

**BEFORE THE  
STATE OF CALIFORNIA  
ENERGY RESOURCES CONSERVATION  
AND DEVELOPMENT COMMISSION**

<b>DOCKET 04-AFC-1</b>
DATE _____
RECD. _____

Application for Certification  
For the San Francisco  
Electric Reliability Project

Docket No. 04-AFC-1

**Motion for leave to file additional testimony on May 11, 2006 and Opening  
Testimony of CARE on Topics under Site Contamination of  
Soil and Water, and Waste Management**

In behalf of CALifornians for Renewable Energy, Inc. (CARE) we provided a request, Pursuant to Title 20, California Code of Regulations, Section 1716.5, that the Commission grant CARE leave to file additional testimony on May 11, 2006 for the topics under site contamination of soil and water, and waste management for the May 22, 2006 evidentiary hearing items. CARE filed Opening Testimony of Clifton Smith REA, along with his resume on April 17, 2006 along with CARE pre-filed testimony and resumes. CARE needs this additional time for the expert we have retained to evaluate the Applicant's forty seven page "Supplemental Testimony" on soil and water, and waste management.

**Opening Testimony on Topics under Site Contamination of  
Soil and Water, and Waste Management**

It has come to our attention that the local community has christened the project site including the adjacent MUNI Metro East project currently under development by the Applicant, the name "Toxic Park". The whole area around Illinois Street from Cesar Chavez to 20th Street has many hot spots and the area in particular where now the MUNI Metroeast Facility is being built sits stark naked in the middle of Toxic Park. The area was used by Santa Fe and others to dump all sort of toxic material. No meaningful clean up of this area has been done.



# CALIFORNIA ISO

California Independent  
System Operator

Terry M. Winter  
President and Chief Executive Officer

April 18, 2003

Mr. Kevin Dasso  
Director, Electric T&D Engineering  
Pacific Gas and Electric Company  
PO Box 770000; Mail Code H11J  
San Francisco, CA 94177-0001

Ms. Theresa Mueller  
Deputy City Attorney  
City and County of San Francisco  
City Attorney's Office  
City Hall, Room 234  
San Francisco, CA 94102

Subject: ISO Management Position on the Retirement of Hunters Point Unit 4

Dear Mr. Dasso and Ms. Mueller:

As you know, uncertainty surrounding the future continued operation of existing generation at Hunters Point Power Plant and Potrero Power Plant Unit 3 is a major consideration in assessing reliability issues in the San Francisco Peninsula Area. While these generating facilities provide a significant amount of load serving benefit to the San Francisco Peninsula Area, their continued operation beyond 2005 is questionable without addressing the upgrades that would be required at these plants to meet new air emission limitations that have been imposed on the Bay Area air quality region. ISO Management believes it is prudent to move forward with the installation of improved air pollution equipment for Potrero Power Plant Unit 3 to assure that there will continue to be base load generation available to serve existing and future Pacific Gas & Electric Company ("PG&E") customers beyond 2005. However, the future need for generation at Hunters Point, specifically Unit 4, continues to remain murky due to its age, the cost effectiveness of investing additional dollars towards upgrading this plant, and local community concerns related to the emissions from the plant.

In response to the uncertain availability of generation within the City of San Francisco ("City"), the ISO is aware of two generation projects that are currently being proposed for location within the San Francisco Peninsula Area. One project is by Mirant, who is proposing to construct Potrero Unit 7, a new 540 MW combined-cycle generating plant located within Mirant's existing Potrero Power Plant site. The ISO has provided testimony at the California Energy Commission Potrero 7 Application for Certification hearings in support of Unit 7 on the basis that it would be a suitable replacement for the aging Hunters Point Unit 4.

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It has come to our attention that the local community has christened the project site including the adjacent MUNI Metro East project currently under development by the Applicant, the name "Toxic Park". The whole area around Illinois Street from Cesar Chavez to 20th Street has many hot spots and the area in particular where now the MUNI Metroeast Facility is being built sits stark naked in the middle of Toxic Park. The area was used by Santa Fe and others to dump all sort of toxic material. No meaningful clean up of this area has been done.

The second proposed generation project is by the City, who, as part of the settlement of a lawsuit brought against the Williams Companies by the State of California and the City, will receive four General Electric LM6000 gas turbines that could be sited at locations within the San Francisco Peninsula Area. The City has informed the ISO of its specific intent to locate these gas turbines in a manner that would enhance the electric reliability of San Francisco and enable the shutdown of Unit 4. Through technical analysis performed in cooperation with PG&E, the ISO has determined that the City's goal can best be served by siting the four Combustion Turbines ("CTs") where they can be directly connected to the existing 115kV transmission network within the City. The City has informed ISO Staff that their ability to site these new turbines within the City is justified if they directly support the retirement of Hunters Point Unit 4. As such, they have requested the ISO to provide them specific, additional conditions under which the ISO would not renew the Reliability Must-Run Contract for Hunters Point Unit 4 if the four CTs were sited within the City of San Francisco. The four CTs represent a total output of 180 MW, an amount slightly greater than the maximum output of Unit 4 (170 MW).

In March 2003, the ISO released a draft report entitled "San Francisco Peninsula Load Serving Capability" which documents a rather significant and comprehensive study mounted by the ISO to address questions being raised by stakeholders relating to San Francisco Peninsula Area load serving capability. The objective of the ISO's study was to provide stakeholders an independent, comprehensive determination of the maximum San Francisco Peninsula Area load serving capability under a multitude of future generation and transmission scenarios. The study provides a broad based understanding of the load serving needs of the San Francisco Peninsula Area and how existing and proposed transmission and generation facilities can reliably serve the load in this area. In particular, the study provides insight into the viability of the request by the City and PG&E to replace Hunters Point Unit 4 with four CTs.

While the ISO's comprehensive San Francisco Peninsula Area load serving capability study provides key load serving information about the San Francisco Peninsula Area, a companion ten-year load forecast for the area is needed to thoroughly assess the City's proposal. PG&E's most recent load forecasts for the San Francisco Peninsula Area have been recently distributed. The ISO has extensively reviewed this forecast and considers it to be representative of the expected "1 in 10 Year" electric demand for the San Francisco Peninsula Area through 2013.

