Report and Recommendations from South Central Fresno Community Air Monitoring Subcommittee Meeting

May 8, 2019

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# **Subcommittee Meeting**

- April 10 South Central Fresno community steering committee meeting included discussion of air monitoring
  - -Steering committee requested air monitoring subcommittee be formed to allow more time for detailed discussion
- Subcommittee exercise and discussion helped focus and design initial community air monitoring network
- Subcommittee present recommendations to full steering committee
  - Provides foundation for community air monitoring plan for South Central Fresno



#### **Current Air Monitoring in South Central Fresno Area**

Air Monitoring Site	Pollutants Measured
Fresno-Pacific	PM2.5 (filter-based)
Fresno-Foundry	NO2, Meteorology (adding PM2.5 and CO in 2019)
Fresno-Drummond	Ozone, NO/NO2/NOx, PM10 (filter-based), Meteorology

- Ongoing air monitoring operations at these existing sites will provide valuable data alongside community air monitoring network
- Fixed sites that are part of already existing regulatory air monitoring network
  - Immobile structures permanently installed and not able to be deployed to areas of concern



## **Expanded Air Monitoring Capabilities**

Air Monitoring	PM2.5, Ozone, Black Carbon, CO, NO/NO2/NOx, VOC, SO2, H2S, Toxics,
Trailer	Speciated VOCs, Meteorology
Compact Multi- Pollutant Air Monitoring Systems	PM2.5, Ozone, Black Carbon, CO, NO/NO2/NOx, VOC, Meteorology
Stand-Alone PM2.5 Monitors	PM2.5
Mobile Air	PM2.5, Ozone, Black Carbon, CO, NO/NO2/NOx, VOCs, SO2, Toxics,
Monitoring Van	Meteorology



# **Abilities of New Air Monitoring Resources**

- Planned air monitoring resources for South Central Fresno will have same abilities as current stationary regulatory network
  - High-precision and regulatory-grade
  - Many instruments will be the same models used at regulatory stations
  - Will monitor more types of pollutants than regulatory stations
- Benefit of community air monitoring resources will be greater mobility and quicker deployment
- Community air monitoring network capabilities will be similar to extensive Fresno-Garland air monitoring station
  - Beyond routine measurements of gas and PM pollutants, community air monitoring network will have ability to measure PM and VOC speciation, black carbon, H2S
- Air monitoring trailer will have most expansive air monitoring capabilities
  - Equivalent to a fixed air monitoring station but with greater mobility



#### Platform Capabilities for Initial Community Air Monitoring Network

		Platform				
Pollutants	Example Sources	Trailer (x1)	Van (x1)	Compact System (x2)	Stand Alone PM2.5 (x4)	
PM2.5	Mobile, industry, residential	Х	x	x	Х	
Black Carbon	Mobile, industry, residential	х	x	x		
NO, NO2, NOx	Mobile, industry	х	x	x		
СО	Mobile	х	x	x		
Ozone	Regional, formed from VOC and NOx	х	x	x		
SO2, H2S	Industry	х	x	x		
VOC (BTEX)	Gasoline distribution and marketing	х	x	x		
VOC Auto GC/MS	Industry, mobile	х				
Toxics	Industry, mobile	х	x			
Meteorology		х	x	x		



## **Exercise and Discussion**

#### Maps

- 1. Current Monitors and Wind Direction
- 2. Land Use
- 3. Stationary Source Emissions: NOx
- 4. Stationary Source Emissions: PM2.5
- 5. Stationary Source Emissions: VOC
- 6. Diesel Particulate Exposure
- 7. Asthma Percentile (CalEnviroScreen)
- 8. Cardiovascular (CalEnviroScreen)
- 9. Sensitive Receptors
- 10. District's Proposed Network Design

#### Tools

- 1. Monitoring Objectives
- 2. Glossary
- 3. Monitor Capabilities
- 4. Worksheet







### Votes per Zone

Community Air Monitoring Zone	Full-Sized Trailer Priority (x1)	Compact System (x2)	PM2.5 Stand Alone (x4)	Total Votes	Other (explain pollutant, type of monitor, reason)
A		1	2	3	
В			6	6	
C			1	1	Pesticide (2)
D	5	9	7	21	Permanent (5)
E	1	2	6	9	
F	1	1	4	6	
G	5	6	4	15	
н		5	5	10	Pesticide (1)
I	5	4	6	15	Permanent (3)
J	7	1		8	Permanent (5)
К		7	6*	7	Pesticide (2)
outside boundary			2	2	

\*After "D" there was a 4 way tie between the 3 spots remaining for the available PM2.5 monitors. Based on the fact that zone B, E, and I did not yet have monitoring, we recommend they be prioritized. K will be next on the list to recommend monitoring when more resources become available. The compact system in K will have the exact same PM2.5 monitor as the stand-alone units.

