

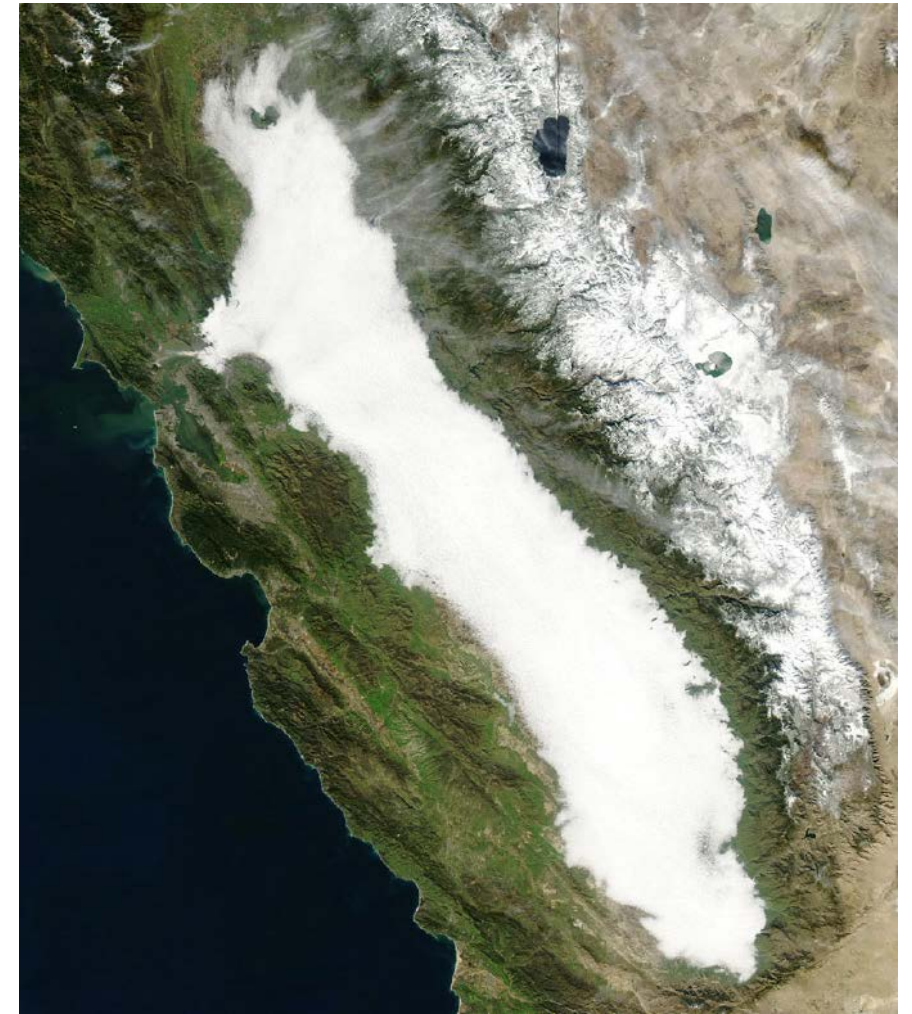
Public Scoping Meeting for Potential Amendments to District Rule 4352 (Solid Fuel Fired Boilers, Steam Generators, and Process Heaters)

December 3, 2020

webcast@valleyair.org

Valley's Air Quality Challenges

- Valley's challenges in meeting federal air quality standards unmatched due to unique geography, meteorology, and topography
- Valley designated as “Extreme” non-attainment of the 8-hour Ozone NAAQS; “Serious” non-attainment of federal standards for fine particulate matter (PM_{2.5})
 - Substantial emission reductions needed to achieve federal standards – need to go beyond already strict control limits
- Combustion is a significant source of NO_x emissions, primary precursor to ozone and PM_{2.5} formation
 - Comprehensive strategy in *2018 PM_{2.5} Plan* includes commitment to reduce emissions from mobile sources and a number of stationary source categories, including solid fuel fired boilers, steam generators, & process heaters



Rule 4352 Overview

- Rule 4352 applies to any boiler, steam generator, or process heater fired on solid fuel
 - **Boilers** are external combustion equipment used to produce hot water or steam
 - **Process heaters** are combustion equipment that transfer heat from combustion gases to liquid or gas process streams
 - **Steam generators** are external combustion equipment that convert water to steam



Image credit: Prime Boiler Services Ltd.