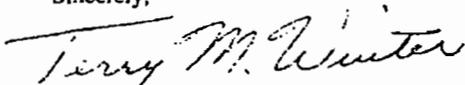
Based on the results of the ISO's comprehensive study, the ISO has concluded that if Hunters Point Unit 4 is retired before 2005, there is inadequate load serving capability to serve the expected load in the San Francisco Peninsula Area unless additional generation and/or transmission reinforcement is constructed to support load growth in the area. In consideration of the request by the City and PG&E, the ISO has evaluated the viability of replacing Hunters Point Unit 4 with the four CTs proposed by the City. Again, based on the results of the ISO's comprehensive load serving study, the ISO has determined that the CTs, if located within the City, would be a suitable replacement for Hunters Point Unit 4, if and only if all the transmission system reinforcements, as indicated in the attached "ISO Terms and Conditions Allowing the Replacement/Shutdown of Hunters Point Unit 4", are completed and placed in-service prior to the retirement of Hunters

Point Unit 4. Once these conditions are met, the ISO will not renew the RMR Contract for Hunters Point Unit 4.

In closing, I want to reiterate ISO Staff comments which have been made to the City of San Francisco, PG&E, and other stakeholders; that the ISO shares the City's and PG&E's desire to retire all generation at Hunters Point in a manner that maintains a level of system reliability which the ISO is charged with providing. The ISO supports the City of San Francisco and PG&E's step-wise approach to addressing the retirement of generation at Hunters Point, and working towards retiring Hunters Point Unit 4 is a first step. ISO Management is expecting a continued, positive working relationship with the City of San Francisco and PG&E towards also addressing and facilitating the ultimate retirement of Hunters Point Unit 1.

If you have any questions, please contact Armando Perez at (916) 351-4400 or Gary DeShazo at (916) 608-5880.

Sincerely,



Terry M. Winter  
President and Chief Executive Officer

Attachment

cc: CAISO Board of Governors  
CAISO Board Assistants  
CAISO Officers  
Armando J. Perez, CAISO  
Gary DeShazo, CAISO  
Richard Cashdollar, CAISO  
Jeanne Sole, CAISO  
Ed Smeloff, City of San Francisco  
Ralph Hollenbacher, City of San Francisco  
David Freeman, California Power Authority  
Dick Ferreira, California Power Authority  
Kellan Fluckinger, California Power Authority  
Manho Yeung, Pacific Gas and Electric Company

**ISO Terms and Conditions**  
**Allowing the Replacement/Shutdown of Hunters Point 4**  
**Through the Installation of Four CTs**

The following list of conditions describes the conditions under which the ISO would not renew the RMR Contract for Hunters Point 4 and allow its retirement. Full completion of these conditions would be required to allow the shutdown of Hunters Point 4: delays, partial completion, or omission of any item may prolong the need to retain Hunters Point 4 as an RMR unit unless agreed to by the ISO.

**Baseline Assumptions**

Hunters Point 4 retirement conditions are predicated on several critical baseline assumptions and present-day elements which are assumed in place at the time of retirement. These are as follows:

1. Potrero Unit 3 (206MW), and Units 4, 5, and 6 (52MW each) remain operational and fully available at their present day capacity.
2. Mirant will complete the installation of the Potrero 3 SCR, expected by second quarter 2005.
3. Hunters Point Combustion Turbine Unit 1 (52MW) will remain operational and fully available at its present day capacity.
4. Hunters Point Units 2 and 3 are fully operational as synchronous condensers, or a comparable replacement of reactive support is installed. A comparable replacement would be PG&E's presently proposed project to install a +240/-100 MVAR Static VAR Compensator at Potrero Switchyard. This project has already been approved by the ISO and is expected to be operational by September 2004.
5. Critical elements of the present-day Greater Bay Area transmission system are available at their present day capacity. For example, it is assumed that existing 115kV internal SF underground cables will not have experienced any permanent failures or abandonment. Alternatively, it is assumed that facilities such as the Tesla 500/230kV transformer #6 are still in service at its present capacity.

## Future Requirements

The following future events and grid upgrades must be completed to allow the retirement and shutdown of Hunters Point Unit 4. It should be noted that any deviations from these required projects may require additional reinforcements to address these deviations.

1. **Installation of four 45 MW combustion turbines electrically connected to the Internal San Francisco 115kV transmission network.** This installation (or an equivalent or greater generation project) must be fully installed and capable of providing no less than 495,000MWhrs per year<sup>1</sup>. The ISO will require overlapping availability of Hunters Point 4 and the new generation project until the turbine project has completed a performance test agreed to be sufficient by the ISO. *Status: On April 10, 2003 CCSF initiated the generation interconnection study for this project and it's various alternatives. Expected completion date unknown, tentatively expected third quarter 2005?*
2. **Newark-Ravenswood 230kV Line Rerate.** PG&E to increase the emergency rating of the Newark-Ravenswood 230kV line using a higher wind speed assumption, and replace 230kV switches. The line's emergency rating will be increased from 2,110 Amps to 2,500 Amps. *Status: COMPLETE, and the CAISO Transmission Registry has been updated.*
3. **Ravenswood-San Mateo 115kV Line Rerate.** PG&E to increase the emergency rating of the Ravenswood-San Mateo 115kV line using a higher wind speed assumption. The line's emergency rating will be increased from 522 Amps to 618 Amps. *Status: COMPLETE, and PG&E has requested the ISO to update the Transmission Registry.*
4. **Tesla-Newark #2 230kV Line Rerate/Upgrade.** PG&E to increase the emergency rating of the Tesla-Newark #2 230kV line using a higher wind speed assumption, and replace 230kV switches. The line's emergency rating will be increased from 1,714 Amps to 1,954 Amps. *Status: UNDER CONSTRUCTION, completion expected May 2003.*
5. **Ravenswood 230/115kV Transformer.** PG&E to Install a new second 230/115kV transformer (420MVA) at Ravenswood. *Status: ENGINEERING & PROCUREMENT, completion expected May 2004.*
6. **San Mateo-Martin #4 Line 60-115kV Voltage Conversion.** PG&E to reconductor and convert the San Mateo-Martin 60kV circuit to 115kV operation. Substation modifications are also needed at Burlingame and Millbrae. *Status: Permit application filed with the CPUC in November 2002; PEA Application deemed complete on March 24, 2003. Expected completion of June 2004 or later depending on permit requirements.*

<sup>1</sup> Based on 2003 Contracted RMR MWhrs for HP4; HP4 2002 actual MWhrs = 448,371.

