BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

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Order Instituting Rulemaking to Implement the Commission's Procurement Incentive Framework and to Examine the Integration of Greenhouse Gas Emissions Standards into Procurement Policies	R.06-04-009

REPLY COMMENTS OF THE ENERGY PRODUCERS AND USERS COALITION AND THE COGENERATION ASSOCIATION OF CALIFORNIA ON THE TREATMENT OF BOTTOMING-CYCLE COGENERATION

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June 8, 2007

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Pursuant to the Administrative Law Judge's Ruling in this matter,[1] the Energy Producers and Users Coalition[2] and the Cogeneration Association of California[3] (EPUC/CAC) hereby file these reply comments on the issue of how carbon emissions are calculated for a bottoming-cycle cogeneration facility.

In these comments EPUC and CAC reply to the comments filed by the Natural Resources Defense Council (NRDC) on the petition for modification filed by EPUC/CAC. The decision in this matter adopting the EPS adopted a methodology for allocating the emissions of a cogeneration unit between its useful energy outputs ("the Cogeneration Methodology"). But because

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1 Issued March 27, 2007.

2 EPUC is an ad hoc group representing the electric end use and customer generation interests of the following companies: Aera Energy LLC, BP West Coast Products, Chevron U.S.A. Inc., Shell Oil Products US, THUMS Long Beach Company, and Occidental Elk Hills, Inc.

3 CAC represents the power generation, power marketing and cogeneration operation interests of the following entities: Coalinga Cogeneration Company, Mid-Set Cogeneration Company, Kern River Cogeneration Company, Sycamore Cogeneration Company, Sargent Canyon Cogeneration Company, Salinas River Cogeneration Company, Midway Sunset Cogeneration Company and Watson Cogeneration Company.

bottoming-cycle units only have one useful energy output (electricity) the application of the methodology does not make sense. Although NRDC suggests a method for deriving numbers that can be fed into the formula, the application of the cogeneration methodology to bottoming-cycle cogeneration is not practical from a policy standpoint.

The calculation of a carbon emissions rate per kilowatt-hour is very straightforward for conventional generation. The rate is calculated as the total carbon input from the input fuel divided by the unit's electric output. Notice that the calculation does not assign part of the emissions to the exhaust gas exiting to the atmosphere or to the waste heat given off by the generator's cooling tower. The calculation only assigns emissions to the *useful* energy output.

That calculation issue becomes more complex when applied to cogeneration units, which have both power and thermal outputs. The purpose for the Cogeneration Methodology is to allocate the total emissions between two useful energy outputs. It does not allocate emissions among both useful energy outputs and the remaining energy exhausted as heat through the flue.

The calculation issue becomes even further complicated in the case of bottoming-cycle facilities. Bottoming-cycle facilities have only one useful output. FERC's definition of bottoming-cycle facilities in 18 CFR 292.305 is clear that while topping-cycle units have both a useful thermal output and a useful power output, bottoming-cycle facilities only have a useful power output. Therefore, there is no allocation required between multiple types of useful energy output.

What NRDC proposes is to allocate the total emissions of the bottoming-cycle unit between the useful power output and the waste heat exhausted to the atmosphere. NRDC is correct in reporting that EPUC/CAC understand how to perform the calculation using the input numbers proposed by NRDC. However, that does not mean the application of the methodology makes sense. In assigning part of the emissions to the waste heat exhaust, NRDC would treat bottoming-cycle differently than topping-cycle cogeneration and conventional generation.

Beyond these policy issues, one of the mechanistic problems with the NRDC approach is determining the amount of heat energy removed from the flue gas by the waste steam generator to make the electricity. NRDC's method would assume that the conversion of heat energy to electric energy is done with 100% efficiency. That only enough heat is removed by the waste steam generator to make the 35 MW of electricity. Because that conversion process is not 100% efficient, more than 3413 btu/kwh are removed to make a kwh.

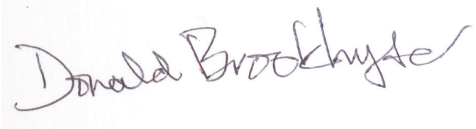
What we propose is simple. If no supplemental firing is used, then all of the emissions from the process are assigned to the industrial process, such as calcining.

If there is supplemental firing, then the incremental generation produced by the supplemental firing is determined. The emissions attributable to the natural gas used in the supplemental firing would then be divided by the incremental generation produced, yielding an emissions rate for the supplemental firing.

This reflects the reality of the situation, that the emissions are being produced by the calcining, regardless of whether any electricity is produced. Unlike a topping-cycle facility, the production of power and thermal energy are not sequentially linked. If the power generation function were to not satisfy the EPS and be discontinued, the calcining would continue and the same emissions would be made.

June 8, 2007

Respectfully submitted,



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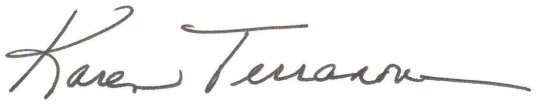
CERTIFICATE OF SERVICE

I, Karen Terranova hereby certify that I have on this date caused the attached **Reply Comments of the Energy Producers & Users Coalition and Cogeneration Association of California on the Treatment of Bottoming-Cycle Cogeneration** in R.06-04-009 to be served to all known parties by either United States mail or electronic mail, to each party named in the official attached service list obtained from the Commission's website, attached hereto, and pursuant to the Commission's Rules of Practice and Procedure.

Dated June 8, 2007 at San Francisco, California.



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