Pacific Gas and Electric Company ™

John W. Busterud
Director and Counsel
Environmental Affairs

Mailing Address
P.O. Box 7442
San Francisco, CA 94120

Street/Courier Address
Law Department
77 Beale Street
San Francisco, CA 94105

(415) 973-6617
Fax: (415) 972-5952
Internet: JWBb@pge.com

December 14, 2009

Electronically filed on ARB website

Dr. Kevin Kennedy
California Air Resources Board
1001 I Street
Sacramento, CA 95814-2828

Re: Pacific Gas and Electric Company's Comments on the California Air Resources Board's Staff's November 16, 2009 Workshop on Cap-Setting and Data Review

Dear Dr. Kennedy:

Pacific Gas and Electric Company ("PG&E") welcomes the opportunity to provide these comments on the issues raised at the California Air Resources Board Staff's ("ARB") November 16, 2009 workshop, regarding setting the cap and scope of California's greenhouse gas ("GHG") cap-and-trade program under AB 32.

PG&E is committed to working with the ARB, other State agencies and concerned stakeholders to make AB 32 a success and a model for emerging regional and national programs to reduce emissions of greenhouse gases. We commend ARB Staff for their efforts on cap-setting for a California cap-and-trade market.

PG&E's goals are sustained emission reductions at manageable costs to our customers. PG&E supports a rigorous analysis of the impacts of various emission trajectories over 2012-2019, including a detailed assessment of abatement costs, availability, and lead-time for each program or project type. PG&E is therefore encouraged by ARB's suggested compliance pathway scenario analysis to ensure that the cap is reasonable and can be achieved in each period. PG&E notes that the U.S. Climate Action Partnership ("USCAP) Blueprint emphasizes that the trajectory is part of a comprehensive package of measures, focusing on costs:

> "[I]t is imperative that the costs of the program are manageable. The costs will depend significantly upon the combination of emission reduction targets and the level of offsets that are permitted … and the effectiveness of other cost-containment measures. USCAP believes the [emission] targets recommended above are achievable at manageable costs to the economy *provided*

> *hat* the offsets and other cost-containment measures we recommend … are enacted…"[1/]

PG&E believes that "offsets and other cost-containment measures" in California's cap-and-trade market are critical, especially during the first compliance period. California is in an economic recession. It is essential to be mindful of the potential impacts of AB 32 so that the cap-and-trade market be designed in a way that ensures the environmental integrity of the program while managing costs for California consumers and businesses. PG&E recommends that the ARB assess the trajectory of the cap in light of the availability of offsets and cost containment measures to ensure that costs to Californians are manageable.

Treatment of Small Natural Gas Consumers in Cap-and-Trade: Discussion at the workshop raised the question of whether small natural gas consumers should be included in the cap-and-trade program in 2015, as currently proposed, or from its beginning in 2012. ARB Staff's Preliminary Review Draft of its proposed cap-and-trade regulations poses the same question.[2/]

Of the alternatives available to regulate and control GHG emissions, PG&E supports the use of a well-designed cap-and-trade market, and generally favors bringing into it as many sectors as practical. However, for natural gas, there is a natural division between large consumers and small consumers. We recommend bringing large consumers into the market from the outset, as currently proposed, but do not support bringing small consumers into the market in 2012.

Many small natural-gas consumers have already availed themselves of no-cost and low-cost energy efficiency measures. There are relatively few other emission-reducing options. Those options can best be implemented through a well-integrated set of programmatic measures, which would include state appliance and building efficiency codes and standards, complementary utility or third-party customer energy efficiency programs, and point-of-sale energy efficiency programs. One remaining short-run option is price-induced conservation, which is of limited effectiveness in cutting emissions. For example, a paper by Dr. Boyce of the Economic and Allowance Advisory Committee and his co-worker cites an estimate of -0.2 for short-run price elasticity of natural gas demand, meaning that a 10% increase in retail natural gas prices will cut its use by only 2%.[3/] Including that demand from the beginning of the cap-and-trade market may make the market more vulnerable to prolonged periods of high allowance prices. PG&E suggests that, for an initiative like California's cap-and-trade program, it is advisable to begin with a focus on sectors that have greater short-run price elasticity than is the

---

1/ USCAP Blueprint, p. 5, emphasis in original, downloadable at http://www.us-cap.org/pdf/USCAP_Blueprint.pdf

2/ ARB "PRELIMINARY DRAFT REGULATION FOR A CALIFORNIA CAP-AND-TRADE PROGRAM" Preliminary Review Draft, November 14, 2009, p. 37.

