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SoCalGas Comments on the CEC MAQCEET (23-ERDD-01)

Additional submitted attachment is included below.

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February 13, 2024

Jonah Steinbuck
Director, Energy Research and Development Division
California Energy Commission
Docket Unit, MS-4
Docket No. 23-ERDD-01
715 P Street
Sacramento, CA 95814-5512

Subject: Comments on the Staff Workshop on Modeling and Monitoring Air Quality and Co-Benefits of Energy Interventions to Inform a Clean and Equitable Energy Transition

Dear Mr. Steinbuck,

Southern California Gas Company (SoCalGas) appreciates the opportunity to provide comments on the January 30, 2024 California Energy Commission (CEC) Staff Workshop on Modeling and Monitoring Air Quality and Co-Benefits of Energy Interventions to Inform a Clean and Equitable Energy Transition (MAQCEET). In response to the discussion questions posed by the CEC to the general public during the workshop, SoCalGas recommends outreach to air quality regulatory agencies like the South Coast Air Quality Management District (SCAQMD), California Air Resources Board (CARB), and U.S. Environmental Protection Agency (EPA). In an appendix, we have described some programs and data files we are aware of at these agencies and hope they will be useful in developing the MAQCEET program. We look forward to the development of the MAQCEET program and support agencies like SCAQMD's inclusion as eligible recipients of the funding.

Respectfully,

/s/ Kevin Barker

Kevin Barker
Senior Manager
Energy and Environmental Policy

Appendix: SCAQMD, CARB, and U.S. EPA Programs

CEC discussion question: ***What ongoing or planned research efforts should this work coordinate with or leverage to help inform research goals and increase the impact of this [the MAQCEET] effort?***[1]

The missions of the SCAQMD and CARB are to protect public health from harmful effects of air pollution, clean the air, and develop programs and actions to fight climate change.[2] Both agencies, along with the U.S. Environmental Protection Agency (EPA) conduct ongoing air quality monitoring and modeling work. SCAQMD also partners with universities, such as University of California, Irvine (UCI) and Riverside (UCR), to conduct modeling and laboratory work.

SoCalGas believes it may be beneficial for CEC staff to connect with this local air district, CARB, and universities to identify existing data and models already in use that may be helpful in meeting the MAQCEET program goals for advancing ambient air quality data and modeling capabilities and analysis, and development of low-cost sensors to assess household indoor air pollution. CEC could then perform analysis that can help to answer policy-relevant questions in regards to Senate Bill (SB) 100 implementation, building electrification, transportation electrification, bioenergy deployments, and distributed generation.

For example, SCAQMD maintains an extensive network of thirty-four air quality monitors in its area of responsibility in Southern California in the counties of Los Angeles, Orange, Riverside, and San Bernardino that provide detailed information on existing sensor hourly data, and sensor locations, measuring the National Ambient Air Quality Standards (NAAQS) criteria pollutants ozone (O_3), nitrogen oxide (NO_2), fine particulate matter ($PM_{2.5}$), and particulate matter (PM_{10}), and carbon monoxide (CO).[3]

SCAQMD also manages a Refinery Community and Fenceline Air Monitoring program which takes real-time observations of air quality at or near the fenceline of all major refineries in the South Coast Basin. Likewise, CARB maintains the California Ambient Air Monitoring Network, which consists of more than 250 monitoring stations across the State. South Coast uses this air monitoring data to determine attainment status of AAQS, assess community exposure, provide real-time air quality information, and validate air quality models and emissions inventories.[4]

[1] CEC, Staff Workshop: Funding to Support Modeling and Monitoring Air Quality and Co-Benefits of Energy Interventions to Inform a Clean and Equitable Energy Transition (MAQCEET), January 30, 2024, presentation available at: https://efiling.energy.ca.gov/GetDocument.aspx?tn=254301.
[2] SCAQMD Goals and Priorities, https://www.aqmd.gov/nav/about/goals-priority-objectives, About CARB, https://ww2.arb.ca.gov/about.
[3] See SCAQMD links #1 to #4. Criteria pollutants monitored vary by monitoring site.
[4] See CARB links #1 to #3.

There are several health and risk assessments programs that the SCAQMD manages which evaluate the impact of toxic air contaminants on human health and may prove helpful to CEC staff. The Multiple Air Toxics Exposure Study (MATES) V Study consists of a fixed air toxics monitoring program, emissions inventory of toxic air contaminants, and modeling effort to characterize carcinogenic risk to public health from exposure to air toxics.[5] Similarly, the SCAQMD Health Risk Assessment (HRA) evaluates how toxic emissions are released and dispersed from a facility and the potential of these pollutants to impact human health. CARB's Criteria Pollutant and Toxics Emissions Reporting (CTR) maintains emissions inventory data of criteria air pollutant and toxic air contaminant emissions data from facilities and supports the Assembly Bill (AB) 617 mandate to reduce the burden of pollution in California disadvantaged communities.

