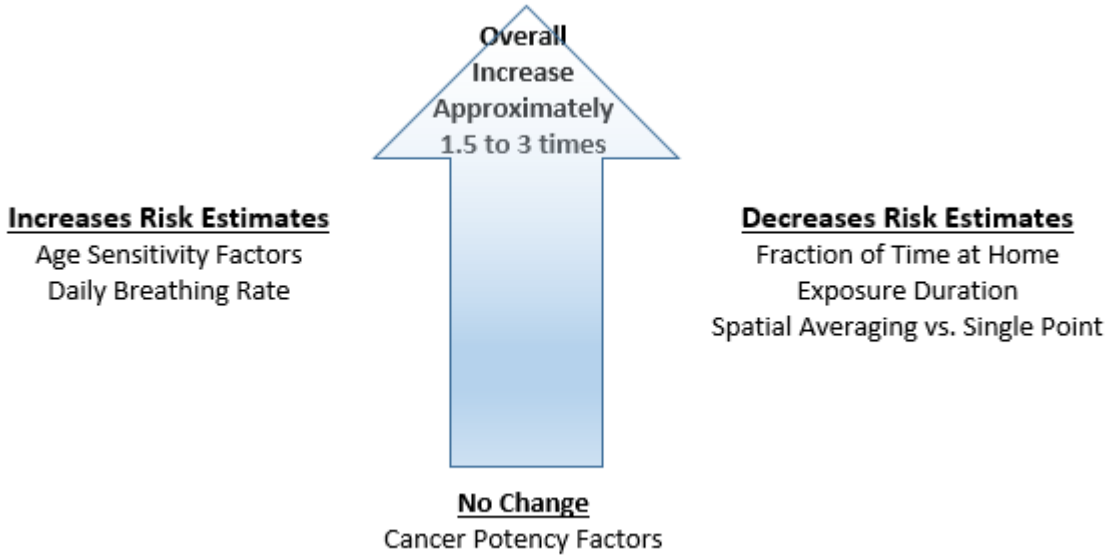
- State laws require OEHHA (Office of Environmental Health Hazard Assessment) to develop Risk Assessment Guidelines for estimating health risk for air pollution sources.
- District utilizes these guidelines for:
  1. Permitting of New & Modified Stationary Sources.
  2. Establishing a Project's Significance Under CEQA.
  3. Implementing of Air Toxics "Hot Spots" Information and Assessment Act (AB 2588)

Background continued

- In 2015, OEHHA proposed changes to Risk Assessment Guidelines. http://www.oehha.ca.gov/air/hot_spots/hotspots2015.html
- Revised methodologies for preparation of Health Risk Assessment (HRA).
- Based on 2015 OEHHA Guidelines, ARB issued *Risk Management Guidance for Stationary Sources of Air Toxics* in July 2015. https://www.arb.ca.gov/toxics/rma/rmgssat.pdf

Background continued

- According to ARB, New 2015 Guidelines result in higher potential cancer risk than 2003 Guidelines using the same emissions and conditions.



Reasons for Amendments

- Incorporate New 2015 OEHHA Risk Assessment Guidelines into District's Permit Approval Rule and CEQA rule.
- Adjust permitting risk thresholds to prevent unreasonable restrictions on permitting of stationary sources and CEQA projects
- District's current Air Toxics "Hot Spots" Information and Assessment Act (AB2588) Risk Threshold Values remain the same.

Current Permitting Risk Thresholds

- Permit Approval Risk Thresholds from Regulation 2 (L&C) and Rule 208.2 (CEQA)
  1. Cancer Risk is less than one in one million
  2. Noncancer Hazard Index is less than 0.2
- Projects cannot be approved without additional requirements based on current risk thresholds while utilizing 2015 Guidelines.

Recommended Risk Thresholds

Table IV-1: ARB/CAPCOA Recommended Permitting Risk Threshold Levels

Action	Cancer Risk Threshold Level (chances per million)	Noncancer Risk Threshold Level (Hazard Index)[1]
Require TBACT[2]	>1	>1
Permit Approval[3]	10 to 25	≤1
Source-Specific Approval/Denial	Less than or greater than permit approval levels based on source-specific considerations	Less than or greater than permit approval level based on source-specific considerations

1. Ratio of estimated concentration of a specific pollutant compared to the reference exposure level for that pollutant.
2. TBACT is toxics best available control technology.
3. Districts, at their discretion, can permit sources with TBACT above the permit approval levels.

Recommended Risk Thresholds

Table IV-1: ARB/CAPCOA Recommended Permitting Risk Threshold Levels

Action	Cancer Risk Threshold Level (chances per million)	Noncancer Risk Threshold Level (Hazard Index)[1]
Require TBACT[2]	>1	>1
Permit Approval[3]	10 to 25	<1
Source-Specific Approval/Denial	Less than or greater than permit approval levels based on source-specific considerations	Less than or greater than permit approval level based on source-specific considerations

1. Ratio of estimated concentration of a specific pollutant compared to the reference exposure level for that pollutant.
2. TBACT is toxics best available control technology.
3. Districts, at their discretion, can permit sources with TBACT above the permit approval levels.

District's Proposed Risk Thresholds

Permit/Project Approval Thresholds

- Cancer Risk is less than 20 in one million.
- Noncancer acute health index is less than 1.
- Noncancer chronic health index is less than 1.

Air Toxic Hot Spots Act - AB 2588

- Notification Levels/Significant Risks remains the same.
  1. Cancer Risk is 10 in one million or greater.
  2. Noncancer acute health index is less than 1.
  3. Noncancer chronic health index is less than 1.

Questions
Comments

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