## **Recommended Locations of Current Resources**



Stand-Alone PM2.5

P

Compact Air Monitoring System



Trailer



- Drive on a regular schedule throughout entire boundary all year
- Respond to community concerns

### **Contact Information**

Contact the Valley Air District at:

AB617@valleyair.org

Fresno office (559) 230-6000 Modesto office (209) 557-6400 Bakersfield office (661) 392-5500 Jaime Holt Cell: (559) 309-3336 For information visit: www.valleyair.org/community

www.valleyair.org



Use the Valley Air App for the latest air quality info.







# Update on Stationary Source Emissions South Central Fresno Community

May 8, 2019

#### Brian Clements Technical Services Program Manager San Joaquin Valley Air Pollution Control District



# **Continued Update of Emission Inventory**

- District is currently processing the 2018 emissions data submitted by facilities
- Previous five years (2013 2017) of stationary source emissions data is displayed on the website
  - -<u>http://community.valleyair.org/selected-</u> <u>communities/south-central-fresno</u>
- Based on feedback from the Steering Committee, continuing to update website mapping tools



# Map Update in Progress

- Sensitive receptors
  - -Public and Private Schools
  - -Medical Facilities
  - -Care Facilities
- VOC, NOx, PM2.5 markers to indicate relative magnitude of mass emissions for stationary and mobile sources
- Toxic Air Contaminant emissions
- Display Mobile, Area, and Stationary Source emissions



## **Emissions Source Summary**





### **Sensitive Receptors**



### **Sensitive Receptors and Emissions Sources**



#### **PM2.5 Emissions**



### **VOC Emissions**





### Control of Emissions for Regulated Sources South Central Fresno Community

#### May 8, 2019

#### Brian Clements Technical Services Program Manager San Joaquin Valley Air Pollution Control District



# **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 stationary sources under its jurisdiction in efforts to reduce air pollution and meet health-based standards
  - Adopted over 650 rules and rule amendments
  - Great progress made since 1990 85% reduction in air pollution
- Ongoing analysis necessary to demonstrate rules continue to meet state and federal control requirements
  - AB 617 BARCT Analysis (<u>http://community.valleyair.org/best-available-retrofit-control-technology-barct</u>)
  - New PM2.5 Plan for San Joaquin Valley (<u>https://www.valleyair.org/pmplans</u>)



## **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 PM10 Prohibitions)
  - Regulation IX (Mobile and Indirect Sources)
- Web link: <a href="http://www.valleyair.org/rules/1ruleslist.htm">http://www.valleyair.org/rules/1ruleslist.htm</a>



## **Existing Stationary Source Emission Controls**

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

Rule 4354 GLASS MELTING FURNACES

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

## **Existing Stationary Source Emission Controls**

RULE 4701 INTERNAL COMBUSTION ENGINES – PHASE 1 (Adopted May 21, 1992; Amended December 17, 1992; Amended October 20, 1994; Amended March 16, 1995; Amended December 19, 1996; Amended November 12, 1998; Amended December 19, 2002; Amended August 21, 2003)

RULE 4702 INTERNAL COMBUSTION ENGINES (Adopted August 21, 2003; Amended June 16, 2005; Amended April 20, 2006; Amended January 18, 2007; Amended August 18, 2011; Amended November 14, 2013)



# **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 expanding sources
  - -New Source Review (Rule 2201)
  - Best Available Control Technology (BACT)
  - -Assure no violation of NAAQS
  - -Assure no new health risk is created
  - Multilingual Public Notification
- District will not issue a permit for a new or modified source unless it meets all these requirements



## **Air Toxics Emission Controls**

- Integrated air toxics program combines requirements of District, state and federal government
  - -New Source Review (prevents new risk)
  - District air toxic prohibitory rules (Regulation VII)
  - Federal Maximum Achievable Control Technology (MACT)
  - Federal National Emission Standards for Hazardous Air Pollutants (NESHAPS)
  - California Air Toxic Control Measures (ATCMs)
  - AB 2588 Air Toxics "Hot Spots" program
  - -Incentive Grants (Fireplaces, diesel combustion, etc.)



# **Incentive Grant Programs**

#### Businesses

 Trucks, tractors, heavy duty construction equipment, forklifts, freight equipment, electric lawn and garden

#### • Public Agencies

 School buses, transit buses, clean vehicles, electric vehicle chargers, heavy duty waste haulers, alt fuel infrastructure

#### Residential

San Joaquin Valley

- Car repairs and replacements, fireplace change outs, electric lawnmowers and other yard equipment, electric vehicles
- Many more grant programs found here: <u>http://valleyair.org/grants/</u>









# **Mobile Source Emission Reductions**

- District can't regulate tailpipe emissions from mobile sources
- Extensive District efforts to indirectly regulate mobile sources
  - Indirect Source Review (ISR) First and only rule in the nation that requires mitigation of emissions increases from new developments
  - -Voluntary Emission Reduction Agreements (VERA)
  - E-Trip regulation requiring large employers to implement alternative transportation plans (encourage carpooling, vanpooling, etc.)
  - California Environmental Quality Act (CEQA) Commenting Land use decisions rest with local cities and counties

