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BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

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

Rulemaking 06-04-009
(Filed April 13, 2006)

**ADMINISTRATIVE LAW JUDGES' RULING
REQUESTING COMMENTS ON MODELING-RELATED ISSUES**

1. Summary

This ruling requests comments on the Energy and Environmental Economics, Inc. (E3) modeling methodology, a California Public Utilities Commission (Public Utilities Commission) Staff workpaper on available emission reduction measures, and any overall comments that parties may have on E3's model. E3's model documentation describes the modeling methodology and data sources used by E3, along with preliminary numerical input assumptions and preliminary model results. Parties are requested to provide comments on the modeling methodology and data sources as described in the E3 model documentation. Parties will also be provided an opportunity to comment on E3's specific numerical input assumptions and model results, which are in the process of being finalized and will accompany a supplementary ruling. As noticed previously, a workshop on modeling issues will be held November 14, 2007 at the Public Utilities Commission in Hearing Room A. Parties are requested to provide comments on all issues related to modeling work

developed so far, as detailed in this ruling, by December 7, 2007, with reply comments due on December 21, 2007.

2. Background

On July 6, 2007, the Public Utilities Commission signed a contract with E3 as the prime contractor to develop an electricity sector model for evaluating greenhouse gas (GHG) policies. This project is being overseen by a multi-agency staff team that includes, in addition to Public Utilities Commission staff, representatives of the California Air Resources Board (ARB) and the California Energy Commission (Energy Commission).

The purpose of this project is to produce a tool by which the impact of alternate policy means to achieving emissions reductions within the electricity sector under Assembly Bill (AB) 32 may be quantified. The modeling effort seeks primarily to provide insights about the relative cost-effectiveness of GHG abatement measures available within the electricity sector, as well as the overall cost impacts of achieving GHG targets of varying stringency within the 2020 timeframe. The insights from this modeling effort will also inform ARB's macroeconomic modeling of the broader economic impacts of potential GHG emission reduction measures across all sectors in the California economy. The collective insights gained from the electricity sector and macroeconomic modeling will position ARB for making better-informed decisions about assigning sector- and entity-level GHG emission reduction obligations.

On September 21, 2007, Public Utilities Commission Staff hosted a workshop in which E3 presented its preliminary approach and plans for modeling of the electricity sector options for compliance with AB 32. In general, E3 plans to divide its analysis into two stages. The first stage is to be completed in November 2007 and the second stage will be completed by April or May 2008.

In Stage 1, E3 will develop several scenarios to model a range of GHG emission reductions for the entire electricity sector and associated cost impacts. To date, E3 has developed supply curves for available emission reduction measures in the electricity sector. E3 has produced a beta version of its “GHG calculator,” which is a spreadsheet model publicly-accessible to stakeholders for evaluating different policy options. The available results in this spreadsheet model will be tested against the more detailed analysis produced by a production cost model (PLEXOS) that will be used to validate potential outcomes. In Attachment B, E3’s modeling documentation describes in detail, the modeling methodology and data sources that E3 will utilize to estimate the potential for GHG emission reductions on a sector-wide basis for the electricity sector. This documentation is also available on E3’s web site at the following location:

http://www.ethree.com/cpuc_ghg_model.html. Finally, E3 has posted a preliminary version of its GHG Calculator (spreadsheet model) on the same web site given above.

Given the centrality of GHG policy to the future of California’s electricity sector and economy as a whole, this modeling effort will emphasize the importance of stakeholder communications and input. E3 has sought in all instances to use publicly available data sources, and we now provide opportunity for stakeholder weigh-in on the assumptions underlying the models’ functionality. E3 is still in the process of finalizing the numerical input assumptions and model results for Stage 1 and anticipates posting these to its website on or about November 16, 2007. A subsequent ruling will provide parties with an opportunity to comment on E3’s Stage 1 numerical input assumptions and model results.

Alongside E3's work, Public Utilities Commission Staff has developed a general issue paper that sets forth a brief summary of relevant policy efforts in place affecting emission reductions from the energy and natural gas sectors and provides preliminary discussion of potential sources of emission reduction above current policy. The intent of this work product is to build consensus among parties regarding the principal opportunities for direct emission reductions originating within the electricity and natural gas sectors, and provide a starting point for discussion of the technical and policy issues underlying such actions.

3. Questions to be Addressed in Comments

In this ruling, we seek comment on the methodology, structure, and approach E3 has taken to developing this model, as well as the model itself. In a subsequent ruling, parties will have an opportunity to comment on the numerical input assumptions and model results. E3's modeling documentation is included in Attachment B of this ruling and may also be found on E3's website along with a preliminary version of E3's GHG Calculator. The final numerical input assumptions and model results for Stage 1, which will supersede the preliminary values included in the current model documentation, are expected to be posted to the E3 website on or about November 16, 2007. This supplemental documentation is expected to be much briefer in length than the model documentation that accompanies this ruling, and will consist primarily of summary tables.

We also seek comment on the Public Utilities Commission Staff workpaper entitled "Greenhouse Gas Emissions Reduction Measures for the Electricity and Natural Gas Sectors Under Consideration as Part of R.06-04-009," which is included in Attachment A of this ruling.

A set of questions is included below for convenience and to guide feedback. Parties may, but are not required to, respond to some or all of these questions. The questions are designed to assist parties in preparing comments on the content of the attachments to this ruling.