7. **Potrero-Hunters Point ("AP-1") 115kV Underground Cable.** PG&E to complete construction of a new 115kV underground cable between Potrero and Hunters Point. *Status: PG&E and CCSF are working on a joint project and completing the needed environmental impact report, June 2004 or later depending on permit requirements.*



# CALIFORNIA ISO

California Independent  
System Operator

Lesly M. Winter  
President and Chief Executive Officer

October 22, 2003

*Via Facsimile and US Mail*

Office of Supervisor Sophie Maxwell  
Board of Supervisors of the City and County of San Francisco  
1 Dr. Carlton B. Goodlett Place, Room 279  
San Francisco, CA 94102

**Subject: Request for Additional Information on Shutting Down Generation At the Hunters Point and Potrero Power Plants**

Dear Supervisor Maxwell:

Thank you for your letter dated September 23, 2003, addressing the concerns of the City and County of San Francisco ("City") related to the future operation of generator units within the City. Over the past year ISO staff has spent a great deal of time and effort working with stakeholders representing the City, Pacific Gas and Electric Company ("PG&E"), and many members of the Potrero and Hunters Point/Bayshore communities. The ISO recognizes that there are wide-ranging interests regarding the future of generation at Hunters Point Power Plant ("Hunters Point") and Potrero Power Plant ("Potrero") and that the concerns and issues voiced by all stakeholders are an important part of deciding how best to serve the demand for energy in San Francisco. The ISO staff has participated in numerous community and City forums where our goal has been twofold; 1) Raise stakeholder's technical understanding of how the electrical system within the San Francisco Peninsula Area<sup>1</sup> works to serve the load in this area and 2) Pursue the ISO's mandated mission to assure a reliable transmission system is in place to serve the load.

### San Francisco Peninsula Load Serving Capability Study

In July 2003, the ISO finalized its report entitled "San Francisco Peninsula Load Serving Capability" which documents a rather significant and comprehensive study mounted by the ISO to address questions being raised by stakeholders relating to San Francisco Peninsula Area load serving capability. While the stated objective of the ISO's study was to provide stakeholders an independent, comprehensive determination of the maximum San Francisco Peninsula Area load-serving capability under a multitude of future generation and transmission scenarios, its true value has been to provide stakeholders meaningful information to allow them to make informed decisions. This study, which had broad stakeholder input, is the first of its kind to be performed for this area and has, much to its credit, redefined the technical approach to assessing its reliability needs. PG&E and the City support the study's methodology and it will be the benchmark that

<sup>1</sup> In the testimony for the Jefferson-Martin Transmission Line, currently before the California Public Utilities Commission, the ISO refers to the City and County of San Francisco and the San Francisco Peninsula as the "San Francisco Peninsula Area." For clarity in this letter, the ISO will delineate separately, when necessary, the City, the Peninsula, and the Greater Bay Area even though the City is included in the Peninsula, which is included in the Greater Bay Area.

defines how all transmission assessment initiatives in this area will likely be performed from this point forward. The ISO has relied on this study's results and conclusions in addressing your questions and those of other stakeholders.

#### Retirement of Hunters Point Unit 1 and Unit 4

The ISO acknowledges the importance to the City and its citizens of retiring all generation at Hunters Point as well the City's desire to implement its Electricity Resource Plan. As such, the ISO remains committed to the goal of closing Hunters Point and will continue to work with the City and other stakeholders.

The City and PG&E have reached a conclusion that if all of the conditions outlined in the April 18, 2003 letter are met then Hunters Point Unit 1 can also be retired with Hunters Point Unit 4. The ISO does not agree with this conclusion. The ISO has consistently stated that generation within the City is needed to mitigate local area reliability constraints within the City, the Peninsula, and the Greater Bay Area. Put another way, the need for generation in the City is based not only on load-serving constraints within the City, but also throughout the Peninsula as well as the Greater Bay Area. Constraints outside of the City currently exist; and the ISO's "San Francisco Peninsula Load Serving Capability" study extensively documents them. It is the ISO's position that all constraints must be addressed to determine the need for generation within the City. Consistent with this position, the April 18, 2003, letter appropriately considers the entire Greater Bay Area when it delineates the conditions under which the ISO would not extend the RMR Contract for Hunters Point Unit 4. Without some suitable generation replacement or additional transmission infrastructure beyond what has been identified in the ISO's April 18, 2003 letter, Hunters Point Unit 1 is still needed to meet the local area reliability needs for the City, the Peninsula, and the Greater Bay Area.

The ISO has continued to assess the load serving capability of the City and the Peninsula and has come to the conclusion that in order to meet all grid planning and operational needs in this area approximately 400 MW<sup>2</sup> of generation must be located north of San Mateo. The four proposed combustion turbines being sited at or near Potrero is a necessary component to meeting this generation requirement to assure the future reliability of the City, the Peninsula, and the Greater Bay Area systems. This assessment is what led the ISO to conclude that the siting of four combustion turbines, totaling approximately 180 MW at or near Potrero, while a step in the right direction, is not enough to allow the retirement of all generation at Hunters Point. It is imperative that other transmission additions accompany the siting of the City's combustion turbine project in order to close all generation at Hunters Point.

To this end, the ISO and PG&E have proactively worked together over the past six months to define the necessary transmission additions that support our mutual goal of retiring generation at Hunters Point while maintaining the required level of reliability mandated by the ISO's Planning Standards. The culmination of our joint efforts is reflected in PG&E's near final 2003 ten-year transmission expansion plan, as presented to the stakeholders on October 14, 2003. The 2003 transmission expansion plan includes all transmission reinforcements delineated in the ISO's April 18, 2003 letter as well as other key projects that are necessary to retire all generation at Hunters Point provided the City's combustion turbine project is successfully sited at or near Potrero (see attachment 1). The ISO believes that while maintaining their commitment to retire

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<sup>2</sup> The determination of 400MW was based on the following: 1) expected 2006 system configuration that assumes the Jefferson-Martin Project in-service; 2) a peak weekend San Francisco Forecast of 750MW; 3) and typical San Mateo wash clearance conditions. Changes in system configuration and/or load forecast projections may change the generation need.

Hunters Point, PG&E should remain focused on completing the necessary transmission upgrades/additions they have included in their 2003 transmission expansion plan. The ISO encourages the City and all community members to fully support these projects to assure that they will be completed in a timely manner.

