



Eastern Kern APCD

AB 617 BARCT

Implementation Schedule

October 15, 2018



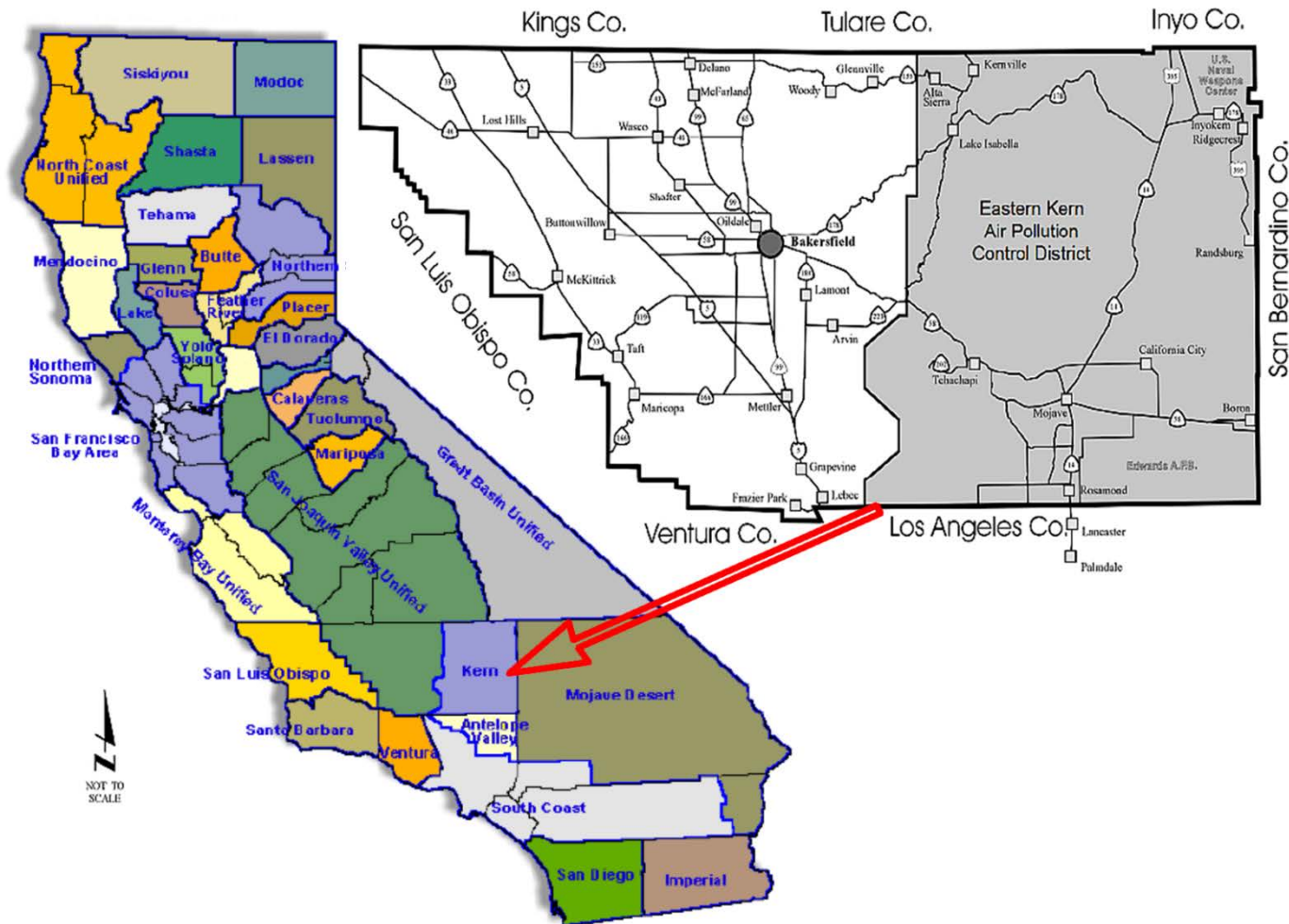
BARCT Overview

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- Stationary Gas Turbines
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- Air Quality & Attainment

Background

- Pursuant to AB 617, CH&SC §40920.6(c);
- Each air district located in a California Ambient Air Quality Standards (CAAQS) nonattainment area, shall adopt an expedited BARCT implementation schedule by January 1, 2019;
- BARCT shall be implemented by the earliest feasible date, but not later than December 31, 2023.

