BAY AREA AIR QUALITY MANAGEMENT DISTRICT

AGENDA: 14

Assembly Bill (AB) 617
Industrial Cap-and-Trade Sources
Best Available Retrofit Control Technology (BARCT)
Expedited Implementation Schedule

Victor Douglas
Rule Development Manager

Board of Directors Meeting
September 5, 2018

Outline

- Overview of AB 617 Best Available Retrofit Control Technology (BARCT) Requirements
- Development of Expedited BARCT Implementation Schedule
- Potential Rule Development Projects in Schedule
- Next Steps

BARCT Schedule Requirements

- AB 617 signed into law in July 2017
- Requires air districts to develop and adopt an expedited schedule for implementation of BARCT
- Schedule must be adopted by January 1, 2019
- Must be implemented by the earliest feasible date, no later than December 31, 2023

BARCT Schedule Requirements (cont.)

- Schedule applies to industrial Cap-and-Trade sources
- Best Available Retrofit Control Technology
  - An emission limitation that is based on the maximum degree of reduction achievable, taking into account environmental, energy, and economic impacts by each class or category of source
- Does not apply to sources that have implemented BARCT since 2007
- Priority for sources that have not modified emissions limits for longest period of time

BARCT Schedule Development

- Focus on non-attainment pollutants
  - Ozone (precursors NOx and Reactive Organic Gases [ROG])
  - Particulate matter (and SO_2 as a PM component)
- 19 Industrial Cap-and-Trade facilities in Bay Area
  - 1,899 sources in 50 source categories
- Screening for small sources
  - Potential emission reductions small
  - Retrofit controls not likely to be cost effective
- Screening for sources with BARCT already achieved
  - Air District rules and regulations updated since 2007

BARCT Schedule Development (cont.)

- Reviewed achievable emission limits and potential controls
  - Best Available Control Technology (BACT), Reasonably Available Control Technology (RACT), Lowest Achievable Emission Rate (LAER)
- Reviewed current source emissions, controls, performance, and emission limits

BARCT Schedule Development (cont.)

- Estimated potential emission reductions and control costs
- Calculated preliminary cost effectiveness
- Identify potentially achievable and cost effective controls and emission limits for rule development

Prioritization of Projects

- Local clean air and public health benefits, including toxic emission reduction co-benefits
- Substantial emission reductions, particularly particulate matter (PM) emissions
- Source categories where BARCT controls have not been recently addressed
- Cost effectiveness of potential controls

Potential Rule Development Projects

	Rule Development Projects	PM	NOx	ROG	SO_2
1	Organic Liquid Storage Tanks			X	
2	Petroleum Wastewater Treating			X	
3	Portland Cement Manufacturing	X			X
4	Refinery Fluid Catalytic Crackers and CO Boilers	X			X
5	Refinery Heavy Liquid Leaks			X	
6	Petroleum Coke Calcining		X		

Organic Liquid Storage Tanks

- ROG emissions from evaporative losses
  - Breathing/standing losses and working losses
  - Toxic air contaminants
  - Emissions near ground-level
- Reduce ROG and toxic emissions

Organic Liquid Storage Tanks (cont.)

- Reduce exposure in nearby communities
- Potential controls
  - Domes, vapor recovery units (VRU), incinerators
- Next steps
  - Additional data collection, testing, emission estimations, input on controls and tank monitoring/inspection programs

Refinery Fluid Catalytic Crackers and CO Boilers

- Condensable PM emissions
  - Ammonia and SO_2 components of condensable PM
  - Large sources of PM emissions
- Potential for substantial PM reductions
- Reduce regional PM levels

Refinery Fluid Catalytic Crackers and CO Boilers (cont.)

- Potential controls
  - Alternative conditioning agents, electrostatic precipitator enhancements, additive optimization, wet gas scrubber
- Next steps
  - Additional condensable PM characterization, optimization testing, emission estimations, input on controls

Next Steps

- Upcoming Initial Staff Report and revised draft BARCT Schedule for public comment
- Continue efforts on individual rule development projects
- Prepare and release Staff Report and EIR for BARCT Schedule
- Public Hearing for Board of Directors consideration in December 2018

AGENDA: 15

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

What is the Legal Framework for Air District Operations?

