

Exhibit No.: \_\_\_\_\_

Commissioner: Loretta M. Lynch

Administrative Law Judge: Charlotte TerKeurst

Witness: Gary DeShazo

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

In the Matter of the of Pacific Gas and Electric  
Company for a Certificate of Public Convenience  
and Necessity Authorizing the Construction of the  
Jefferson-Martin 230 kV Transmission Project

Application 02-09-043

**ADDITIONAL REBUTTAL TESTIMONY OF GARY L. DESHAZO  
ON BEHALF OF  
THE CALIFORNIA INDEPENDENT SYSTEM OPERATOR**

**Submitted by the California Independent System Operator**

February 2, 2004

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

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Submitted by the California Independent System Operator

Q. Please state your name.

A. My name is Gary L. DeShazo.

Q. Are you the same Gary L. DeShazo who submitted written pre-filed testimony on behalf of the California Independent System Operator (“CAISO”) on October 10, 2003 and January 5, 2004 regarding CPUC Docket No.A.02-09-043.

A. Yes, I am.

Q. What is the purpose of your rebuttal testimony?

A. The purpose of my additional rebuttal testimony is twofold. First, I want to provide the proper context for the information presented by Jeffrey Shields, President of Utility Systems Associates, Inc., on behalf of 280 Corridor Concerned Citizens (“280 Corridor”), and identified as Exhibit 102. Second,

1 I want to respond to the information presented in the power flow analysis prepared by Mr. William  
2 Stephenson, witness for 280 Corridor, and presented for the first time near the close of hearings on  
3 January 26, 2004.

4  
5 Q. Do you use any specialized terms in your testimony?

6  
7 A. Yes. Unless indicated otherwise, I use capitalized terms as defined in the CA ISO Tariff  
8 Appendix A: Master Definitions Supplement. The Master Definition Supplement is available on the  
9 CA ISO website.

10  
11 I. Rebuttal Testimony: 280 Corridor Concerned Citizens – Jeffrey Shields

12  
13 Q. Please describe the origin of Exhibit 102.

14  
15 A. At face value, Exhibit 102 appears to be a document that was prepared by the CAISO, but I  
16 have not been able to confirm that Exhibit 102 was prepared by the CAISO or otherwise constitutes an  
17 official CAISO document. There is information on the CAISO's public website entitled "Generation  
18 Facilities Summary (2003-04)" ("2003-04 Summary") that essentially shows similar information to  
19 that in Exhibit 102. The "Unit PMAX" values for Hunters Point Unit 1 and Potrero Units 4, 5, and 6  
20 are the same in both Exhibit 102 and the 2003-04 Summary. Therefore, I concur that the Unit PMAX  
21 values in Exhibit 102 for the units I have mentioned matches the current information on the CAISO  
22 public website.

23  
24 Q. Please describe how Unit PMAX information is generally used by the CAISO?

25  
26 A. Unit PMAX corresponds to the capacity maintained for that unit in the CAISO's Masterfile  
27 compiled by the Market Quality group. That Masterfile is used to validate bids in the CAISO's  
28

1 Scheduling Interface. The Unit PMAX values identify the upper limit on the quantity of energy and  
2 capacity that can be bid in CAISO markets for that unit.

3  
4  
5 Q. Does the CAISO use the Unit PMAX for the purpose of transmission planning or for running  
6 load serving capability studies?

7  
8 A. No it does not.

9  
10 Q. Why not?

11  
12 A. As set forth in the CAISO 2003-04 Summary, the Unit PMAX for Hunters Point Unit 1 and  
13 Potrero Units 4, 5, and 6 are listed as 52 MW, 54 MW, 55 MW, and 53 MW, respectively. These  
14 numbers likely reflect the “nameplate” rating of the units. “Nameplate” typically refers to the rated  
15 capability of the unit that is shown on a “nameplate” attached to the unit and reflects the capability of  
16 the unit under optimal operating conditions. The values shown in the 2003-04 Summary and Exhibit  
17 102 fail to take into consideration the effect of changes in ambient air temperatures, which affect the  
18 operating capability of these combustion turbines. As a general matter, the output of a combustion  
19 turbine is related to the ambient air temperature in which the unit is operating. For example, a  
20 combustion turbine will have a lower net output the hotter the ambient air temperature. As I  
21 understand it, the net MW output from these units can range from 48 MW at 80 degrees F to 55 MW  
22 at 40 degrees F. Accordingly, the Unit PMAXs for the Hunters Point and Potrero combustion turbines  
23 (“CTs”) as listed within Exhibit 102 reflect the amount of power that could be attained under  
24 reasonably low ambient temperatures. In contrast, for planning purposes and power flow analyses  
25 within the San Francisco and Peninsula Areas, the CAISO considers the affect of higher ambient  
26 temperatures that are likely to occur during the summer and autumn peak load conditions. This results  
27 in a more accurate measurement of a CT’s typical net output during the relevant summer modeling  
28 period.