SCAQMD and CARB both have developed dispersion models, Air Quality Dispersion Model (AERMOD) and Hot Spots Analysis and Reporting Program (HARP) Air Dispersion Modeling and Risk Tool (ADMRT), respectively. AERMOD uses meteorological data to simulate the transport and dispersion of emitted pollutants.[6] ADMRT is part of the larger HARP suite of software tools which addresses the requirements of the Air Toxics "Hot Spots" Program per AB 2588. [7] ADMRT runs air dispersion modeling and calculates health risks. The HARP tools can be used by air quality management districts and individuals for conducting health risk assessments.[8] Both dispersion models are available for public use. The U.S. EPA also has various recommended air quality models (dispersion models, photochemical models, and receptor models) that are designed to characterize primary pollutants that are emitted into the atmosphere and secondary pollutants that are formed as a result of chemical reactions within the atmosphere.[9]

Finally, SCAQMD has a program called the Air Quality Sensor Performance Evaluation Center (AQ-SPEC)[10] to evaluate commercially available low-cost air quality sensors (defined as those which cost less than $2,000) which measure criteria pollutants Low-cost air quality sensors provide local environmental groups and individuals a means to evaluate air quality, however, there was previously no standard on which to evaluate precision and overall quality of the sensors. The AQ-SPEC program was created to fill this gap and could help inform the new low-cost air quality sensor goal in Group #2 of the MAQCEET program.

[5] See SCAQMD links #8 to #10.
[6] See SCAQMD links #5 and #6.
[7] AB 2588 established a statewide program for the inventory of air toxics emissions from individual facilities as well as requirements for risk assessment and public notification of potential health risks. It addresses public concerns that emissions from individual facilities might cause a local concentration of air toxics "Hot Spots" or an elevated risk of adverse health effects.
[8] See CARB links #4 to #6.
[9] See U.S. EPA links #1 to #3.
[10] See SCAQMD link #7.

AQMD Programs

1. **AQMD Air Quality Data**
    a. https://www.aqmd.gov/home/air-quality/current-air-quality-data
2. **AQMD Monitoring Network Plan**
    a. https://www.aqmd.gov/home/air-quality/clean-air-plans/monitoring-network-plan
3. **AQMD Air Quality Monitoring Studies**
    a. https://www.aqmd.gov/home/air-quality/air-quality-studies/air-quality-monitoring-studies
4. **Rule 1180: Refinery Community and Fenceline Air Monitoring**
    a. https://www.aqmd.gov/home/rules-compliance/rules/support-documents/rule-1180-refinery-fenceline-monitoring-plans
5. **AQMD Air Quality Management Plan (AQMP) Appendix V: Modeling and Attainment Demonstrations**
    a. https://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2022-air-quality-management-plan/final-2022-aqmp/appendix-v.pdf
6. **SCAQMD Met Data for Dispersion Model Applications & AERMOD Dispersion Modelling**
    a. https://www.aqmd.gov/home/air-quality/meteorological-data
7. **AQMD-Sensor Performance Evaluation Program (SPEC)**
    a. https://www.aqmd.gov/aq-spec
8. **Multiple Air Toxics Exposure Study (MATES) V Study**
    a. https://www.aqmd.gov/home/air-quality/air-quality-studies/health-studies/mates-v; MATES VI is underway.
9. **AQMD Health Risk Assessment (HRA)**
    a. https://www.aqmd.gov/home/rules-compliance/compliance/toxic-hot-spots-ab-2588/health-risk-assessment
10. **SCAQMD Risk Assessment (RA) Procedures for Rules 1401 and 212**
    a. https://www.aqmd.gov/home/permits/risk-assessment

CARB Programs

1. **CARB Ambient Air Monitoring**
    a. https://ww2.arb.ca.gov/our-work/programs/ambient-air-monitoring-regulatory
2. **CARB Outdoor Air Quality Standards**
    a. https://ww2.arb.ca.gov/our-work/programs/outdoor-air-quality-standards
3. **CARB Criteria Pollutant and Toxics Emissions Reporting (CTR)**
    a. https://ww2.arb.ca.gov/our-work/programs/criteria-and-toxics-reporting
4. **CARB "Hot Spots" Software**
    a. https://ww2.arb.ca.gov/hot-spots-software
5. **CARB Hot Spots Analysis and Reporting Program (HARP) Air Dispersion Model**
    a. https://ww2.arb.ca.gov/resources/documents/harp-air-dispersion-modeling-and-risk-tool

6. **CARB Air Dispersion Modeling**
    a. https://ww2.arb.ca.gov/sites/default/files/classic/ch/communities/ra/westoakland/documents/appendixb_final.pdf

U.S. EPA Programs

1. **U.S. EPA Air Quality Modeling**
    a. https://www.epa.gov/air-research/air-quality-modeling
2. **U.S. EPA Air Quality Models**
    a. https://www.epa.gov/scram/air-quality-models
3. **U.S. EPA Ambient Air Quality Source Measurement and Emissions Factors Research**
    a. https://www.epa.gov/air-research/ambient-air-quality-source-measurement-and-emissions-factors-research