

SCAQMD Permit System Modernization: Discussion Concepts

South Coast Air Quality Management District
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Goals

- **Incentivize & Foster Markets for Clean Technologies**
 - E.g. needed to attain federal ozone standards
 - Provide incentives to early adopters
- **Improve Regulatory Certainty and Efficiency**
 - Reduce uncertainty, cost, time and administrative effort in permitting
 - Focus resources to achieve greatest return for pollution-control dollar
- **Support Local Economy and Jobs**
 - Incentivize local manufacture of clean technologies
- **Protect Public Health**
 - Accelerate development and deployment of advanced clean technologies
 - Maintain protections against local public health impacts

Background

- **Need for Advanced Technologies**
 - Basin will need broad use of technologies with substantially lower emissions, including zero and near-zero emission
 - Mobile sources create vast majority of emissions
- **Limitations of Current Permit Programs**
 - Not specifically designed to advance technology to meet attainment needs
 - No significant incentive to control largest emitters— mobile equipment
- **Cost and Availability of Offsets**
 - Cost increased substantially as demand increased and supply diminished
 - Uncertainty of availability and cost hurdles to permitting
- **Limited Public and Private Sector Resources**
 - District continues to seek ways to reduce emissions in most efficient way

Policies

- Seek potential for win-win: benefit environment *and* economy
- No relaxation of health risk limits or emission standards
- Voluntary

Summary of Potential Modifications

- Incentives for permit applications that commit to manufacture, demonstrate or deploy “Advanced Clean Equipment” at permitted facility or elsewhere in District
 - Potential Incentives
 - Access to specific pool of NSR Internal Bank credits
 - Permit exemptions or registration
 - Reduced recordkeeping, monitoring & fees
 - Increased regulatory certainty
 - Public information & recognition
- Replace “BACT discount” with surplus adjustment at time of use for ERCs generated by process changes

“Advanced Clean Equipment”

- Stationary or mobile equipment with—

- 1. *Zero or “Net-Zero” Emissions***

- i.e. zero tailpipe emissions, or emissions no greater than electric equipment in same duty cycle considering emissions from BACT level natural gas power plants

OR

- 2. *Emissions Sufficient for Attainment***

- Emission rate Executive Officer determines likely sufficient for the source category to implement AQMP Black Box
- Default: EO will approve equipment achieving emission reductions beyond adopted rules and programs equal to regional percentage reduction needed to implement Black Box (e.g. 75% NO_x reduction)
- EO may modify above percentage for specific equipment to extent—
 - not technologically feasible by attainment deadline, or
 - additional reductions from that source category will likely be needed (potentially, e.g., on-road equipment)

“Advanced Clean Equipment” (cont’d)

- **Inherently-Clean Equipment**

- Subset of Advanced Clean Equipment will also be designated “Inherently-Clean” if low potential for emission increases due to improper operation
- E.g. units powered by clean energy that do not use aftertreatment
- Eligible for additional incentives (e.g. reduced monitoring, fees, etc)

- **Equipment List**

- District will maintain list of Advanced Clean Equipment types
- To publicize technologies; provide certainty to permit applicants
- Rules would establish open, public, listing process
- Due to challenge of attaining ozone NAAQS, list would initially focus on combustion sources . . .

ADVANCED CLEAN EQUIPMENT: EXAMPLES OF EQUIPMENT POTENTIALLY ON INITIAL LIST

[non-exclusive list; additional detail for each item would be specified in adopted list]

On Road Vehicles

- Hybrid-electric trucks with all electric range (range extender may be powered by fuel cell, batteries, natural gas, diesel or other fossil fuels)
- Battery-electric trucks and automobiles
- Fuel cell trucks and automobiles
- Plug-in hybrid trucks
- Catenary trucks
- Fuel cell or battery-electric transit buses
- Battery-electric motorcycles

Transport Infrastructure

- Hydrogen fueling
- Electric vehicle charging
- Grid electric power for transport refrigeration units at truck stops, ports and railyards
- Catenary truck infrastructure

Cargo and Material Handling Equipment

- Yard hostellers, top and side picks, rubber tired gantry cranes and other equipment powered by electricity, fuel cells, or natural gas with advanced aftertreatment with NOx rates substantially lower than adopted standards
- Flywheel energy storage technologies for gantry cranes
- Electric fork lifts
- Hybrid diggers or dozers

Marine Vessels

- Shore power or equivalent beyond CARB rule
- Hybrid-electric or other harbor craft technologies achieving NOx rates substantially below standards
- Container, tanker and cruise vessels with lower NOx retrofit technologies, e.g. water emulsion fuel additives
- Container, tanker and cruise vessels using fuels other than bunker fuel, e.g. LNG or fuel cell electric power