Your September 23, 2003 letter posed several questions that directly relate to the conclusion that the ISO has reached with regard to generation at Hunters Point. Hopefully, our answers to your questions will provide you a better understanding of our position. For your convenience, we have inserted your questions in italics followed by the ISO's answer.

Q1) *Since your April letter outlining the conditions under which Hunters Point (HP) 4 could be released from its RMR contract, PG&E has completed its "San Francisco Internal Transmission System After AP-1 Technical Study." This study shows that under assumed new emergency ratings for the existing cables in the City, the need for local generation to serve internal City needs is substantially decreased. PG&E has also indicated its intention to reinforce the Tesla-Newark 230kv lines by the summer of 2005. Please indicate whether these changing circumstances will also allow the shutdown of HP1 and/or Potrero 3 with the installation of four turbines the City is attempting to install. Would the above answer change if only three turbines are installed? In your answer, please indicate whether the local remaining needs for local generation are dictated by local and Bay Area grid planning, RMR and/or operational needs. Please answer the above both with and without the addition of the Jefferson-Martin transmission project.*

A1) The City's Internal 115 kV Cable System:

To understand the ISO's position on the reliability needs for this area, it is important to understand the context in which PG&E's "San Francisco Internal Transmission System After AP-1 Technical Study" was performed.

The ISO's "San Francisco Peninsula Load Serving Capability" report identified, among other things, the need to address cable constraints internal to the 115kV system within the City. While the ISO's load-serving study assumed that a "cable fix" would be implemented by PG&E, the study did not recommend a specific transmission solution to resolve these constraints. Instead, the ISO recommended that PG&E undertake its own study of the City's 115kV cable system to identify an appropriate cable project to submit to the ISO for approval. PG&E performed the "San Francisco Internal Transmission System After AP-1 Technical Study" but PG&E limited the study's scope to the City's 115kV cable system. As a result, PG&E's study results, conclusions, and recommendations are reflective of that limited scope. While in concurrence with most of PG&E's study recommendations, the ISO has repeatedly stated that the ISO's own load-serving study clearly illustrates that transmission constraints exist not only within the City, but throughout the entire San Francisco Peninsula Area. In fact, the ISO load-serving study concludes that the load-serving capability of the San Francisco Peninsula Area is directly related to the capability of the transmission system in the San Mateo-Martin Corridor, the 230kV system south of San Mateo, and local transmission along the San Francisco Peninsula. The study also concludes that an accurate load-serving capability can be determined only if all San Francisco Peninsula Area constraints are appropriately addressed. Because PG&E limited the scope of their study to the system within the City, it is inappropriate to apply these results to the larger San Francisco Peninsula Area because they overstate the ability to serve load within the City.

#### Without Jefferson-Martin Transmission Line:

Given the above, the ISO has concluded that all generation at Hunters Point can be retired if the following is successfully completed:

- 1) All transmission and generation requirements identified in the ISO's April 18, 2003 letter;
- 2) The Tesla – Newark # 2 - 230kV line bundling is completed; and
- 3) The Ravenswood – Ames 115kV lines #1 & #2 are reconducted.

While the projects mentioned above support the local and Greater Bay Area grid planning standards, RMR requirements, and operational needs of the area, the Tesla-Newark project is key to reducing the RMR requirement within the Greater Bay Area. The Jefferson-Martin Project is a suitable replacement for the Tesla-Newark and Ravenswood-Ames projects from a local and Greater Bay Area grid planning and operational standards perspective, because they increase the transmission capacity through the San Francisco Peninsula. However, these projects have little impact on the RMR need for the Greater Bay Area. Therefore, while all of the projects mentioned above are needed to import the power required to meet area load serving needs, it is the Tesla-Newark project that is needed to effectively reduce the Greater Bay Area RMR requirement that is, in part, being met by the generation located within the City.

#### Installation of Only Three Combustion Turbines:

Given the current PG&E load forecast for the San Francisco Peninsula area, the installation of only three turbines at or near Potrero is not enough to meet the ISO Grid Planning Standards nor to meet the Operational need in the City and Peninsula. A net reduction in generation within the City must be countered by an increased flow of power over the transmission systems leading into and through the Peninsula and the City in order to serve the load in these areas. This added power flow places additional stress on these transmission systems and therefore has the overall impact of advancing the need for additional transmission infrastructure within these areas.

#### Potrero Unit 3:

Based on the generation needs that the ISO has identified, Potrero Unit 3 is required to be in-service. The ISO has not studied retirement of Potrero Unit 3, but it is expected that another 230kV import line similar to the Jefferson – Martin Project would be needed. As such, it is imperative that stakeholders next focus on the future transmission requirements of the Greater Bay Area to assure adequate planning for a robust system that optimizes the generation and transmission service to the City, the Peninsula, and the Greater Bay Area. This work will be carried forward in 2004 through the ISO's San Francisco Stakeholder Study Group. The City and all stakeholders are encouraged to participate in this study group.

- Q2) *PG&E states in its August 5, 2003 letter to "Fellow San Franciscans," that any delays in PG&E projects which require approval by the CPUC "will make it unlikely that the CAISO will allow us to close the Hunters Point Power Plant by the end of 2005." We would like the ISO to allow the shutdown of HP immediately. If this is not possible, we certainly want to avoid the circumstance of*

*PG&E retrofitting HP 4 just before the system additions that allow it to be closed are made. We are concerned that purposely removing HP 4 from service to install retrofits would jeopardize reliability to the City. And doing so just before other improvements are made to the electric system that would remove the need for HP 4 would not be cost effective. Please confirm that the ISO will consider a plan for PG&E to operate the Plant, as needed, through obtaining and utilizing interchangeable emission reduction credits (IERC), until the other improvements are in place.*

- A2) PG&E is correct that any delays in PG&E's proposed projects will impact the continued need to extend the RMR Agreement for Hunters Point Units 1 and 4. The ISO has consistently maintained that the generation at Hunters Point and Potrero play a key role in the overall reliability of this area and believes that the timely completion of PG&E's projects as well as the City's combustion turbine project are necessary components to achieve the retirement of generation at Hunters Point by the end of 2005.

