

# Control of Emissions for Regulated Sources Stockton Community

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# Community-Focused Emission Reductions

- AB 617 Community Emission Reduction Program (CERP) process provides opportunities to identify and implement community-focused emissions reductions
- Steering Committee's local knowledge and feedback vital
- 1<sup>st</sup> step in identifying new emissions reductions opportunities is to understand clean air efforts in community to date

# Decades of Stringent Air Quality Regulations

- District has long evaluated and implemented stringent control measures across all sources under its jurisdiction in efforts to attain federal standards
  - Adopted over 650 rules and rule amendments in order to control emissions from stationary sources and other local sources
  - District's New Source Review permitting regulation requires the use of the Best Available Control Technology (BACT)
- District stationary sources subject to permits and rules since 1980s
- Robust and ongoing analysis necessary to demonstrate that District's rules continue to meet state and federal requirements, including BARCT
  - Increasingly stringent air quality standards
  - Control technologies continually evolving

# Existing Stationary Source Emission Controls

- Source specific prohibitory rules adopted to reduce emissions from stationary and other sources
  - Regulation IV (Prohibitions)
  - Regulation VII (Toxic Air Pollutants)
  - Regulation VIII (Fugitive PM<sub>10</sub> Prohibitions)
  - Regulation IX (Indirect Sources)



- Web link: <http://www.valleyair.org/rules/1ruleslist.htm>

# Rules Applying to Stationary Sources

[Rule 4001](#) NEW SOURCE PERFORMANCE STANDARDS

[Rule 4002](#) NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS

[Rule 4101](#) VISIBLE EMISSIONS

[Rule 4102](#) NUISANCE

[Rule 4103](#) OPEN BURNING

[Rule 4104](#) REDUCTION OF ANIMAL MATTER

[Rule 4105](#) COMMERCIAL OFFSITE MULTIUSER HAZARDOUS WASTE AND NONHAZARDOUS WASTE DISPOSAL FACILITIES

[Rule 4106](#) PRESCRIBED BURNING AND HAZARD REDUCTION BURNING

[Rule 4201](#) PARTICULATE MATTER CONCENTRATION

[Rule 4202](#) PARTICULATE MATTER - EMISSION RATE

[Rule 4203](#) PARTICULATE MATTER EMISSIONS FROM INCINERATION OF COMBUSTIBLE REFUSE

[Rule 4204](#) COTTON GINS

[Rule 4301](#) FUEL BURNING EQUIPMENT

[Rule 4302](#) INCINERATOR BURNING

[Rule 4303](#) ORCHARD HEATERS

[Rule 4304](#) EQUIPMENT TUNING PROCEDURE FOR BOILERS, STEAM GENERATORS, AND PROCESS HEATERS

[Rule 4305](#) BOILERS, STEAM GENERATORS, AND PROCESS HEATERS - PHASE 2

[Rule 4306](#) BOILERS, STEAM GENERATORS, AND PROCESS HEATERS - PHASE 3

[Rule 4307](#) BOILERS, STEAM GENERATORS, AND PROCESS HEATERS - 2.0 MMBTU/HR TO 5.0 MMBTU/HR ([RULE 4307 CERTIFIED UNITS](#))

[Rule 4308](#) BOILERS, STEAM GENERATORS, AND PROCESS HEATERS - 0.075 MMBTU/HR TO LESS THAN 2.0 MMBTU/HR ([CERTIFIED WATER HEATERS](#))

[Rule 4309](#) DRYERS, DEHYDRATORS, AND OVENS

[Rule 4311](#) FLARES

[Rule 4313](#) LIME KILNS

[Rule 4320](#) ADVANCED EMISSION REDUCTION OPTIONS FOR BOILERS, STEAM GENERATORS, AND PROCESS HEATERS GREATER THAN 5.0 MMBTU/HR ([RULE 4320 FAQs](#))

[Rule 4351](#) BOILERS, STEAM GENERATORS, AND PROCESS HEATERS - PHASE 1

[Rule 4352](#) SOLID FUEL FIRED BOILERS, STEAM GENERATORS, AND PROCESS HEATERS

[Rule 4354](#) GLASS MELTING FURNACES

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[Rule 4401](#) STEAM-ENHANCED CRUDE OIL PRODUCTION WELLS ([RULE 4401 FAQs](#))