CAAQS Non-Attainment O₃ & PM₁₀





AB 617 BARCT Applicability



Applicability

- Schedule shall apply to each industrial source that, as of January 1, 2017, was subject to a market-based compliance mechanism adopted by the state board;
- Highest priority is given to permitted units that have not modified emissions-related permit conditions for the greatest period of time;
- Schedule shall not apply to an emissions unit that has implemented BARCT due to a permit revision or a new permit issuance since 2007.

Identified Sources

- The following five District sources were identified as being subject to the market-based state board compliance mechanism by January 1, 2017.

Facility Name	Location	Sector
Cal Portland Company	Mojave	Cement Plant
Lehigh Southwest Cement Co.	Tehachapi	Cement Plant
National Cement Co.	Lebec	Cement Plant
Sun Select Produce	Tehachapi	Other Combustion Source
U.S. Borax	Boron	Other Combustion Source



Portland Cement Kilns



Rule 425.3, Portland Cement Kilns

- In 2017, the District identified deficiencies in Rule 425.3, Portland Cement Kilns (NO_x) that needed to be corrected;
- During the amendment process, the District reviewed all potential control options for Portland cement kilns, met and discussed the options with all three cement plants, conducted a cost-effectiveness analysis, and presented those findings at a public workshop on November 2, 2017, in Mojave, CA.



Portland Cement Kiln BARCT

- Rule 425.3 was amended March 8, 2018, to reduce NO_x emissions from 6.4 lb/ton of clinker produced to 2.8 lb/ton or 3.4 lb/ton if a low-NO_x burner or low-NO_x precalciner was installed and made operational by January 1, 2007;
- District determined this was the most cost-effective approach for existing Portland cement kilns;



Portland Cement Kiln BARCT_{cont.}

- As these limits apply to all three Portland cement kilns operating in the District subject to AB 617 BARCT requirements, and adopted through an amendment process that complies with specific AB 617 BARCT consideration and review requirements, the District hereby determines that the most recent amendment of Rule 425.3 meets the AB 617 BARCT requirement for this source category.



Large Industrial Boilers



District Rule 425.2

- There are two facilities with large industrial boilers included in “Other Combustion Source” category;
- Rule 425.2, Boilers, Steam Generators, and Process Heaters (NO_x), amended March 8, 2018, is modeled after CARB’s Determination of RACT and BARCT for Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters.



Large Industrial Boiler BARCT

- As the limits of Rule 425.2 apply to both District facilities operating large industrial boilers subject to AB 617 BARCT requirements, and adopted through an amendment process that complies with specific AB 617 BARCT consideration and review requirements, the District hereby determines that the most recent amendment of Rule 425.2 meets the AB 617 BARCT requirement for this source category.



Stationary Gas Turbines



District Rule 425

- There is only one facility operating a stationary gas turbine included in the “Other Combustion Source” category;
- Rule 425, Stationary Gas Turbines (NO_x), amended January 11, 2018, is modeled after CARB’s Determination of RACT and BARCT for the Control of Oxides of Nitrogen from Stationary Gas Turbines.



Stationary Gas Turbine BARCT

- As the limits of Rule 425 apply to the only District facility operating a stationary gas turbine subject to AB 617 BARCT requirements, and adopted through an amendment process that complies with specific AB 617 BARCT consideration and review requirements, the District hereby determines that the most recent amendment of Rule 425 meets the AB 617 BARCT requirement for this source category.



Other Emission Units



Other Emission Units

- Four of the five identified sources are complex industrial facilities;
- The kilns, boilers, and gas turbine produce emissions that made each facility subject to CARB's Cap and Trade Program, and therefore AB 617 BARCT;
- Control options for the other emissions units located at the cement plants and U.S. Borax were analyzed in accordance with all requirements, including AB 617 mandatory considerations.



Potential Rule Revisions

The following rules may need to be revised in order to comply with AB 617 BARCT requirements.

- 427, Stationary Piston Engines (Oxides of Nitrogen);
- 429.1, Cooling Towers (Hexavalent Chromium).