Questions Related to Attachment A, Identification of Emission Reduction Measures

- Q1. Does Attachment A cover all of the viable emissions reduction measures available in the electricity and natural gas sectors? If not, what other measures should be considered for the purposes of forecasting emissions reduction potential within these sectors? Please include suggested data sources and references for information regarding any additional measure you propose.
- Q2. Are there emission reduction measures identified within Attachment A that you believe, based on currently available information, should not be implemented as a means to achieving emission reductions within the context of AB 32? Please justify your answer.
- Q3. What means beyond policies currently adopted by the two Commissions hold potential for the delivery of additional energy efficiency?
- Q4. What means beyond policies currently adopted by the two Commissions hold potential for the integration of additional renewable resources into the grid?
- Q5. How might an emissions reduction strategy within the electricity sector be targeted to displace the most carbon intensive aspects of California's electricity resource mix?

Questions Related to Attachment B, Modeling Approach and Data Sources

- Q6. Does E3's modeling documentation adequately document the methodology, inputs, and other

assumptions underlying its model? If not, what additional documentation should be added?

- Q7. Provide feedback, as desired or appropriate, on the structure and approach taken by E3 in its GHG Calculator spreadsheet tool.
- Q8. Provide feedback, as desired or appropriate, on the data sources used by E3 for its assumptions in its issue papers. If you prefer different assumptions or sources, provide appropriate citations and explain the reason for your preference.
- Q9. Are uncertainties inherent in the resource potential and cost estimates adequately identified? Does E3's model provide enough flexibility to test alternative assumptions with respect to these uncertainties?
- Q10. Has the E3 model adequately accounted for the implications of increased reliance on preferred resources (renewables, efficiency) on system costs?
- Q11. Should E3's model, in Stage 2, attempt to model potential market transformation scenarios, in the form of cost decreases, new technologies, or behavioral changes? What might be an appropriate way to characterize such potential for market transformation?
- Q12. What specific flexible GHG emission reduction mechanisms to mitigate the economic impacts of achieving the desired GHG emission reductions should be modeled in Stage 2?
- Q13. What output metric or metrics should be utilized to evaluate the least cost way to meet a 2020 emission reduction target for the sector?

Parties are also invited to comment on any other aspect of the materials included or cited in this Ruling.

4. Upcoming Workshop

On November 1, 2007, Public Utilities Commission staff provided email notice to parties of record in Rulemaking (R). 06-04-009 that a workshop will be

held commencing at 10:00 a.m. on November 14, 2007 at the Public Utilities Commission Hearing Room A, 505 Van Ness Avenue, San Francisco, California. At this workshop, E3 will present its work thus far on modeling GHG policies in the electricity and natural gas sectors. Parties will have an opportunity to ask questions and provide comments on the approach. This workshop will also be webcast. A draft agenda and instructions for accessing the webcast will be posted on the Public Utilities Commission website and emailed to the service list in this rulemaking in advance of the workshop.

5. Filing Requirements

All parties filing comments or replies shall file them at the Public Utilities Commission's Docket Office and shall serve them consistent with Rules 1.9 and 1.10 of the Public Utilities Commission Rules of Practice and Procedure and Resolution ALJ-188. The parties shall serve their comments and replies, on the service list for R.06-04-009 posted at www.cpuc.ca.gov when the filings are made, and shall mail a hard copy of the filings to the assigned Commissioner and assigned Administrative Law Judges.

To support the ability of the Public Utilities Commission and the Energy Commission to develop joint recommendations to ARB, we ask that parties submit their comments and reply comments, both in R.06-04-009 and to the Energy Commission's docket 07-OIIP-01.

Procedures for submitting the filings to the Energy Commission are included here for the parties' convenience. The Energy Commission encourages comments by e-mail attachments. In the subject line or first paragraph of the comments, include **Docket 07-OIIP-01**. When naming your attached file, please include your name or your organization's name. The attachment should be either in Microsoft Word format or provided as a Portable Document File (PDF).

Send your comments to docket@energy.state.ca.us and to project manager Karen Griffin at kgriffin@energy.state.ca.us. In addition to electronic filing, **one paper copy** must also be sent to:

California Energy Commission
Docket Office, MS-4
Re: Docket No. 07-OIIP-01
1516 Ninth Street
Sacramento, CA 95814-5512

IT IS RULED that:

1. As directed in this ruling, parties may file comments on the Public Utilities Commission staff workpaper in Attachment A, the Environmental Economics, Inc. (E3) modeling documentation in Attachment B, the E3 Greenhouse Gas Calculator (posted at http://www.ethree.com/cpuc_ghg_model.html), and the questions included in this ruling by no later than December 7, 2007. Parties may file replies no later than December 21, 2007.

2. Parties shall file their comments and replies at the Public Utilities Commission's Docket Office and shall serve them consistent with Rules 1.9 and 1.10 and Resolution ALJ-188. The parties shall serve their filings on the service list for Rulemaking 06-04-009 posted at www.cpuc.ca.gov when the filings are made, and shall mail a hard copy of the comments to the assigned Commissioner and the assigned Administrative Law Judges.

Dated November 9, 2007, at San Francisco, California.

<u>/s/ CHARLOTTE F. TERKEURST</u>	<u>/s/ JONATHAN LAKRITZ by</u> <u>CHARLOTTE F. TERKEURST</u>
Charlotte F. TerKeurst	Jonathan Lakritz
Administrative Law Judge	Administrative Law Judge

INFORMATION REGARDING SERVICE

I have provided notification of filing to the electronic mail addresses on the attached service list.

Upon confirmation of this document's acceptance for filing, I will cause a Notice of Availability of the filed document to be served upon the service list to this proceeding by U.S. mail. The service list I will use to serve the Notice of Availability of the filed document is current as of today's date.

Dated November 9, 2007, at San Francisco, California.

/s/ KRIS KELLER

Kris Keller