Scoping Meeting for District Rule 4692 (Commercial Charbroiling)

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What is Charbroiling?

- A charbroiler is a cooking device composed of a grill and a heat source, where food resting on grill cooks as food receives direct heat
  - Chain-driven charbroilers: semi-enclosed broilers designed to move food mechanically on a grated grill through the device as the food cooks (common at fast food restaurants)
  - Under-fired charbroilers: similar to a home barbecue, employing a metal grill with a heat source below
- Charbroiling meat is a source of fine particulate matter (PM2.5)

Current District Rule 4692 Requirements

- First adopted in 2002, Rule 4692 (Commercial Charbroiling) limits emissions of VOCs and PM10 from commercial cooking operations
- **Chain-driven charbroilers** are required to be equipped and operated with a certified catalytic oxidizer control device
- **Underfired charbroiler** owner/operators are required to submit a one-time report to District
  - Permit Exempt Equipment Registration (PEER) is required for units that cook more than 400 lbs of meat per week, or more than 10,800 lbs of meat per year
  - Recordkeeping is required

Further Emission Reductions Needed from Commercial Underfired Charbroilers

- Valley's challenges in meeting federal air quality standards unmatched due to unique geography, meteorology, and topography
- Air quality modeling shows that emissions reductions from commercial charbroiling sources are critical for Valley's attainment of health-based federal PM2.5 standards
- *2018 PM2.5 Plan* includes commitments to evaluate potential emission reductions from underfired charbroiling sources through a combined incentive-based and regulatory approach

Commercial Charbroiling Emissions Inventory (tons per day)

Annual Average							
Year	2013	2017	2019	2020	2022	2023	2024
PM2.5	2.89	3.06	3.16	3.21	3.30	3.36	3.41

Upcoming Rule 4692 Amendment

- Due to enormous amount of emission reductions needed to meet health-based PM2.5 air quality standards, in *2018 PM2.5 Plan* District committed to evaluate amending Rule 4692 to require the installation of control technologies for underfired charbroiling operations in the Valley
  - Collected survey and registration data will be used to evaluate inventory information and number of underfired charbroilers in the Valley
  - Feasibility of potential rule requirements for new and existing commercial cooking operations will be evaluated through technical analysis, including using demonstration data obtained through RCTP-funded projects
- Rule amendment scheduled for 2020, with implementation of new rule requirements to be implemented no later than 2024

Potential Control Technologies

- Mechanical Filtration Systems
  - Banks of filters (pre-filters, metal mesh screens, MERV filters, may have HEPA or charcoal filters)
  - Large footprint: space and weight considerations
  - For wood-fired or highest volume restaurants, may have prohibitively high maintenance costs due to required filter replacement
- Electrostatic Precipitators (ESPs)
  - Prefilters, followed by ESP cells that ionize pollution particles
  - May have self-washing feature for daily maintenance (monthly maintenance required by service company)
- Wet-Scrubbers
  - Prefilters, followed by water wash tank
  - Increased plumbing/water costs
  - Requires maintenance includes changing wash solution, changing prefilters

Estimated Control Technology Costs

- Control unit equipment purchase price
  - Price ranges from $40,000 to $200,000 (increased cost with increased air flow, number of exhaust points, number of hoods, level of smoke/odor control)
  - Purchase of fire-suppression system costs needed for some installations, with unit cost of approximately $10,000
- Additional installation costs
  - Installation costs $10,000 to $50,000 for new construction
  - Retrofit installations costs range from $20,000 to $100,000 or higher, depending on structural and electrical modifications required, or other permitting issues
- Maintenance costs
  - Maintenance, required to ensure control effectiveness, can range from $6,000 to $30,000 or more annually, depending on throughput and fuel source

Potential Feasibility Issues

- Increased installation costs for existing restaurants
  - Installation may require structural, electrical, or water-line modifications resulting in higher costs for existing restaurants compared to new restaurants that can integrate pollution control units into initial construction design
- Structural limitations for existing restaurants
  - Existing structure may not have the necessary space or structural support for a pollution control unit, so retrofit may be technologically infeasible
- Interruption of operations
  - Installation may require the restaurant to temporarily shut down, resulting in loss of revenue
- Prohibitively expensive maintenance
  - Regular maintenance is critical for effective control operation
  - Costs to owners/operators include electricity, water, filter replacement, staff labor, and/or service company costs

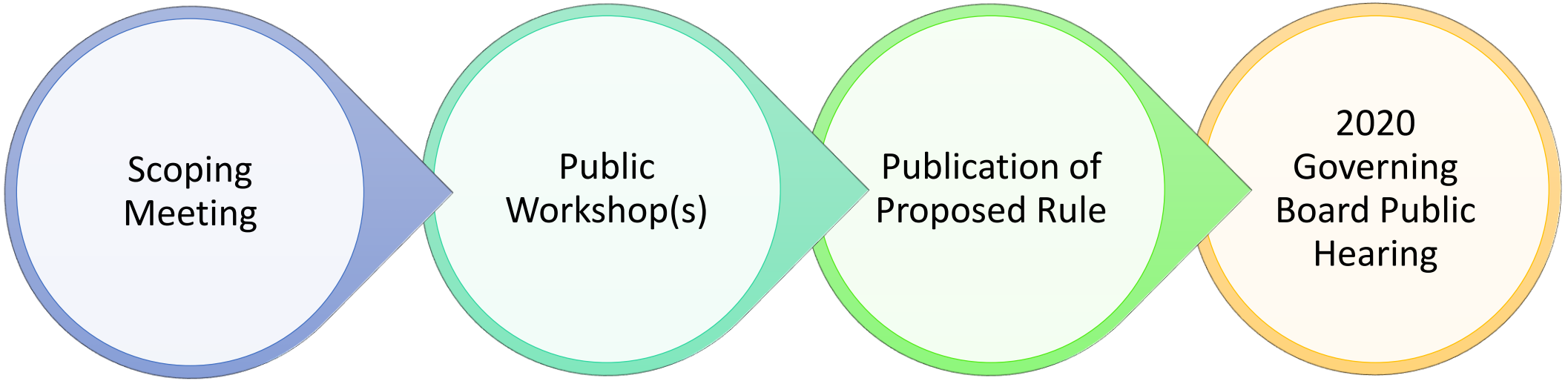
Restaurant Charbroiler Technology Partnership

- Funding is now available for Valley restaurants to install control technology to reduce pollution
- Program will fund **full cost** of purchase, installation, and maintenance of control equipment for two years
- Project participants must meet minimum eligibility
  - Demonstration restaurants must be located in the District
  - Systems should be operated and maintained for two years
  - Restaurants required to make fiscally reasonable efforts to continue operating control equipment after demonstration
  - Funding not be used for day to day operations
- District is actively looking for partners - for more information: http://valleyair.org/grants/rctp.htm

Socioeconomic Impact Analysis for Rule 4692

- Socioeconomic Impact Analysis will be conducted by independent consultant to analyze impacts of proposed regulation on Valley economy
- Recent Request for Proposals (RFP) to select consultant
  - RFP closed November 27, 2019
  - District staff expect to select a consultant by end of 2019
  - Analysis to begin Quarter 1, 2020
- Results of analysis to be publicly available and included with proposed rule amendment package

Next Steps: Public Engagement Process for Rule 4692 Amendment



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Open Discussion

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