Securing additional IERCs to operate Hunters Point Unit 4 beyond 2005 is the responsibility of PG&E as the plant owner and the Bay Area Air Quality Management District. The ISO would be supportive of any reasonable plan that would allow sufficient time for other transmission and/or generation alternatives to develop and avert a retrofit of Hunters Point Unit 4, provided the City, the communities, and the Bay Area Air Quality Management District are able to settle on a compliance plan. However, there is uncertainty in successfully achieving such a plan. Time is running very short on concrete solutions to this issue and at this point, in order to meet its reliability mandates, the ISO must approve a retrofit of Hunters Point Unit 4.

The ISO urges the City, PG&E, and community members to move expeditiously towards consensus on solutions such as supporting the City's combustion turbine project, the Jefferson – Martin Project, as well as all applicable transmission projects currently included in PG&E's draft 2003 transmission expansion plan.

- Q3) *Similarly, assuming Mirant were able to operate Potrero 3 using IERCs, would the ISO be willing to defer the retrofit of Potrero 3 until a time when the plant could be removed from service for a retrofit at less risk to the reliable electric service in San Francisco? And, to the extent this is not answered above, under what conditions would the ISO agree not to retrofit Potrero 3 and allow it to be retired completely?*

- A3) The answer to this question is similar the ISO's response to question 2. Again, securing additional IERCs to operate Potrero Unit 3 beyond 2004 is the responsibility of Mirant as the plant owner and the Bay Area Air Quality Management District. While the ISO would be supportive of any reasonable plan that would allow additional time to adjust the Potrero Unit 3 retrofit, it is highly unlikely that such alternatives can be secured in time to alter the current Potrero Unit 3 retrofit schedule. PG&E has informed the ISO that it intends to operate Hunters Point Unit 4 through 2005 to allow for the completion of the Potrero Unit 3 retrofit and the Jefferson – Martin, 230kV Transmission Project. However, both of these projects face significant barriers to their successful completion such that their availability by the end of 2005 remains uncertain at best. To defer the Potrero Unit 3 retrofit to a later date is not in the best interests of PG&E's customers. Therefore, the ISO will proceed with the requirement to retrofit Potrero Unit 3.

The ISO urges the City, PG&E, and community members to move expeditiously towards consensus on solutions such as supporting the City's combustion turbine project, the Jefferson – Martin Project, as well as all applicable transmission projects currently included in PG&E's draft 2003 transmission expansion plan.

- Q4) *PG&E has proposed to adopt emergency ratings for the old underground cables in San Francisco. This is consistent with the City's desire to reduce in-City generation. However, we want to ensure that it is also consistent with providing reliable service. Does the ISO believe that this re-rating is appropriate? If this re-rating is adopted, will the ISO require any additional measures to ensure reliability?*
- A4) At this point in time, the ISO does not support the conclusion that PG&E has reached regarding the capability of the cables. These cables are very old and the ISO is concerned that they may be placed in higher stress situations than the engineering and operating assumptions used to calculate the ratings, exposing them to an increased risk of failure. The ISO is currently working with PG&E to resolve the issues surrounding the emergency ratings of the cables in the City. While PG&E retains the right to rate their facilities, the ISO has an obligation to assure itself and all stakeholders that new or changed ratings proposed by PG&E are based on good utility practice and that reasonable engineering and operating assumptions are used. The ISO is currently working with PG&E to clarify the foundational assumptions on which the proposed re-rates are based.

The ISO hopes that the information that has been provided has been informative and will help you in addressing your concerns. If you have any questions, please call Julie Gill at (916) 351-2221 or Gary DeShazo at (916) 608-5880.

Sincerely,

ORIGINAL SIGNED BY

Terry M. Winter  
President & Chief Executive Officer

Cc: Gary DeShazo, ISO  
Julie Gill, ISO  
Kevin Dasso, PG&E  
Edward Smeloff, SFPUC  
Jared Blumenfeld, SFDoe  
Theresa Mueller, Deputy City Attorney  
Barry Flynn, Flynn & Associates

**Attachment 1**  
**Reference List of Projects**

1. **Installation of four 45 MW combustion turbines electrically connected to the internal San Francisco 115kV transmission network.** This installation (or an equivalent or greater generation project) must be fully installed and capable of providing no less than 495,000MWhrs per year<sup>3</sup>. The ISO will require overlapping availability of Hunters Point 4 and the new generation project until the turbine project has completed a performance test agreed to be sufficient by the ISO. *Status: On April 10, 2003 CCSF initiated the generation interconnection study for this project and it's various alternatives. Expected completion date unknown, tentatively expected by end of 2005.*
2. **Jefferson-Martin 230 kV Line Project.** PG&E to increase the import capability into the San Francisco Area through building a new 230 kV line between Jefferson and Martin Substations. This line may be partly or all an underground cable. *Status: This project has been approved by the CA ISO and is presently within the CPUC CPCN process. The line is scheduled to be in Operation by Sept. 2005*
3. **Newark-Ravenswood 230kV Line Rerate.** PG&E to increase the emergency rating of the Newark-Ravenswood 230kV line using a higher wind speed assumption, and replace 230kV switches. The line's emergency rating will be increased from 2,110 Amps to 2,500 Amps. *Status: Completed*
4. **Ravenswood-San Mateo 115kV Line Rerate.** PG&E to increase the emergency rating of the Ravenswood-San Mateo 115kV line using a higher wind speed assumption. The line's emergency rating will be increased from 522 Amps to 618 Amps. *Status: Completed.*
5. **Tesla-Newark #2 230kV Line Rerate.** PG&E to increase the emergency rating of the Tesla-Newark #2 230kV line using a higher wind speed assumption, and replace 230kV switches. The line's emergency rating will be increased from 1,714 Amps to 1,954 Amps. *Status: Completed.*
6. **Tesla-Newark #2 230kV Line Upgrade.** PG&E to increase the rating by completing the bundling of the Tesla-Newark #2 230kV line with 954 ACSS conductor for approximately 8 miles out from Tesla Substation. *Status: Proposed within PG&E's 2003 Transmission Expansion Plan for May 2005 operation.*
7. **Ravenswood 230/115kV Transformer.** PG&E to install a new second 230/115kV transformer (420MVA) at Ravenswood. *Status: ENGINEERING & PROCUREMENT, completion expected May 2004.*
8. **Ravenswood-Ames #1 & #2 115 kV lines Reinforcement.** PG&E to increase the rating of the Ravenswood-Ames #1 & #2 115 kV lines by reconductoring them with 477 ACSS