1  
2 Q. Taking the affect of ambient temperature on Hunters Point Unit 1 and Potrero Units 4, 5, and 6,  
3 how did the CAISO's transmission planning power flow analyses included in the San Francisco  
4 Peninsula Load Serving Capability Study ("SF LSC Study") model these units?

5  
6 A. The CAISO modeled these generator units at 50 MW in earlier cases and 52 MW in later cases  
7 when conducting its power flow analyses. This can be seen by looking at Case 5 at page 68 of the SF  
8 LSC Study and Case 29 at page 107 of the SF LSC Study. The different values did not change the  
9 study results so the early part of the LSC Study was not rerun at 52 MW.  
10

11 II. Rebuttal Testimony: 280 Corridor Concerned Citizens – William M. Stephenson  
12

13 Q In the first paragraph of Mr. Stephenson's power flow analysis, he concludes that "PG&E will  
14 not experience overload conditions on the north of San Mateo Substation transmission corridor if  
15 either Hunters Point Unit 1 remains in service or the four City and County of San Francisco ("CCSF")  
16 combustion turbines are assumed in service." Focusing on Hunters Point Unit 1 first, do you agree  
17 with Mr. Stephenson's conclusion?

18  
19 A. No, I do not. I think that the analysis needs to be carried a little further and when done so,  
20 Case 1 and Case 5 suggest a different conclusion. Mr. Stephenson's testimony states that Case 1  
21 modifies PG&E's base case (Fall/Spring "low" peak demand forecast, Potrero Unit 3 out, San Mateo-  
22 Martin 230 kV cable out, San Mateo-Millbrae 115kV circuit out, Hunters Point Units 1 & 4 not  
23 generating and no other new generation) by including Hunters Point Unit 1, while Case 5 modifies  
24 PG&E's base case by including Hunters Point Unit 1 as well as the adjusted transmission line ratings  
25 shown in Table 1. The results of Case 1 and Case 5 reported by Mr. Stephenson establish that the  
26 highest loading on a 115 kV circuit within the corridor is 99%. Loading which exceeds 100% of a  
27 facility rating constitutes an overload. Given the inherent uncertainty in any load forecast and  
28

1 especially considering the highly conservative assumptions embedded in PG&E's low demand  
2 forecast used by Mr. Stephenson, a 99% loading on a line represents a reliability concern that common  
3 sense suggests be taken seriously. Ignoring such a reliability concern until the year the facility would  
4 overload is inconsistent with prudent planning standards.

5  
6 In addition, I believe that the results shown in Table 2 suggest that additional scrutiny is  
7 needed. Table 2 states that the information represents "percent loading of the listed facilities." But  
8 percent of what? Although the CAISO has only been provided a short time to review the base case  
9 underlying Table 2 of Mr. Stephenson's study, it appears that the results are based on using the MVA  
10 rating of the highest loaded facility (SFIA(MA)-East Grand). From the power flow, the CAISO  
11 determined that the line loading in Case 5 is 99.5% if one monitors the flow from the "receiving" side  
12 (East Grand), however, that does not represent the standard for reporting line flow when used to  
13 calculate the percent loading as is done in Table 2. Typically, flow from the "sending" end is reported  
14 because it accounts for losses across the line. From the power flow the CAISO determined that the  
15 "sending" end flow is actually 99.7%, or 100% if rounding under the convention reflected in Table 2.  
16