3/ James K. Boyce and Matthew Riddle, Political Economy Research Institute Working Paper 150, p. 10, downloadable at http://www.peri.umass.edu/fileadmin/pdf/working_papers/working_papers_101-150/WP150.pdf.

case for natural gas. For example, Dr. Boyce's paper includes an estimated short-run elasticity of -1.3 for industrial goods and -0.26 for transportation fuels.

Threshold for Peaking Electric Generators: The scope table includes a proposed threshold of 25,000 metric tonnes per year for direct regulation under the cap-and-trade program. Natural gas users with emissions below that threshold would pay a CO2 price through their tariff rates for natural gas delivery, beginning in 2015. PG&E agrees with Southern California Edison that this proposal "creates unnecessary complications and raises a number of difficult questions".[4/]

One unnecessary complication is increased emissions at high CO2 prices. At a high CO2 price, a natural-gas-fired gas-turbine ("GT") peaker with emissions below the threshold could have a running cost lower than that of a gas-fired combined cycle power plant ("CC"). In consequence, the GT peaker would be ahead of the CC in the dispatch order, and emissions would increase, exactly opposite of the public-policy goal.

For example, consider a CC with a heat rate of 7 MMBtu/MWh and an emission rate of 370 kg per MWh, compared to a GT peaker with a heat rate of 10 MMBtu/MWh and an emission rate of 530 kg CO2 per MWh. Before cap-and-trade begins, at a spot gas price of $5/MMBtu, the CC would have a running cost of about $35/MWh, and the GT peaker would have a running cost of about $50/MWh. The result is that CC would operate before the GT peaker, which is the preferred result from both economic and environmental perspectives. During 2012-2014, the CC would pay a CO2 cost but the GT peaker would not, so long as its emissions were below the 25,000 ton/year threshold. If the CO2 cost rose above $40/ton, the running cost of the CC would rise above $50/MWh. At that point it would surpass the running cost of the GT peaker. The GT peaker would be chosen to run ahead of the CC, resulting in increased emissions.

The unfortunate outcome of increased emissions would become less likely, but still possible, during the second compliance period. At that time, GTs would pay a CO2 cost embedded in their tariff rates for natural gas delivery from their gas Local Distribution Company. However, CCs would be operated based upon the spot price of CO2, which would vary daily, and might increase due to market abnormalities.

A modern 50 MW GT peaker could operate up to about 10-11% capacity factor without reaching the 25,000 ton/year threshold. The 25,001st ton emitted in any year would put a peaker into self-compliance. The variable cost for that 1 MWh would be 25,001 tons times the GHG allowance price. That discontinuity in price might cause abnormalities in the electricity market.

ARB can avoid these issues by lowering the threshold so that the peakers are directly regulated in the cap cap-and-trade program from its beginning in 2012. One option is to reduce the threshold to 10,000 tons per year. Another option is the approach in HR 2454 (The

---

4/ Comments to ARB by Southern California Edison http://www.arb.ca.gov/lists/june5-reporting-ws/10-sce_comments_to_carb_on_reporting_and_verification_7-9-09.pdf page 2.

"American Clean Energy and Security Act of 2009"). In HR 2454, all fossil-fueled generators that produce electricity for sale are directly regulated, except for (1) any cogenerator smaller than 25 MW that sells one-third or less of its electric output and (2) any generator that combusts materials of which more than 95 percent is municipal solid waste on a heat input basis.

Thank you for the opportunity to submit these comments. We look forward to working constructively with ARB, other state agencies, concerned stakeholders, and members of the public to tackle the challenge of global climate change and to ensure the successful implementation of AB 32.

Very truly yours,

/s/

John W. Busterud

JWB:kp