

Rulemaking No.: 04-04-003

Exhibit No.: _____

Date: August 20, 2004

Witness: Amy Roschelle

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking to Promote Policy and
Program Coordination and Integration in Electric Utility
Resource Planning.

Rulemaking No. 04-04-003

**REBUTTAL TESTIMONY OF AMY ROSCHELLE
ON BEHALF OF THE
UNION OF CONCERNED SCIENTISTS**

Dian M. Grueneich
Jody S. London
GRUENEICH RESOURCE ADVOCATES
582 Market Street, Suite 1020
San Francisco, CA 94104
Telephone: (415) 834-2300
Facsimile: (415) 834-2310
E-Mail: jlondon@gralegal.com

For
THE UNION OF CONCERNED SCIENTISTS

August 20, 2004

1 **Q: Please summarize your rebuttal testimony.**

2 A: My rebuttal testimony addresses two issues. First, I respond to Office of
3 Ratepayer Advocate (“ORA”) Witness Logan’s testimony regarding the
4 Commission’s response to the utilities’ long-term procurement plans and
5 specifically his suggested process for Commission review of Pacific Gas and
6 Electric Company’s (“PG&E”) proposed Request for Offers (“RFO”). In
7 particular, I discuss the need to integrate consideration of carbon emission costs
8 into that process. Second, I provide the Commission with additional information
9 regarding climate change and greenhouse gas emissions, and specifically an
10 important new report that was published this week.

11 **Q: What is your understanding of ORA’s recommendation regarding the**
12 **Commission’s response to the utilities’ long-term procurement plans?**

13 A: Mr. Logan’s opening testimony states that with regard to the long-term
14 procurement plans, “no real ‘action items’ are in front of the Commission at this
15 time”.¹

16 **Q: Do you agree with this conclusion?**

17 A: No, I do not. As I explained in my opening testimony, I recommend that the
18 Commission direct the utilities to file supplements to their July 9 plans, due by the
19 end of January 2005, to produce comprehensive and integrated plans by including
20 carbon costs, scenario analyses, a year-by-year account detailing the specific
21 types of resources that will be utilized in the next ten years, among other things. I
22 do not agree with Mr. Logan that “no real action items” are in front of the

¹ ORA Testimony, Witness Logan, p. 3, at lines 10-11.

1 Commission; I believe there are critical action items for the Commission to
2 address and implement.

3 **Q: Please summarize your understanding of ORA’s testimony regarding**
4 **Commission review of PG&E’s proposed Request for Offers (“RFO”)?**

5 A: ORA Witness Logan supports the approval of PG&E’s requested RFO for long-
6 term new capacity.² Mr. Logan refers to PG&E’s proposal to release the RFO this
7 fall and return to the Commission next spring with an application for approval of
8 specific contracts and projects. Mr. Logan states that the application process next
9 year will be the “proper forum to review the proposals for their cost-effectiveness,
10 contractual terms and conditions, cost recovery, ratemaking, and any related
11 issues.”³

12 **Q. Do you have any concerns with Mr. Logan’s proposal?**

13 A. Yes, I do. In my opening testimony, I recommend that if the Commission
14 approves the fall 2004 PG&E RFO, it should first require PG&E to assess the
15 future value-at-risk due to carbon emissions for each bid in that solicitation, and
16 to compare its short-list bids with the cost of other resource alternatives,
17 specifically energy efficiency and renewable energy. I make this
18 recommendation because PG&E’s resource plan filing is silent on consideration
19 of carbon emission costs in the RFO. My concern with Mr. Logan’s proposal is
20 that he would appear to recommend no “up-front” direction to PG&E. He restricts
21 the Commission’s review to an “after-the-fact” review. I recommend that the
22 Commission be more proactive and give PG&E direction now, stating that any

² Id., p. 3 at line 16.

³ Id., p. 3, at line 22 and p. 4, at lines 1-2.

1 RFO bid evaluation must address carbon emission avoidance as well as compare
2 bids to other resource alternatives, particularly energy efficiency and renewable
3 energy.

4 **Q: Is there additional information the Commission should be aware of**
5 **regarding the importance of addressing climate change and greenhouse gas**
6 **emissions in reviewing and approving the utilities' long-term plans?**

7 A: Yes. My opening testimony (as well as that of the Natural Resource Defense
8 Council) demonstrates the need to consider the emissions profile of a utility's
9 resource portfolio when making procurement decisions and projecting future
10 resource needs. On August 16, 2004, after my opening testimony was filed, an
11 important scientific paper was published in the *Proceedings of the National*
12 *Academy of Sciences* which reveals that the impacts of climate change in
13 California are likely to be substantially more severe in a higher greenhouse gas
14 emissions scenario than a lower emissions scenario.⁴ For example, the study
15 predicts that, under a higher emissions scenario, average summer temperatures
16 will rise by as much as 15°F by late-century – nearly double the rise expected
17 under the lower emissions scenario. Warming temperatures will have cascading
18 effects on California's human health, economy, and natural ecosystems. By 2090
19 heat-related mortality in Los Angeles is projected to increase by 5-7 times over
20 historical levels – double the rise expected under the lower emissions scenario.