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<sup>3</sup> Based on 2003 Contracted RMR MWhrs for HP4; HP4 2002 actual MWhrs = 448,371.

conductor. *Status: Proposed within PG&E's 2003 Transmission Expansion Plan for May 2005 operation.*

9. **San Mateo-Martin #4 Line 60-115kV Voltage Conversion.** PG&E to reconductor and convert the San Mateo-Martin 60kV circuit to 115kV operation. Substation modifications are also needed at Burlingame and Millbrae. *Status: Permit application approved by the CPUC in October 2003; Expected completion of June 2004.*
10. **Potrero-Hunters Point ("AP-1") 115kV Underground Cable.** PG&E to complete construction of a new 115kV underground cable between Potrero and Hunters Point. *Status: PG&E and CCSF are working on a joint project and completing the needed environmental impact report, operation is scheduled for June 2004 or later depending on permit requirements.*

Friday 2:30 PM

**ISO GRID PLANNING DRAFT**

February 09, 2004

The objective of San Francisco is to shut down Hunter Point Power Plant. The objective of ISO is to ensure RMR, Operational and Reliability criteria are met.

There are several combinations of transmission and generation projects that appear capable of meeting both set objectives through 2006 (note the conditions). The combinations narrow when considering the conditions and compliance through 2010.

Transmission and Generation Combinations	Release Hunters Point 4 From Its RMR Contract	Release Hunters Point 4 & 1 From RMR Contracts	ISO San Francisco Operational and Reliability Criteria	
			Thru 2006	Thru 2010
Trans + OTP	No	No	No	No
Trans + 4 CTs	Yes	No	Yes	No
Trans + J-M	Yes *	No	Yes *	No
Trans + OTP + 3 CTs	Yes	Yes	Yes	No
Trans + OTP + (3+1) CTs	Yes	Yes	Yes	No
Trans + OTP + 4 CTs	Yes	Yes	Yes	No
1 or 2 CTs + Trans + J-M	Yes *	Yes **	Yes *	No
3 or 4 CTs + Trans + J-M	Yes	Yes	Yes	Yes

Trans - the six PG&E transmission system upgrades noted in April 18, 2003 letter

CTs - the City owned peaking power plants (have not begun permitting)

(3+1 CTs) - 3 CTs cited in the city and fourth at SF Airport

J-M - The Jefferson-Martin transmission project plus two associated transmission projects in Maxwell letter (J-M is in permitting)

OTP - Tesla - Newark #2 230kV Line Upgrade and Ravenswood - Ames #1 & #2 115kV Line Reinforcement

\* Conditioned on using higher emergency ratings transmission internal to the City per a PG&E proposal. ISO and PG&E are currently addressing the viability of using these ratings. Resolution is expected in Q1, 2004.

\*\* Conditioned on new Martin-Hunters Point transmission project going into service in 2007 per PG&E 2003 Expansion Plan. ISO will consider this condition as having been met when the Martin-Hunters Point transmission project is approved by the ISO Board, permitted and in operation. This line is currently scheduled for Q4 2007.

**Further Considerations:**

- o PG&E and the City have an agreement that Hunters Point plants will be shut down when released from RMR contracts.
- o The City may not understand that what is needed to release Hunters Point 4 from its RMR contract may not be sufficient to shut down both Hunters Point 1 & 4
- o The City is contractually obligated to CERS to have purchased land by May 1, 2004. The dates have been extended once. ISO will not include the peakers in its assumptions until they are permitted and under construction.
- o The six PG&E transmission projects identified in Terry Winter's April 18, 2003 letter are or near complete
- o The Jefferson-Martin transmission project is being permitted. ISO includes this project in its assumptions for planning studies.

From: CALIFORNIA ISO

916 351 2350

07/01/2004 11:33 #061 P.002/013

**CALIFORNIA ISO**California Independent  
System OperatorJim Detmers  
Vice President, Grid Operations

July 1, 2004

*Via Facsimile and US Mail*

The Honorable Gavin Newsom, Mayor of the City and County of San Francisco  
Ms. Sophie Maxwell, City and County of San Francisco Board of Supervisors  
Mr. Jeffrey D. Butler, Pacific Gas and Electric Senior Vice President, Transmission and Distribution  
Mr. Ralph Hollenbacher, San Francisco Public Utilities Commission

**Subject: Shutting Down Generation At the Hunters Point and Potrero Power Plants**

Dear Mayor Newsom, Ms. Maxwell, Mr. Butler, and Mr. Hollenbacher:

The California Independent System Operator Corporation ("ISO") has received letters from each of you concerning the shut down of generation at Hunters Point Power Plant ("Hunters Point") and Potrero Power Plant ("Potrero"). Because the questions being asked are similar, the ISO has taken the liberty of addressing all of the questions in this letter.

Over the past several years, ISO staff has spent a great deal of time and effort working with the City and County of San Francisco ("City"), Pacific Gas and Electric Company ("PG&E"), and many members of the Potrero and Hunters Point/Bayshore communities ("Parties") to address concerns and questions related to the need for generation at Hunters Point and Potrero. The ISO recognizes that there are wide-ranging interests regarding the future of generation at the Hunters Point Power Plant and the Potrero Power Plant and that the concerns and issues voiced by all stakeholders are an important part of deciding how best to serve the demand for energy in San Francisco. The ISO also believes that all parties share a common goal of providing the City<sup>1</sup> with reliable, secure and environmentally responsible electric service and that, although complex, resolving the issues that constrain the retirement of generation in San Francisco is obtainable over time. To this end, the ISO remains fully committed to supporting the City and PG&E in successfully achieving their goals while maintaining the reliability needs of the entire San Francisco Peninsula Area.

On April 15, 2004, ISO and PG&E representatives met to discuss the retirement of Hunters Point and the transmission upgrades necessary to allow the ISO to discontinue extending the Reliability Must Run ("RMR") Agreement for any of the Hunters Point units. ISO staff has worked closely with PG&E to make sure that all load serving capability, RMR, and operational reliability issues have been appropriately identified and addressed in PG&E's 2003 transmission expansion plan. In addition, PG&E informed the ISO that it intends to move forward with replacing the insulators on the San Mateo 230kV bus to eliminate the need to perform required maintenance washes during the summer months. This decision resolves the final operational reliability issue that, based on current studies, required the continued operation of Hunters

<sup>1</sup> In the testimony for the Jefferson-Martin Transmission Line, currently before the California Public Utilities Commission, the ISO refers to the City and County of San Francisco and the San Francisco Peninsula as the "San Francisco Peninsula Area." For clarity in this letter, the ISO will delineate separately, when necessary, the City, the Peninsula, and the Greater Bay Area even though the City is included in the Peninsula, which is included in the Greater Bay Area.