[Rule 4402](#) CRUDE OIL PRODUCTION SUMPS

[Rule 4404](#) HEAVY OIL TEST STATION - KERN COUNTY

[Rule 4405](#) OXIDES OF NITROGEN EMISSIONS FROM EXISTING STEAM GENERATORS USED IN THERMALLY ENHANCED OIL RECOVERY - CENTRAL AND WESTERN KERN COUNTY FIELDS

[Rule 4406](#) SULFUR COMPOUNDS FROM OIL-FIELD STEAM GENERATORS - KERN COUNTY

[Rule 4407](#) IN-SITU COMBUSTION WELL VENTS

[Rule 4408](#) GLYCOL DEHYDRATION SYSTEMS

[Rule 4409](#) COMPONENTS AT LIGHT CRUDE OIL PRODUCTION FACILITIES, NATURAL GAS PRODUCTION FACILITIES, AND NATURAL GAS PROCESSING FACILITIES

[Rule 4453](#) REFINERY VACUUM PRODUCING DEVICES OR SYSTEMS

[Rule 4454](#) REFINERY PROCESS UNIT TURNAROUND

[Rule 4455](#) COMPONENTS AT PETROLEUM REFINERIES, GAS LIQUIDS PROCESSING FACILITIES, AND CHEMICAL PLANTS

[Rule 4501](#) ALTERNATE COMPLIANCE FOR BEST AVAILABLE RETROFIT CONTROL TECHNOLOGY (BARCT)

[Rule 4550](#) CONSERVATION MANAGEMENT PRACTICES - [CMP list](#)