Board of Directors Regular Meeting

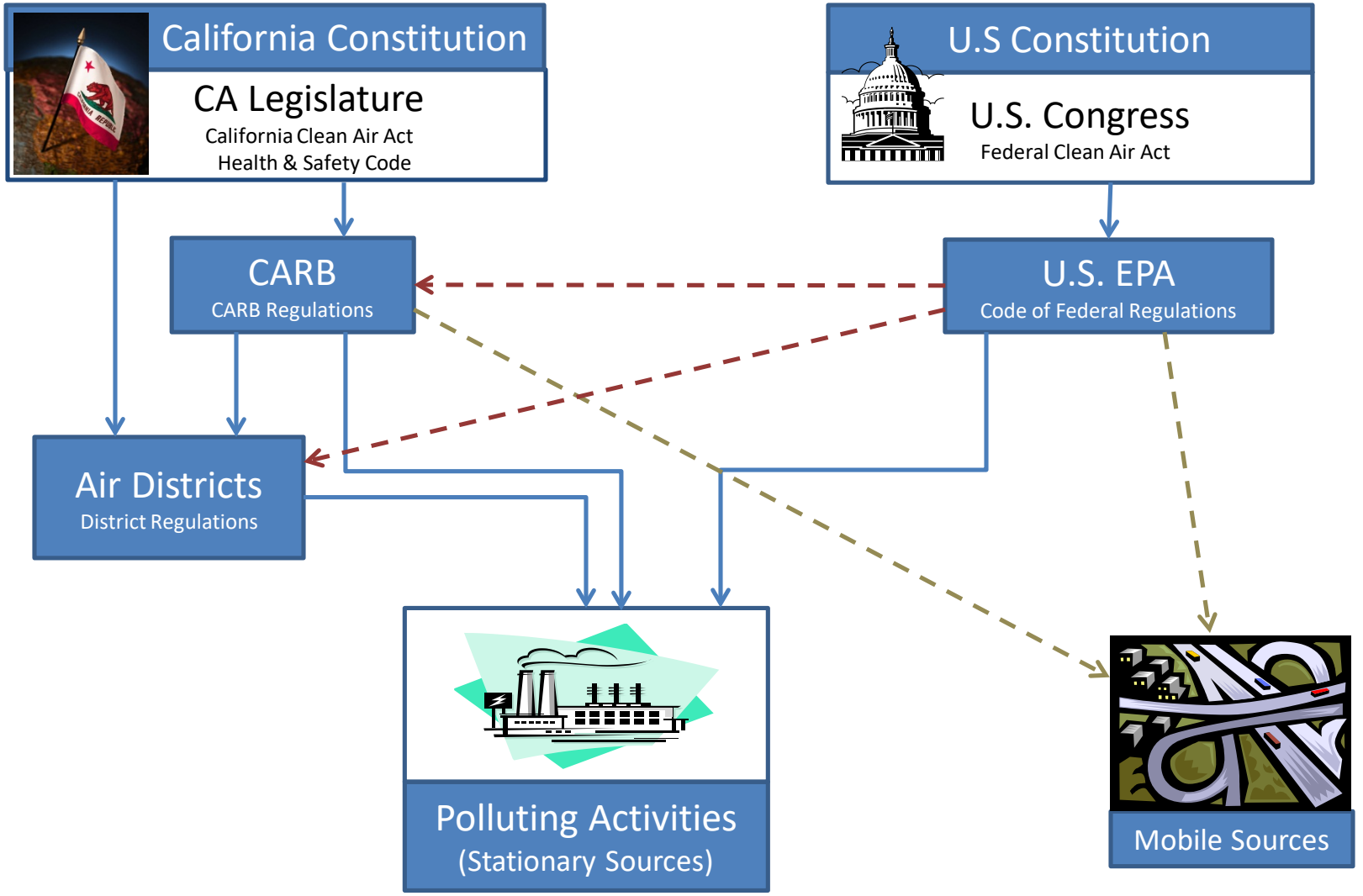
September 5, 2018

Brian C. Bunger, District Counsel

Air Quality Problems

- **Criteria Pollutants**
  - **Federal and California: ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, particulate matter, lead**
  - **California only: sulfates, hydrogen sulfide, vinyl chloride**
- **Air Toxics**
  - **Federal: hazardous air pollutants (HAPs)**
  - **California: toxic air contaminants (TACs)**
- **Greenhouse Gases (GHGs)**

Regulatory Framework



District Authority

- **Primary responsibility: control of air pollution from sources other than motor vehicles**
- **Powers to:**
  - **Adopt and enforce regulations**
  - **Require stationary source permits**
  - **Adopt fees**
  - **Adopt air toxic control measures**
  - **Regulate nuisances**
  - **Prohibit dark smoke**
  - **Adopt state nonattainment plans**
  - **Adopt regulations necessary to execute duties**

Roles of Board and Staff

- **Board Responsibilities:**
  - **Set policy**
  - **Adopt budget and fees and approve expenditures**
  - **Adopt plans**
  - **Adopt regulations**
  - **Appoint the Air Pollution Control Officer and Counsel**

Roles of Board and Staff (cont.)