From: CALIFORNIA ISO

916 351 2350

07/01/2004 11:34 #061 P.003/013

Point Unit 1 beyond 2005. Therefore, based on PG&E's completion of the 2003 Transmission Expansion Plan items outlined in your May 4, 2004 letter prior to the end of 2005 and the other critical assumptions listed below, the ISO anticipates being able to discontinue renewing the RMR Agreement for Hunters Point Units 1, 2, 3, and 4 for 2006.

As stated in their May 4, 2004 letter, PG&E shares the ISO's commitment to retiring Hunters Point in a manner that assures adequate load serving capability and system reliability. And while the ISO and PG&E are in agreement on what is needed to remove the Hunters Point facilities from their RMR designations at the end of 2005, this agreement is predicated upon the expectation that the retirement of these units will not unduly jeopardize reliable electric service to PG&E's customers in the City and the San Francisco Peninsula Area. Put another way, the ISO's support for retiring generation in the City is based on certain "critical assumptions" that are reasonably expected to occur. Of significant importance is the successful retrofit of Potrero Unit 3 with selective catalytic reducers. Retrofitting Potrero 3 has constituted a "critical assumption" in all conclusions that the ISO has presented to the parties today and in all previous ISO correspondence. Reiterating previous statements, the ISO has not studied or prepared scenarios without Potrero Unit 3 in place. Therefore, it should be clearly understood that the technical conclusions that allow for the retirement of generation at Hunters Point would be altered should Potrero Unit 3 not be able to operate beyond 2005. Notwithstanding the continued operation of Potrero Unit 3, other "critical assumptions" such as an accelerated increase in local area load growth, the unexpected retirement and/or failure of other local area generation in the Greater Bay Area, and/or the unexpected failure of critical elements of the transmission system that supports the City and San Francisco Peninsula Area, among others, would also have an impact on the ISO's technical conclusions that allow for the ISO to discontinue renewing the RMR Agreement for Hunters Point. While changes in these "critical assumptions" are uncontrollable, the ISO remains committed to work with PG&E to retire the Hunters Point facility by the end of 2005. It is anticipated that the ISO Board will make the final decision at its September 2005 meeting.

Of particular concern to the ISO is the timely completion of the Jefferson - Martin 230kV Transmission Project and the inability of Hunters Point Unit 4 to operate beyond 2005 due to Bay Area Air Quality issues. Even though PG&E clearly remains dedicated to completing this project on time, a reasonable probability still remains that Jefferson - Martin could be delayed until sometime in 2006. As the ISO stated in its October 22, 2003 letter to Supervisor Sophie Maxwell, securing the necessary interchangeable emission reduction credits ("IERC") to operate Hunters Point Unit 4 beyond 2005 is the responsibility of PG&E as the plant owner. In PG&E's direct testimony regarding the need for the Jefferson - Martin 230kV Transmission Project submitted to the Public Utilities Commission of the State of California, PG&E correctly acknowledged that the ISO would require PG&E to delay closure of Hunters Point until the Jefferson - Martin 230kV Transmission Project becomes operational.<sup>2</sup> Based on this testimony, it is the ISO's understanding that PG&E will take the required steps to secure the necessary IERCs to operate Hunters Point Unit 4 beyond 2005 should the need arise. The ISO believes this to be a prudent and necessary step to assure that San Francisco area reliability can be sufficiently maintained should the operation of Jefferson - Martin be unavoidably delayed.

On May 28, 2004 the ISO received a letter from Gavin Newsom, Mayor of San Francisco and Sophie Maxwell, Member of the Board of Supervisors asking for the ISO's continued assistance in helping the City plan for cleaner, more reliable and more efficient electric resources. The May 28, 2004 letter posed several

<sup>2</sup> Direct Testimony of Pacific Gas and Electric Company Regarding Need for the Jefferson-Martin 230 kV Transmission Project, A.02-09-043 (Oct. 10, 2003), at p. 85-86.

From: CALIFORNIA ISO

916 351 2350

07/01/2004 11:34 #061 P.004/013

questions that relate to generation facilities at Hunters Point and Potrero. These questions are restated below in italics followed by the ISO's answer.

*Q1a) The City seeks a commitment by the ISO to release Hunters Point Units 1 and 4 from any RMR obligations no later than December 2005.*

A1a) As stated above, based on PG&E's commitment to successfully complete the 2003 Transmission Expansion Plan items outlined in their May 4, 2004 letter, the ISO is in agreement with PG&E concerning the retirement of Hunters Point Power Plant. Assuming that these facilities are in operation prior to the end of 2005 and the other critical assumptions listed above allow the ISO to discontinue renewing the RMR Agreement for Hunters Point, the ISO would not renew the RMR Agreement for Hunters Point Units 1 and 4 for 2006. It is anticipated that the ISO Board at its September 2005 meeting will make the final decision.

*Q1b) The City seeks confirmation from the ISO that it will release Hunters Point Units 1 and 4 from any RMR obligations on completion of the transmission projects identified in the attachment to PG&E's May 4, 2004 letter.*

A1b) See A1a.

*Q1c) The City seeks a commitment by the ISO to release Hunters Point Units 1 and 4 from any RMR obligations provided that three turbines are connected to the internal San Francisco 115 kV transmission network and the eight transmission projects identified in your October 22, 2003 letter (which excludes Jefferson-Martin) are completed.*

A1c) Assuming the installed capacity of the City's three new combustion turbines is 145 MW, the information stated in the ISO's October 22, 2003 letter to Supervisor Maxwell and the matrix provided to the City in February 2004, is correct through 2006. Providing the transmission projects identified in these documents are in operation prior to the end of 2005 and the other critical assumptions listed above allow the ISO to discontinue renewing the RMR Agreement for Hunters Point, the ISO would not renew the RMR Agreement for Hunters Point Units 1 and 4 for 2006. It is anticipated that the ISO Board at its September 2005 meeting will make the final decision.