Where do Solid Fuel Fired Boilers, Steam Generators, and Process Heaters Operate?

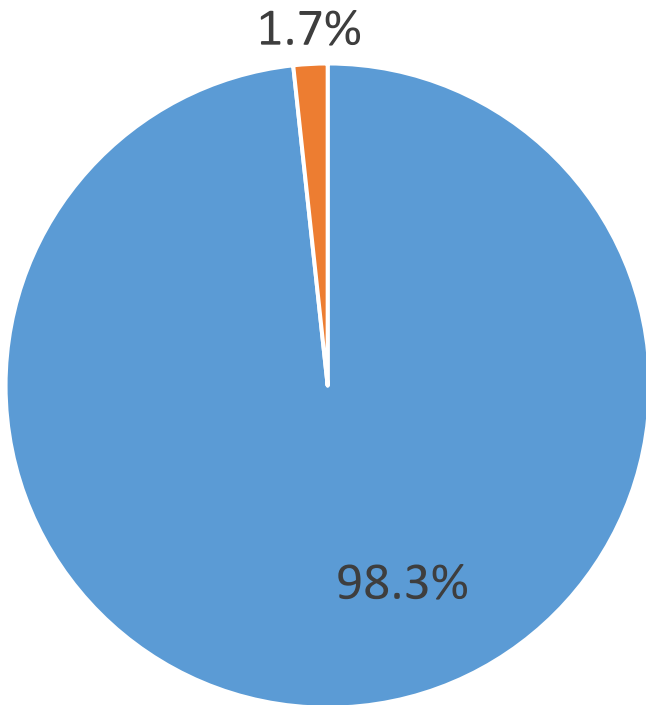
- Solid fuel fired boilers, steam generators, and process heaters are primarily used for power generation
- Units subject to Rule 4352 may be fired on a variety of solid fuels:
 - Municipal solid waste
 - Biomass
 - Coal
 - Petroleum coke
 - Tire-derived fuel
- Units currently operating in the Valley are fired on municipal solid waste or biomass



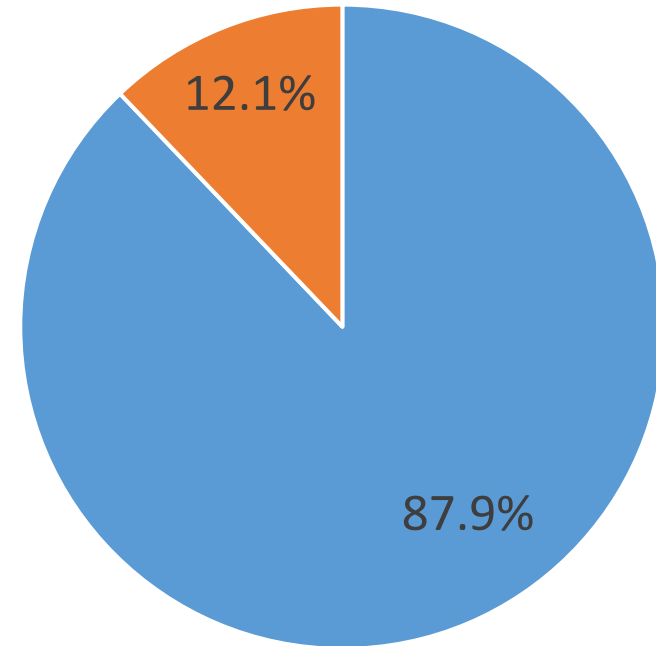
Image credit: Covanta Holding Corporation

NOx from Solid Fuel Fired Boilers, Process Heaters and Steam Generators in the Valley

All NOx Sources in the Valley
(Mobile, Stationary, & Area Sources)