[Rule 4565](#) BIOSOLIDS, ANIMAL MANURE, AND POULTRY LITTER OPERATIONS

[Rule 4566](#) ORGANIC MATERIAL COMPOSTING OPERATIONS

[Rule 4570](#) CONFINED ANIMAL FACILITIES

[Rule 4601](#) ARCHITECTURAL COATINGS

[Rule 4602](#) MOTOR VEHICLE ASSEMBLY COATINGS

[Rule 4603](#) SURFACE COATING OF METAL PARTS AND PRODUCTS, PLASTIC PARTS AND PRODUCTS, AND PLEASURE CRAFTS

[Rule 4604](#) CAN AND COIL COATING OPERATIONS

[Rule 4605](#) AEROSPACE ASSEMBLY AND COMPONENT COATING OPERATIONS

[Rule 4606](#) WOOD PRODUCTS AND FLAT WOOD PANELING PRODUCTS COATING OPERATIONS

[Rule 4607](#) GRAPHIC ARTS AND PAPER, FILM, FOIL AND FABRIC COATINGS

[Rule 4610](#) GLASS COATING OPERATIONS

[Rule 4612](#) MOTOR VEHICLE AND MOBILE EQUIPMENT COATING OPERATIONS

[Rule 4621](#) GASOLINE TRANSFER INTO STATIONARY STORAGE CONTAINERS, DELIVERY VESSELS, AND BULK PLANTS

[Rule 4622](#) GASOLINE TRANSFER INTO MOTOR VEHICLE FUEL TANKS

[Rule 4623](#) STORAGE OF ORGANIC LIQUIDS

[Rule 4624](#) TRANSFER OF ORGANIC LIQUID

[Rule 4625](#) WASTEWATER SEPARATORS

[Rule 4641](#) CUTBACK, SLOW CURE, AND EMULSIFIED ASPHALT, PAVING AND MAINTENANCE OPERATIONS

[Rule 4642](#) SOLID WASTE DISPOSAL SITES

[Rule 4651](#) SOIL DECONTAMINATION OPERATIONS

[Rule 4652](#) COATINGS AND INK MANUFACTURING

[Rule 4653](#) ADHESIVES AND SEALANTS

[Rule 4661](#) ORGANIC SOLVENTS

[Rule 4662](#) ORGANIC SOLVENT DEGREASING OPERATIONS

[Rule 4663](#) ORGANIC SOLVENT CLEANING, STORAGE, AND DISPOSAL

[Rule 4672](#) PETROLEUM SOLVENT DRY CLEANING OPERATIONS

[Rule 4681](#) RUBBER TIRE MANUFACTURING

[Rule 4682](#) POLYSTYRENE, POLYETHYLENE, AND POLYPROPYLENE PRODUCTS MANUFACTURING

[Rule 4684](#) POLYESTER RESIN OPERATIONS

[Rule 4691](#) VEGETABLE OIL PROCESSING OPERATIONS

[Rule 4692](#) COMMERCIAL CHARBROILING

[Rule 4693](#) BAKERY OVENS

[Rule 4694](#) WINE FERMENTATION AND STORAGE TANKS

[Rule 4695](#) BRANDY AGING AND WINE AGING OPERATIONS

[Rule 4701](#) INTERNAL COMBUSTION ENGINES - PHASE 1

[Rule 4702](#) INTERNAL COMBUSTION ENGINES ([CERTIFIED EQUIPMENT FOR INTERNAL COMBUSTION ENGINES](#))

[Rule 4703](#) STATIONARY GAS TURBINES

[Rule 4801](#) SULFUR COMPOUNDS

[Rule 4802](#) SULFURIC ACID MIST

[Rule 4901](#) WOOD BURNING FIREPLACES AND WOOD BURNING HEATERS

[Rule 4902](#) RESIDENTIAL WATER HEATERS ([CERTIFIED WATER HEATERS](#))

[Rule 4905](#) NATURAL GAS-FIRED, FAN-TYPE CENTRAL FURNACES

# Update on AB 617 BARCT Review

- Best Available Retrofit Control Technology (BARCT) is an air emission limit for existing sources and is maximum degree of reduction achievable, taking into account environmental, energy and economic impacts
- AB 617 requires expedited BARCT review and implementation schedule for facilities in CARB's Cap-and-Trade Program
  - District adopted schedule in December 2018
  - 109 facilities in San Joaquin Valley subject to the Cap-and-Trade Program
  - 32 District rules subject to the BARCT review
  - 19 rules already found to meet BARCT
  - 13 rules scheduled for additional BARCT review in 2020-2021 timeframe and rulemaking as necessary

# Status of BARCT Implementation Schedule

| Rule | Title   | BARCT Status  |
|------|---|---|
| 4454 | <i>Refinery Process Unit Turnaround</i>   | <b><i>Meets BARCT</i></b>   |
| 4641 | <i>Cutback, Slow Cure, And Emulsified Asphalt, Paving And Maintenance Operations</i>  | <b><i>Meets BARCT</i></b>   |
| 4104 | <i>Reduction of Animal Matter</i>   | <b><i>Meets BARCT</i></b>   |
| 4409 | Components at Light Crude Oil Production Facilities, Natural Gas Production Facilities, and Natural Gas Processing Facilities | <p>Combined rule development public process to evaluate/implement additional BARCT requirements commencing 2020 - expediting the rulemaking efforts for three of the five rules (Rules 4623, 4624, and 4401) to streamline assessment</p> |
| 4455 | Components at Petroleum Refineries, Gas Liquids Processing Facilities, and Chemical Plants                                    |   |
| 4623 | Storage of Organic Liquids  |   |
| 4624 | Transfer of Organic Liquids   |   |
| 4401 | Steam-Enhanced Crude Oil Production Wells   |   |

# Next Step for BARCT Implementation Schedule

| Rule | Title  | BARCT Status   |
|------|--|--|
| 4702 | Internal Combustion Engines (VOC only)   | BARCT evaluation in progress and scheduled for 2020 completion |
| 4694 | Wine Fermentation and Storage Tanks  | BARCT evaluation in progress and scheduled for 2020 completion |
| 4603 | Surface Coating of Metal Parts and Products, Plastic Parts and Products, and Pleasure Crafts | BARCT evaluation in progress and scheduled for 2020 completion |
| 4601 | Architectural Coatings   | BARCT evaluation in progress and scheduled for 2020 completion |
| 4566 | Organic Material Composting Operations   | BARCT evaluation scheduled for 2021 completion                 |
| 4625 | Wastewater Separators  | BARCT evaluation scheduled for 2021 completion                 |
| 4621 | Gasoline Transfer Into Stationary Storage Containers, Delivery Vessels, and Bulk Plant       | BARCT evaluation scheduled for 2021 completion                 |
| 4402 | Crude Oil Production Sumps   | BARCT evaluation scheduled for 2021 completion                 |