- **Staff Responsibilities:**
  - **Appoint district staff**
  - **Issue permits**
  - **Enforce statutes, regulations and permit requirements**
  - **Develop plans for Board consideration**
  - **Develop regulations for Board consideration**

Roles of Board-Appointed Bodies

- **Hearing Board**
  - **Appeals of permitting decisions**
    - **By applicant**
    - **By third parties**
  - **Variance requests from regulated entities**
  - **Permit revocation requests from Air District staff**
  - **Abatement Order requests from Air District staff**
- **Advisory Council**
  - **Studies issues at request of Board and staff and provides advice**

Criteria Pollutant Control - Planning

- Federal – federal attainment plans, e.g., 2005 Ozone Strategy
  - Must demonstrate attainment by a specified date
  - Plan Components
    - Inventory
      - Man-made ("anthropogenic"): stationary sources, area sources, motor vehicles
      - Natural (background/non-anthropogenic)
    - Modeling
    - Control strategy
    - "Commitments" for all source types
  - Penalties for failing to have plan
  - Joint adoption with MTC

Criteria Pollutant Control – Planning (cont.)

- California – state attainment plans, e.g., 2017 Clean Air Plan
  - Must demonstrate 5% reduction in nonattainment pollutant emissions per year averaged over three years OR that District will implement “every feasible measure”
  - Plan components: stationary sources, transportation control measures, area/indirect
  - To be updated triennially

Criteria Pollutant Control – Planning (cont.)

- **Differences from federal**
  - **Plan elements limited to those w/in District authority**
  - **Continuous improvement rather than target dates**
  - **Ranking of measures**
  - **No citizen suit provisions**

Criteria Pollutant Control - Regulations

- **Federal New Source Performance Standards**
  - **Detailed industry-specific regulations establishing emissions limits for specific items of equipment**
  - **Federal regulations directly applicable to sources**
- **District-Implemented Regulations Required by Federal and California Clean Air Acts**
  - **New Source Review Permit Program Requirements**
  - **Specific Regulatory Actions Committed to by District in Attainment Plans**
- **Additional District Regulatory Provisions**

District Regulations

- **Substantive requirements**
  - **Best Available Retrofit Control Technology (BARCT)**
  - **Feasible measure**
  - **Federal requirements if submitted into California state implementation plan**
- **Procedural requirements**
  - **Noticed hearing**
  - **Analysis of overlapping requirements**
  - **Socioeconomic impact analysis**
  - **Incremental cost analysis**
  - **Board must find that rule meets requirements of necessity, authority, clarity, consistency, nonduplication, and reference**

Criteria Pollutant Control – Permits

Pre-Construction Permits

- **Pre-construction Permits for Major Sources**
  - **New Source Review – for non-attainment pollutants**
    - **Lowest Achievable Emissions Rate (LAER)**
    - **Emission Offsets – "No Net Increase" Requirement**
  - **"Prevention of Significant Deterioration" – for attainment pollutants**
    - **Best Available Control Technology (BACT)**
    - **Analysis of potential to cause violation of air quality standards**
- **Pre-construction Permits for Non-major Sources**
  - **Minor New Source Review**
  - **Incorporates all other applicable regulatory requirements**

Criteria Pollutant Control – Permits (cont.)

Operating Permits & Equipment Registrations

- **Operating Permit Requirements**
  - **District "Permit to Operate"**
    - **Incorporates conditions from Authority to Construct**
    - **Applies to all sources, including existing sources**
  - **"Title V" Operating Permit**
    - **Consolidates major facility permit requirements in a single document for transparency and ease of review**
    - **Can also require additional conditions to improve enforceability, e.g. enhanced monitoring**
- **Equipment Registration Requirements for Certain Sources That Do Not Require Permits**
  - **Small boilers**
  - **Restaurant char-broilers**

Air Toxics Control

- **Regulations**
  - **Federal – source category toxics standards**
    - **Example – Refinery MACT**
    - **Example – Aluminum and other non-ferrous foundries area source standard (ZZZZZZ)**
  - **California –**
    - **ARB air toxic control measures**
    - **California Toxics Hot Spots Program**
    - **AB 617 – Community monitoring and emission reduction plans**
  - **Air District –**
    - **Air District source category toxics rules**
    - **Regulation 11, Rule 18 – reduction of air toxics risk from existing facilities**

Air Toxics Control (cont.)