Rail

- Electric power for transport refrigeration units in railyards
- Hybrid freight or passenger locomotives with all electric range
- Electrified line haul freight or passenger rail (not light rail)
- Battery tender cars to power passenger or freight locomotives
- Natural gas locomotives with advanced aftertreatment achieving NOx rates substantially below standards
- Above strategies for short line rail

Aircraft

- Fuel blends that significantly reduce NOx

Stationary Equipment

- Industrial combustion equipment with NOx rates substantially below adopted standards, or electric powered
- Zero-emission distributed electricity generation
- Electricity storage
- Technological changes at a facility that substantially reduce fossil fuel demand per unit of output

Potential Incentives

Advanced Technology Reserve Credits

- “Advanced Technology Credit Reserve” within NSR Internal Bank
- Credits available for Eligible Permit Applications:
 - 1. *Permit Units that are Advanced Clean Equipment***
 - Applications for permits to construct Advanced Clean Equipment
 - May receive all needed credits, subject to program caps
 - 2. *Research, Development or Manufacturing Operations***
 - Applications for permits to construct or modify permit units used primarily for research, development or manufacture of Advanced Clean Equipment
 - May receive all needed credits, subject to program caps
 - 3. *Applications Committing to Demonstrate or Deploy Advanced Clean Equipment***
 - Applications in which the applicant commits to demonstrate or deploy Advanced Clean Equipment, either at the permitted facility or elsewhere
 - May receive, subject to program caps, amount of credit specified pursuant to criteria in District rules . . .

Advanced Technology Reserve Credits (cont'd)

Amount of Credit for Applications Committing to Demonstrate or Deploy Advanced Clean Equipment

- To incentivize technology advancement, amount of credits could exceed emissions avoided through the Advanced Clean Equipment project, particularly for technologies in early stages of demonstration.
- Amount of credits would be function of—
 1. amount of emissions avoided by the Advanced Clean Equipment project,
 2. potential regional emission reductions if such Advanced Clean Equipment is widely deployed in the future, and
 3. state of commercialization of the technology, giving largest credit to early adopters

Implementation

- **Caps on Credit Withdrawals**
 - For program and for individual permits
- **Advanced Clean Technology Projects to Benefit Clean Air**
 - Focus on impacted communities
 - Emission reductions from Advanced Clean Technology projects would not be used for offsets or deposited into the Internal Bank
- **Offset Generation Requirements Not Applicable**
 - To facilitate demonstration and deployment of Advanced Clean Equipment, emission reductions resulting from deployment of such equipment would not have to meet requirements applicable to generation of NSR offsets
- **Pollutants and Sources Covered: RECLAIM; Power Plants**
 - Reserve would include PM₁₀, NO_x, SO_x and hydrocarbon credits
 - RECLAIM sources would not receive NO_x or SO_x RECLAIM Trading Credits
 - Current thinking: fossil fuel power plants not eligible to receive credits

Other Potential Incentives

- **Low Credit Cost for Applicants that Deploy or Locally Manufacture Advanced Technologies**
 - Advanced Technology Reserve credits would be available for nominal fee
- **Permit Exemption or Registration in Lieu of Permit (for Inherently-Clean Equipment)**
 - Inherently Clean stationary sources would either be exempted from requirements for Districts permits pursuant to District Rule 219, or subject to a simple registration in lieu of permitting (similar to Rule 222)
- **Reduced Monitoring, Recordkeeping, and Fees; Expedited Permit Processing (for Inherently-Clean Equipment)**
 - Applications for permits to construct or operate Advanced Inherently-Clean permit units would be subject to reduced monitoring and recordkeeping requirements, and discounted permit fees
 - District could also provide expedited assistance in preparing any required CEQA documents for permits for which the District is lead agency

Other Potential Incentives (cont'd)

- **Increased Regulatory Certainty**
 - Permitting certainty would be enhanced by availability of Advanced Technology Reserve credits and other incentives
 - District also could state that stationary Advanced Clean Equipment is not expected to be the subject of new rulemakings in next several years for purposes of attaining ambient air quality standards
- **Public Information and Recognition**
 - Advanced Clean Technology list would —
 - publicize availability of clean technologies meeting long-term needs,
 - provide certainty to permit applicants wishing to use them, and
 - assist clean technology manufacturers in reaching out to potential customers

Replace “BACT Discount” With Surplus Adjustment at Time of Use for Credits Based on Process Changes

- BACT discount currently limits potential to generate ERCs by technological changes that reduce emissions from existing sources
- Proposal seeks to incentivize development and deployment of new, cleaner technologies and processes at existing facilities, and increase ERC supply
- Would likely need “surplus at time of use” requirements to take place of BACT discount to ensure compliance with federal New Source Review requirements

Conclusion

- Comments & questions
- Next Steps