Cost-Effectiveness

Cost-Effectiveness Analysis

- The District evaluated all applicable BARCT rules for cost-effectiveness.
- Cost-effectiveness of amended Rule 425.3 is detailed in Appendix D of the Final Staff Report (3/8/2018).
- Cost-effectiveness of Rule 425.2 is detailed in www.arb.ca.gov/ractbarc/boilers.pdf.
- Cost-effectiveness of Rule 425, is detailed in www.arb.ca.gov/research/apr/reports/13092.pdf.



Public Health Risk



Public Health Risk

- None of the District's AB 617 BARCT sources pose a significant public health risk, as each source is in compliance with current air quality regulations for criteria air pollutants, hazardous air pollutants, and toxic air contaminants.

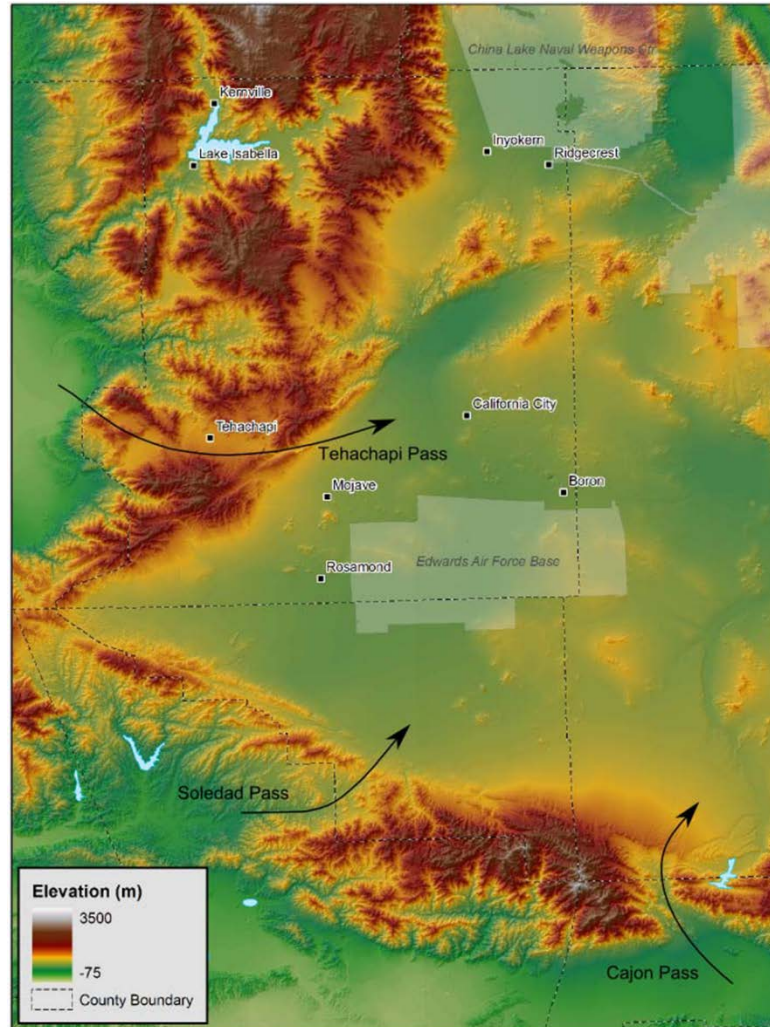


Air Quality and Attainment

Geography

- District is located on western edge of Mojave Desert.
- Several mountain ranges separate District from populated valleys and coastal areas south & west.
- These mountain ranges contain passes that serve as O₃ “transport corridors” from the populated areas.
- Air quality is overwhelmingly impacted from criteria air pollutants transported from SJVAPCD and SCAQMD (both Extreme Non-attainment).