# District Permitting of Stationary Sources

- District requires permits for stationary sources of air pollution
  - Enforceable conditions ensure compliance with air quality regulations
- District permitting applies to new and modifying sources
  - New Source Review (Rule 2201)
  - Best Available Control Technology (BACT)
  - Assure no violation of Federal Standards (NAAQS)
  - Assess health impact on local residents
  - Multilingual Public Notification
- District will not issue a permit for a new or modified source unless it meets all applicable requirements

# What are Air Toxics?

- EPA has identified over 700 “Toxic Air Contaminants” or “Hazardous Air Pollutants”
- Can cause short-term (acute) health impacts, or cancer or other long-term (chronic) health impacts
- Examples: Diesel exhaust particulate, dioxins, perchloroethylene, hexavalent chrome, asbestos
- NOT the same as criteria pollutants that are addressed by National Ambient Air Quality Standards (nitrogen oxides, volatile organic compounds, particulate matter, etc.)

# District's Integrated Air Toxics Program

- Integrates federal, state, and local mandates
- AB 2588 Air Toxic “Hot Spots” Program
- Evaluation of air toxics from new or modified facilities or equipment
  - Risk Management Review (RMR) process
- Regional Health Risk
  - District Risk Reduction Rules
  - State Air Toxics Control Measures (ATCM)
  - Federal Maximum Available Control Technology (MACT)
- California Environmental Quality Act

# AB 2588 - Air Toxics “Hot Spots” Reporting and Assessment Act

- Facilities report air toxic emissions and are prioritized based on very conservative risk screening
- Facilities scoring between 0 and 1 are not a risk – Need no further action
- Facilities scoring between 1 and 10 – Need to provide information every 4 years or conduct Health Risk Assessment
- Facilities scoring over 10
  - Must perform HRA and report risk levels
  - If confirmed high risk, public notice required
  - After risk assessment, risk reduction plan may be required

# Implementation of District's Air Toxics “Hot Spots” Program

- Began in late 1980's, requires ongoing risk analysis
  - Initially quantified toxics for over 5,700 Valley facilities
  - Notified thousands of potentially impacted residents
  - Held public meetings in Valley communities
- Began in late 2015, reassessing using the latest guidance (OEHHA) and most conservative assumptions
  - The District has been proactive in its reassessment implementation
  - Over 10,000 facilities
  - Over 5,300 reassessments have been completed
  - No high risk facilities have been identified yet

# Program Implementation

- District-created facility-specific templates to promote the preparation of plans and reports by facilities
- District reviews and approves each facility report
- Screening and modeling tools to help air toxics impacts evaluation
- District assessing health risk associated with each facility
- Web-based reporting tools
- Hot Spots “Frequently Asked Questions,” technical documents, emissions calculators

# Preventing Health Risk from New and Modified Sources

- Implemented through permitting and CEQA
- Evaluate health risk before permit issuance for every proposal to increase toxic emissions
- Risk Management Reviews (RMR) comprehensive and complex computerized process
- Extremely conservative, based on worst-case emissions, exposure and meteorological conditions
- Have processed over 15,000 RMRs
  - Best Available Control Technology for toxics required
  - Projects with significant risk not approvable

# Working with Community Stakeholders

- Enhanced community involvement and multilingual outreach
- Reduce air toxics by ensuring business understand and comply with state and federal area source toxics standards
- Reduce or avoid health risk associated with new emissions by working in cooperation with applicants to evaluate additional control to avoid emissions
- Provide health risk guidance to and work with local land-use agencies
- Work with local businesses and CARB on enhanced state criteria and toxics emissions inventory requirements