21 I am concerned that changes to California's hydrological regime will challenge
22 the management of California's reservoirs. The new scientific report finds that

⁴ Hayhoe, K. et al., "Emissions Pathways, Climate Change, and Impacts on California," *Proceedings of the National Academy of Sciences*, August 16, 2004. v. 101, no. 34, p. 12422-12427. <http://www.pnas.org/cgi/reprint/0404500101v1.pdf> (Accessed Aug. 16, 2004)

1 over the next few decades a warming climate could cause a 25-40% reduction in
2 spring snowpack. If greenhouse gas emissions continue at their present high rate,
3 then the snowpack losses by the end of the century could reach as high as 90% -
4 substantially higher than the losses projected under the lower emissions scenario.
5 Declines in snow pack will significantly reduce California's natural water storage
6 capacity and would pose a serious challenge for water resource managers. New
7 problems in water resource management could alter the availability of
8 California's 14 GW of hydroelectric facilities as well as imports of hydro-
9 generated electricity from the Pacific Northwest that are needed to meet not only
10 a substantial portion of California's energy needs, but also to provide quickly-
11 dispatchable energy for load balancing.

12 Another study by the Harvard Medical School highlights the significant public
13 health risks associated with increasing carbon dioxide emissions and climate
14 change. The study finds that "[c]ombustion of fossil fuels (oil, coal and natural
15 gas) is responsible for air pollution and climate change, and air quality is a
16 particular problem for urban centers worldwide."⁵ Among other findings, the
17 study aligns with the referenced scientific paper with respect to heat-related
18 mortality:

19 "The incidence of heat waves in most U.S. cities is expected to
20 approximately double by the year 2050 by current climate change
21 estimates."⁶
22

⁵ Epstein, P. and C. Rogers, "Inside The Greenhouse: The Impacts Of CO₂ And Climate Change On Public Health In The Inner City," Center for Health and the Global Environment, Harvard Medical School, April 2004, p. 4, www.med.harvard.edu/chge/green.pdf

⁶ *Id.*, p. 13.

1 The study provides multi-sector strategies to reduce the public health impacts of
2 climate change at the local level, including reducing fossil fuel use and increasing
3 the use of renewable energy and energy efficiency.

4 In summary, the new evidence presented here highlights that the rate and severity
5 of climate change in California depend on the decisions that lead to greenhouse
6 gas emissions. While California alone cannot stabilize the climate, as the most
7 populous state in the nation and the fifth largest economy in the world, California
8 has a responsibility to take action. With over 30 percent of the state's carbon
9 emissions coming from electric power production, the Commission must develop
10 strong emission reduction strategies for the utilities it regulates.

11 **Q. What emission reduction strategies do you recommend the Commission**
12 **develop?**

13 A. The Commission should issue guidance on greenhouse gas reduction strategies in
14 the near-term (e.g., its December 2004 decision on the utility resource plans) and
15 develop a coordinated policy response for achieving emissions reductions. My
16 opening testimony discusses one important component of such a strategy --
17 incorporating the financial risks of carbon emissions into the planning and
18 procurement process. The long-term plans will serve as the foundation for utility
19 resource procurement, representing substantial acquisition and purchase of
20 capacity and energy. Thus, the long-term plans should ensure that procurement
21 decisions are guided in part by an accounting of the emissions associated with the
22 procured resources and the financial risks associated with those emissions.

23

1 **Q. Does this conclude your rebuttal testimony?**

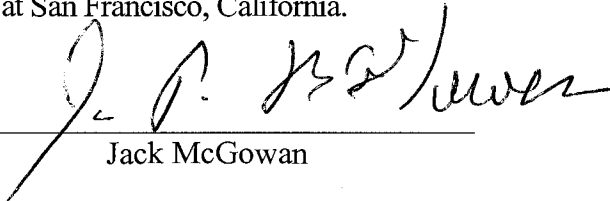
2 **A. Yes.**

CERTIFICATE OF SERVICE

I, Jack McGowan, certify that I have, on this date, caused the foregoing REBUTTAL TESTIMONY OF AMY ROSCHELLE ON BEHALF OF THE UNION OF CONCERNED SCIENTISTS to be served by electronic mail, or for any party for which an electronic mail address has not been provided, by U.S. Mail on the parties listed on the Service List for the proceeding in California Public Utilities Commission Docket No. R.04-04-003.

I declare under penalty of perjury, pursuant to the laws of the State of California, that the foregoing is true and correct.

Executed on August 20, 2004, at San Francisco, California.



Jack McGowan