17 I want to be clear that for purposes of my testimony, I am assuming the adjusted line ratings in  
18 my assessment. However, as noted in my rebuttal testimony I still believe that Mr. Stephenson's line  
19 readjustment outcome is has not been demonstrated and I continue to believe PG&E is in the best  
20 position to address what re-rates can be accomplished. As the owner of the transmission facilities,  
21 PG&E is the appropriate entity to assess the viability of Mr. Stephenson's proposal.  
22

23  
24 Q. How do you respond to Mr. Stephenson's conclusion regarding the CCSF CTs?  
25

26 A. I believe that in my earlier testimony I have stated my position on including the CCSF's CTs in  
27 the context of making a "needs" determination on PG&E's application for a Certificate of Public  
28 Convenience and Necessity for the Jefferson-Martin project. The assumption that the CCSF CTs will

1 be constructed and operational by the end of 2005 is contrary to prudent transmission planning  
2 principles, the CAISO's Planning Standards Committee guidelines for modeling new generation, and  
3 the CPUC's *Valley-Rainbow* decision. Under the Grid Planning Policies and Processes, "only  
4 generation that is under construction and has a planned in-service date within the time frame of the  
5 study period should be modeled in the initial power flow case." Generation that has received  
6 regulatory approval can be considered in 10-year planning cases. Similar to the CAISO guidelines, the  
7 CPUC in *Valley-Rainbow* concluded that only "generating units that are under construction or have  
8 received regulatory permits" should be included in the resource mix for transmission planning  
9 purposes." I see no reason to deviate from these standards. Even CCSF, the proponent of the CT  
10 project, admits that the "outcome is far from certain." (See Exhibit 84 at 5:11.) Based on the proper  
11 application of the CAISO Planning Standards and the *Valley-Rainbow* decision, those cases that  
12 include capacity from the CCSF CTs are irrelevant and should be ignored until construction is initiated  
13 or, at a minimum, until permitted by the California Energy Commission.

14  
15 Q. Although not explicitly part of Mr. Stephenson's conclusion in the first paragraph of the power  
16 flow analysis, it appears the point the 280 Corridor is trying to make with Table 2 is that the readjusted  
17 line ratings provide sufficient capacity through the transmission system between San Mateo and  
18 Martin Substations such that the Jefferson-Martin project is not needed to meet 2006 projected load.  
19 Do you agree?

20  
21 A. No, I do not. The power flow analysis submitted by Mr. Stephenson does not address the  
22 emergency overload problems that might occur during summer peak conditions. Case 29 within the  
23 CAISO SF LSC Study clearly shows that during summer peak conditions, even with the Hunters Point  
24 Power Plant Unit #1 online, the resultant load serving capability will be insufficient to meet the  
25 projected 2006 load. Power imported into the San Francisco Peninsula would be limited by the re-  
26 rated capacity of the Newark-Ravenswood 230 kV line which cannot be mitigated by the proposed  
27 emergency ratings as addressed in Mr. Stephenson's testimony. Not enough power can be imported  
28 across San Francisco Bay (through the Newark-Ravenswood 230 kV line with the Tesla-Ravenswood

1 230 kV line out) to serve all San Francisco and Peninsula load in 2006 without Hunters Point Unit 4.  
2 The Jefferson-Martin 230 kV line would function as a parallel circuit with the existing 230 kV lines  
3 into Ravenswood and San Mateo Substations, and therefore will increase the amount of power that can  
4 be imported into San Francisco and the Peninsula while avoiding the potential overloading of the  
5 Newark-Ravenswood 230 kV line. As noted in my initial testimony, without the proposed project and  
6 without Hunters Point Units 1 & 4, the San Francisco Peninsula LSC is 1862 MW with the limitation  
7 located at the Newark-Ravenswood 230 kV line. My initial testimony also shows that with the  
8 proposed project the San Francisco Peninsula LSC increases to 2092 MW. A detailed Table of Results  
9 for these Pre and Post Jefferson-Martin scenarios studied by the CAISO for my initial testimony are  
10 included as Attachments 1 and 2, respectively. The information in these tables demonstrates that the  
11 Jefferson-Martin project relieves limitations across import lines from the East Bay. Therefore, the  
12 proposed project is needed not just for relieving limitations within the San Mateo corridor, but also for  
13 relieving import line constraints that cannot be fixed by 280 Corridor's proposed higher adjusted  
14 ratings for the San-Mateo-Martin transmission system.