NOx Emissions from Stationary Sources



■ Other NOx Sources ■ Solid Fuel Fired Boilers

■ Other Stationary Sources ■ Solid Fuel Fired Boilers

Current Rule 4352 Requirements

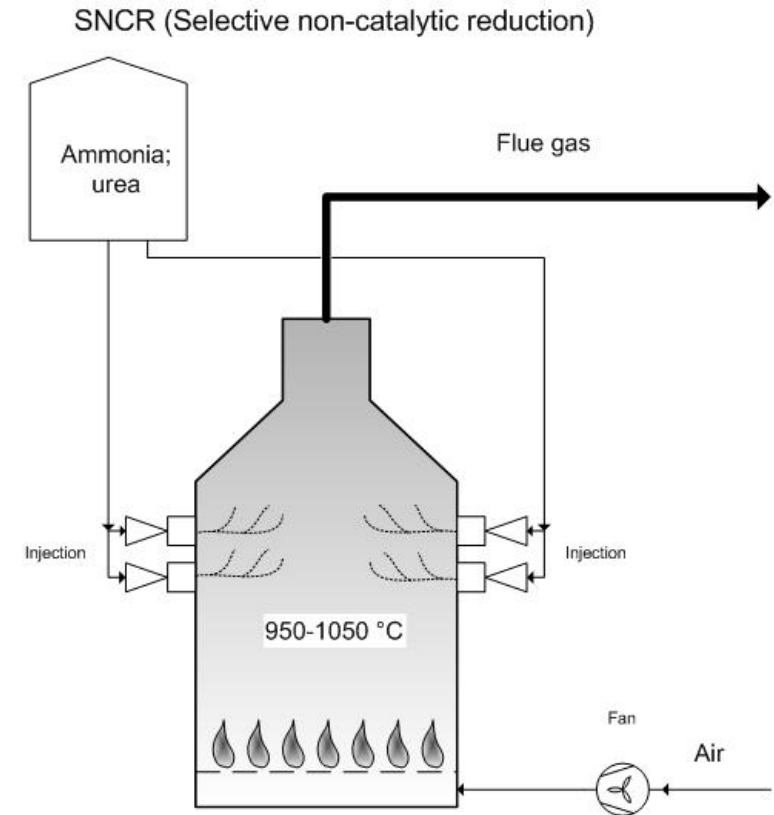
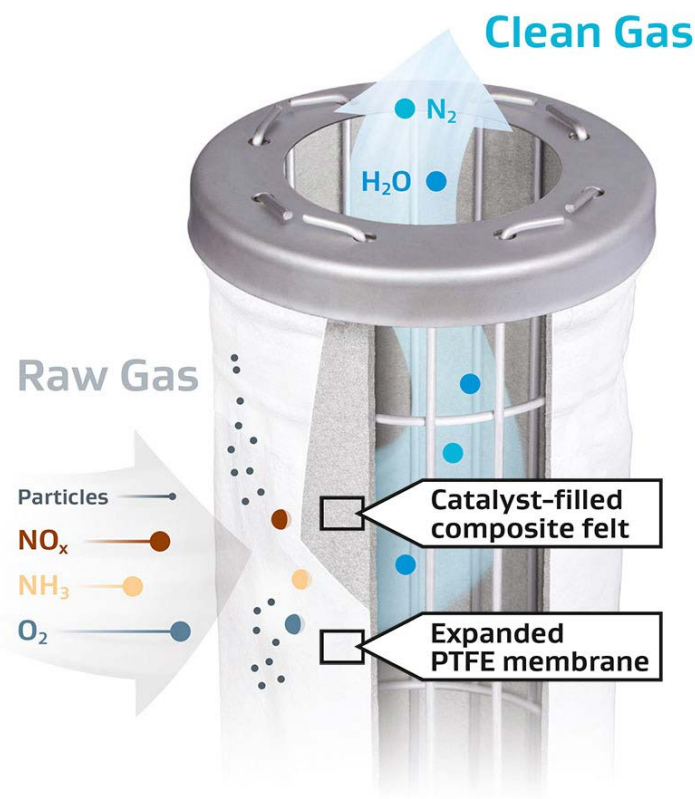
- Rule 4352 establishes specific NO_x and CO limits for categories of solid fuel fired boiler/steam generator/process heater units, with associated recordkeeping and monitoring
 - Municipal Solid Waste (165 ppmv NO_x at 12% CO₂, 400 ppmv CO at 3% O₂)
 - Biomass (90 ppmv NO_x at 3% O₂, 400 ppmv CO at 3% O₂)
 - All Others (65 ppmv NO_x at 3% O₂, 400 ppmv CO at 3% O₂)
- All NO_x and CO emission limits are based on a block 24-hour average
- Monitoring and recordkeeping requirements