Transport Corridors

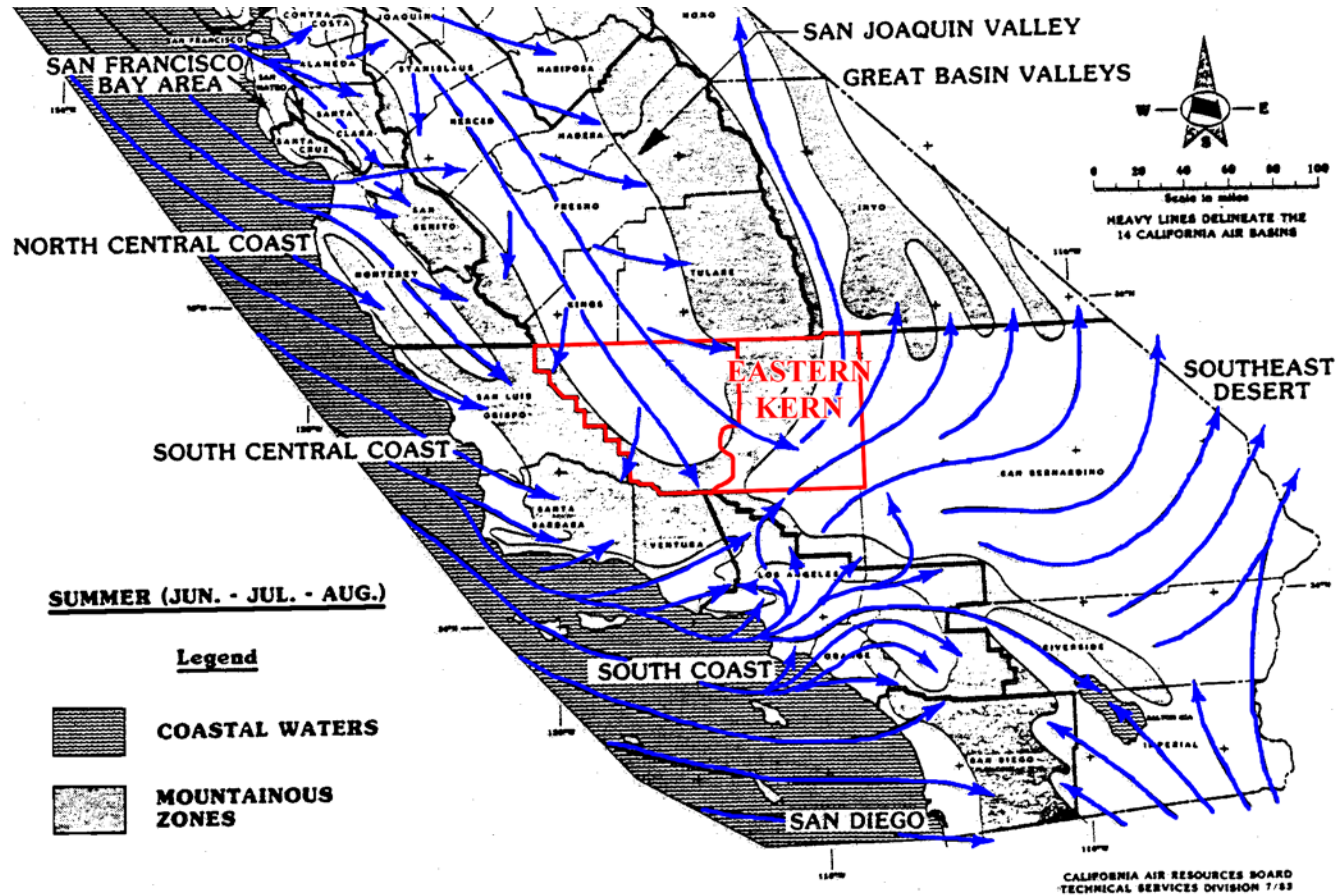




Meteorology and Transport

- Temperatures can exceed 95° F 60-70 days/year with low relative humidity and little rainfall.
- The combination of a hot dry climate, mixed with little cloud cover, produces an intense solar radiation that creates photochemical ozone.
- Additionally, transport emissions can increase downwind surface concentrations of ozone to such an extent that the margin for local production before exceeding the CAAQS is greatly reduced.

California Wind Flow Patterns



Attainment

- Although the District faces many challenges, modeling has shown that continued enforcement of District rules, NSPS, and NESHAPs, along with steady reductions in transport emissions from SJVAPCD and SCAQMD, will result in achieving attainment in the near future.



AB 617 BARCT Schedule Review

- The District's AB 617 BARCT Implementation Schedule will be presented to the District's Governing Board for adoption at the November 1, 2018, Regular Board Meeting.
- The AB 617 BARCT Implementation Schedule can be downloaded for review from the EKAPCD website: www.kernair.org



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Questions Comments