- **Permits**
  - **Federal – Title V incorporates federal toxics requirements**
  - **Air District –**
    - **New Source Review of Toxic Air Contaminants**
    - **Incorporate source category toxics requirements**

Greenhouse Gases

- **Federal – Permit requirements for large emitters:**
  - **Requirements apply to facilities with emissions over the "major facility" threshold for some other regulated pollutant and a GHG increase of more than 75,000 tpy**
  - **"Prevention of Significant Deterioration" pre-construction permits**
  - **"Title V" Operating Permits**

Greenhouse Gases (cont.)

- California – Various regulatory initiatives, including:
  - ARB's AB 32 implementation efforts (cap-and-trade, etc.)
  - Utilities' renewable energy portfolio standards ("RPS")
  - Motor vehicle tailpipe standards ("Pavley Bill")
  - AB 398 – Cap-and-Trade program authorized through 2030
  - 2030 Scoping Plan approved December 2017

Greenhouse Gases (cont.)

- **Air District –**
  - **AB 398**
    - **Removed Air District authority to regulate CO2 at cap-and-trade facilities**
    - **Reaffirmed authority to otherwise regulate GHGs**
  - **Permit fees based on GHG emissions**
  - **Permit requirements for GHG emissions**

Other Topics

- California Environmental Quality Act (CEQA)
- SB 375 – The Sustainable Communities Strategy and Climate Protection Act
- District Consultative Policy Role
  - Regional Transportation Plan (RTP)
  - Joint Policy Committee (JPC)/Bay Area Regional Collaborative (BARC)
- Prohibition on Public Nuisances
- Regulating Visible Emissions

Summary of Ozone Seasons

Year	National 8-Hour	State 1-Hour	State 8-Hour
2015*	5	4	11
2016	15	5	15
2017	6	6	6
2018	3	2	3

Spare the Air Alerts: 06/22/18, 06/23/18, 6/30/18, 7/26/18, 8/8/18, 8/9/18, 8/18/18, 8/19/18, 8/23/18, 8/24/18, 9/3/18

Days > 0.070 ppm 8-hour NAAQS: 8/3/18, 8/9/18, 8/18/18

***Based on NAAQS of 0.075 ppm that was in place during that year**

Calendar Year Summary

Year	National Ozone Exceedances	Days > 35 µg/m^3 due to Wildfires ($PM_{2.5}$)	Total Days > 35 µg/m^3 ($PM_{2.5}$)
2014	5*	0	3
2015	5*	3	9
2016	15	0	0
2017	6	14	18
2018	3	2	6

For Ozone - Days > 0.070 ppm 8-hour NAAQS: 08/03/18, 8/9/18, 8/18/18

*** Based on NAAQS of 0.075 ppm that was in place during those years**

For Wintertime - Days > 35 µg/m^3 24-hr NAAQS: 12/15/17, 12/24/17, 12/30/17, 12/31/17, 1/1/18, 1/2/18, 1/3/18, 1/4/18

(Other exceedances occurred due to wildfires outside of the November 1 – February 28 timeframe)

Phillips 66 – Unicracker Permit

- The permit is not related in any way to the separate request to increase throughput at the wharf – it does not increase crude oil tanker ship traffic, rail traffic, or pipeline deliveries to the refinery
- The permit allows an increase of throughput at the Unicracker Complex, which processes heavy gas oil, not crude oil.
  - No changes to the types of crude oil the refinery (or any other facility) can receive or process.
  - No increase in oil sands-derived crude oil that the refinery can import or process.
- The permit does not allow any construction or other modifications to the refinery – the equipment involved was all constructed in connection with the Clean Fuels Expansion Project, approved by Contra Costa County in September 2007.
- Staff conducted detailed analysis of the permit application to determine if any additional emissions would occur at the refinery. Other than an increase at 3 tanks, that was below the thresholds for both emission controls and CEQA analysis – there were no emissions above permitted limits.
- Project Updates were presented at the Stationary Source Committee, Board of Directors, and most recently at the Ad Hoc Refinery Oversight Committee meeting on April 9, 2018.
- Permit application was posted on the Air District website and interested parties notified - No comments received.
- Facility met all the regulatory requirements to control emissions and completed CEQA - staff legally required to issue a permit