Evaluation of Additional Emission Reduction Opportunities

- Per *2018 PM_{2.5} Plan*, District pursuing the following potential opportunities to reduce NO_x emissions for municipal waste-fired units to the extent that additional NO_x controls are technologically and economically feasible:
 - Lowering NO_x limit for units fired on Municipal Solid Waste from 165 ppmv @ 12% CO₂ to 110 ppmv @ 12% CO₂ over 24-hr period and 90 ppmv @ 12% CO₂ over annual period
 - Evaluating feasibility of even lower NO_x limits
- District will also evaluate feasibility of lower NO_x emission limits for other solid fuel fired units

Control Technologies Under Evaluation

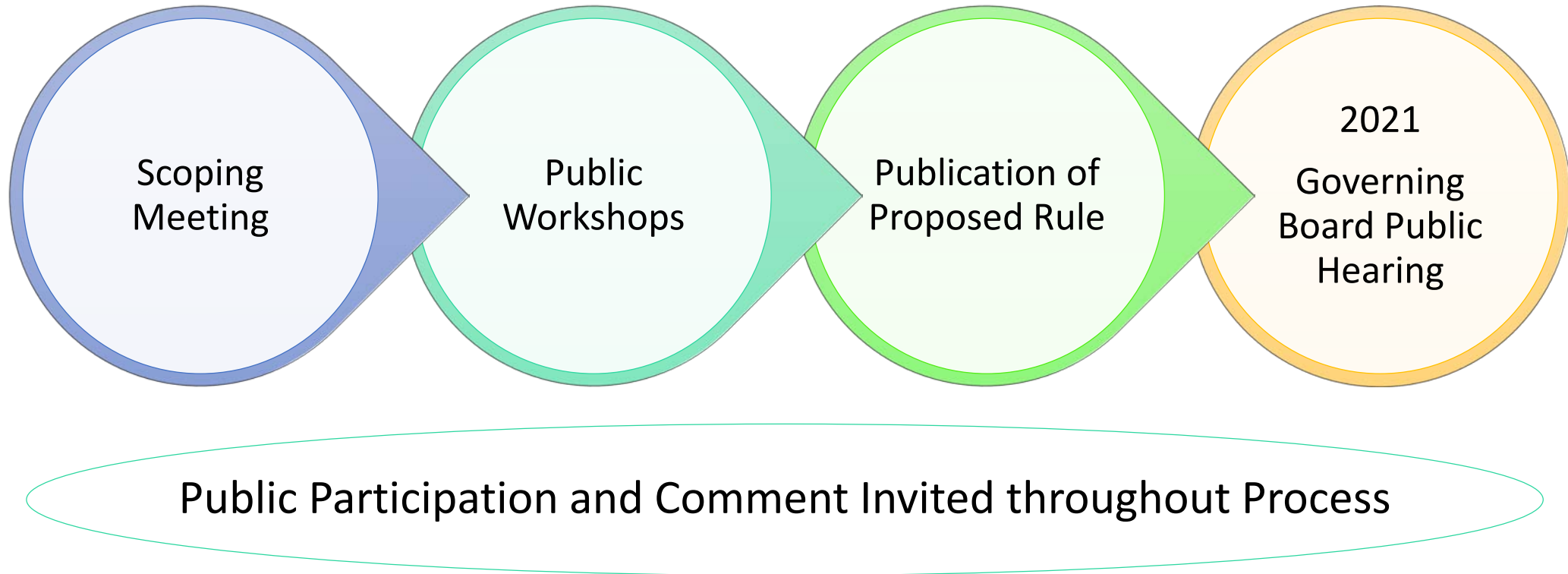
- Selective Non-Catalytic Reduction
- Selective Catalytic Reduction
- Gore De-NO_x Filter Bags
- Covanta LN™



Rule 4352 Evaluation Process

- District staff analyzing technological and economic feasibility of further controls, taking into account costs, cost-effectiveness, and considerations depending on specific type and purpose of unit
 - Costs and feasibility of most effective emission control technologies available
 - Review of requirements in other districts and regions
- Socioeconomic Impact Analysis will be conducted by third-party consultant to evaluate the regional economic impacts of proposed amendments
- Ongoing opportunities for public input
 - Public workshops will be scheduled in 2021
 - Regular updates will be provided at Citizens Advisory Committee (CAC), Environmental Justice Advisory Group (EJAG), and District Governing Board meetings
 - Identified as priority through AB 617 community engagement

Next Steps: Public Engagement Process for Rule 4352 Amendments



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Comments/Input/Questions

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