15  
16 Q. Do you have any other concerns related to Mr. Stephenson's power flow analysis?

17  
18 A. Yes, I do. As I noted above and as reflected in Attachments 1 and 2, the construction of the  
19 Jefferson-Martin project will increase LSC in the San Francisco Peninsula to meet projected load  
20 growth by relieving constraints to the import capability of the transmission system from the East Bay.  
21 This occurs even with the retirement of Hunters Point Unit 4. Without addressing the import line  
22 constraint, Mr. Stephenson's assumption that Hunters Point Unit 4 may be retired conflicts with prior  
23 CAISO statements regarding the necessary level of in-city generating capacity. For example, in our  
24 April 18, 2003 letter to Mr. Dasso of PG&E and Ms. Mueller of the CCSF (Exhibit 36), we evaluated  
25 the ability to close Hunters Point Unit 4 assuming installation of the CCSF CTs. In that letter we  
26 specified that the installation of the four CCSF CTs (or the equivalent or greater capacity from another  
27 project) must be capable of providing "no less than 495,000MWhrs per year." This number was based  
28 on the 2003 contracted Reliability-Must-Run hours for Hunters Point Unit 4. In 2002, Hunters Point

1 Unit 4 produced 448,371 MWhrs. Under limitations imposed by the Bay Area Air Quality  
2 Management District, Hunters Point Unit 1 can produce a maximum of 45,604 MWhrs per year (52  
3 MWs x 877 hours). Accordingly, if the import capacity is not increased by way of the Jefferson-  
4 Martin project or other transmission reinforcement on the East Bay lines, the ability of Hunters Point  
5 Unit 1 to operate a sufficient number of hours to ensure reliability is questionable if Hunters Point Unit  
6 4 is assumed retired and not replaced by equivalent generating capacity.

7  
8 Q. Are the 280 Corridor's power flow results consistent with their earlier testimony?

9  
10 A. No, I do not think so because the power flow results contradict 280 Corridor's earlier rebuttal  
11 testimony. In the rebuttal testimony at page 5, fig. 4-8(a), Mr. Shields states the relevant load serving  
12 capability ("LSC") is 1563 MW. This number is simply the sum of generating capacity, including the  
13 new CCSF CTs and Hunters Point Unit 1, and transmission capacity of the San Mateo-Martin 115kV  
14 lines after 280 Corridor's re-rate adjustments. Using that methodology, if the CCSF CTs and Hunters  
15 Point Unit 1 were not in service, the LSC should be 1563 MW less 180 MW for the CCSF CTs and  
16 less 50 MW for Hunters Point Unit 1. By Mr. Shield's methodology, this would result in a LSC of  
17 1333 MW. Comparing this number to PG&E's Year 2006 North of San Mateo low load forecast for  
18 Spring/Fall conditions of approximately 1256 MW (this number is roughly 96% of PG&E's low load  
19 forecast of 1306 MW for Year 2006 summer conditions), it would appear that there is sufficient LSC  
20 to reliably meet the load in the area for 2006 because there would be no limitation in the corridor to  
21 limit the LSC. However, the results from Case 4 (this case has approximately 1256 MW load modeled  
22 North of San Mateo) of the power flow analysis show that not to be the case. Case 4, which excludes  
23 the CCSF CTs and Hunters Point Unit 1, but includes the re-rates, shows a significant overload in the  
24 San Mateo-Martin corridor (SFIA(MA) - East Grand 115kV Circuit) suggesting that the LSC of 1256  
25 MW cannot be attained. This result necessarily contradicts their LSC methodology, and illustrates that  
26 the 1563 MW figure relied upon in the rebuttal testimony refers to "transfer capability" and not "load  
27 serving capability".  
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1 Q. Does this conclude your additional rebuttal testimony?

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3 A. Yes. It does.

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**CERTIFICATE OF SERVICE**

I hereby certify that on February 2, 2004, I served electronically the Additional Rebuttal Testimony of Gary L. DeShazo on behalf of the California Independent System Operator in Docket # A. 02-09-043.

DATED at Folsom, California on February 2, 2004.

\_\_\_\_\_/s/\_\_\_\_\_  
Grant Rosenblum  
Regulatory Counsel for the  
California Independent System Operator