*Q2) The City would like to ensure the closure of all existing generation at Potrero as soon as possible. PG&E's May 2, 2004 letter suggests that this should be possible in the near future. PG&E's May 2, 2004 letter indicates that with the Jefferson-Martin and other transmission project set forth in the attachment to the letter, only 200 MW of generation would be needed north of San Mateo substation. If this is correct, the ISO should be able to release all existing Potrero units from any RMR obligation once 1) Jefferson-Martin and the other transmission project identified by PG&E are completed, 2) Hunters Point is closed, and 3) three new turbines at Potrero and a fourth turbine at the Airport are placed in service. Please confirm that this is correct. If this is not correct, please 1) explain why not, 2) detail which units at Potrero Power Plant could be released of any RMR obligations in this scenario, and 3) describe what additional resources or load reduction would be required to provide for the release of all of the Potrero Power Plant units from any RMR obligations.*

A2) As stated above and in the ISO's October 22, 2003 letter to Supervisor Maxwell, the ISO has not fully studied what grid enhancement would be necessary to enable the retirement of Potrero Unit 3.

From: CALIFORNIA ISO

916 351 2350

07/01/2004 11:35 #061 P.005/013

Accordingly, the ISO is not prepared to provide an answer to this question at this time. However, the ISO recognizes the importance and significance the Potrero community and the City confers to the retirement of Potrero Unit 3 at the earliest possible time and remains committed to continue meeting with Potrero community group leaders to discuss the future need for Potrero 3. In order to address the lack of a plan to retire Potrero Unit 3 and in the spirit in which the ISO has committed to proactively work with the Potrero community group leaders, the ISO proposes to immediately begin working with the Potrero community group leaders, the City, and PG&E to develop a plan that would allow the ISO to discontinue renewing the RMR Agreement for Potrero Units 3, 4, 5, and 6 and that this effort be coordinated with the ongoing work that is currently being undertaken by the San Francisco Stakeholder Study Group.

I have endeavored to provide as complete an explanation as possible to the questions posed from all of you, at least based upon the information known today. As mentioned, we remain sincerely committed to work with you and affected communities to reach our mutual goal to obtain a reliable, affordable and environmentally responsible energy future. If you have any questions, please call Julie Gill at (916) 351-2221 or Gary DeShazo at (916) 608-5880.

Sincerely,



Jim Detmers  
Vice President, Grid Operations  
Acting Chief Operations Officer

Attachments

- Cc:
- Jesse Blout, City and County of San Francisco
- Steve Huhman, Mirant
- Armando J. Perez, ISO
- Gary DeShazo, ISO
- Julie Gill, ISO

The ISO Board of Governors has reviewed and adopts the following Action Plan for San Francisco and directs Management to undertake the ISO's responsibilities under the plan in a manner that will allow for implementation of this Action Plan on the earliest practicable schedule. Management is further directed, subject to any change in the circumstances under which the plan has been developed, to release each generating unit from its RMR contract obligations at the earliest date that Management finds that the conditions under the plan for such release have been met, or alternative projects with equal or greater reliability benefits satisfying applicable criteria have been released for operation.

Moved: Gage Second: Florio

Board Action: Passed		Vote Count: 5-0-0
Cazalet	Y	
Florio	Y	
Gage	Y	
Kahn	Y	
Wiseman	Y	

Motion Number: <number>



# Memorandum

**To:** ISO Operations Committee  
**From:** Gary DeShazo, Regional Transmission Manager  
 Julie Gill, Senior Contracts Analyst  
**cc:** ISO Board of Governors, ISO Officers  
**Date:** June 8, 2005  
**Re:** *Update on Action Plan for San Francisco*

***This memorandum does not require Board action.***

## EXECUTIVE SUMMARY

The ISO Governing Board first approved the Action Plan for San Francisco ("Action Plan") on November 10, 2004, and the following is an update on the status of implementing the Action Plan. The Action Plan specifies the new projects necessary, including generation and transmission, to facilitate the release of existing generation located within the City of San Francisco from the applicable Reliability Must Run ("RMR") Agreements with the ISO. Based on the current projected completion dates for the various transmission and generations projects, the release of the Hunters Point Power Plant ("Hunters Point") and the Potrero Power Plant ("Potrero") units from the RMR Agreements is as follows:

Unit	Release Date
Hunters Point Units 2 & 3	Completed
Hunters Point Units 1 & 4	March 2006
Potrero Unit 3	December 2007
Potrero Units 4, 5, & 6	December 2007

The Action Plan is on track for the Hunters Point generation to be released from its RMR Agreement as represented in November. The City and County of San Francisco ("CCSF") has indicated that their project schedule (discussed below) has slipped until June 2007. This allows for the release of Potrero Unit 3 from its RMR Agreement in December 2007 concurrently with the release of Potrero Units 4, 5, & 6. The proposed schedule for release of units from their RMR Agreements or subsequent reliability agreements assumes the sequential completion of each of the transmission and generation projects discussed below. If a project is not completed on schedule, then the release of the units from the reliability obligation may be delayed.

## BACKGROUND

The reliability of serving load in San Francisco relies on transmission and relatively old generation that are inefficient and coming to the end of their useful life. Over the course of several years, CCSF, Pacific Gas

and Electric Company ("PG&E"), and the ISO have worked closely to identify new transmission and generation projects that would provide for a reliable San Francisco power supply without reliance on the existing generation on the peninsula. ISO Management first presented an Action Plan to the ISO Governing Board on September 15, 2004, that identified a combination of 14 transmission projects and four (4) new peaking generation units that would be required to allow for the sequential release from the RMR Agreements of the existing San Francisco generation located at the Hunters Point Power Plant ("Hunters Point") and the Potrero Power Plant ("Potrero"). In response to a request that CCSF made during the September 15, 2004 Board Meeting, Management revised the Action Plan to release Potrero Unit 3 with installation of the new peaking generation units and release the Potrero Units 4, 5, & 6 upon completion of four transmission projects; the initial Action Plan showed the projects associated with these releases reversed.<sup>1</sup> With this revision and updates to the status of the listed projects, the ISO Governing Board adopted a revised Action Plan on November 10, 2004.

It should be noted that the ISO does not control the dates of completion of these projects, nor does it control the permanent shutdown of the Hunters Point and Potrero generation. The Action Plan approved by the ISO Governing Board for the shut down of Hunters Point and Potrero units is based on assumptions from PG&E and CCSF that are subject to change. Such assumptions include current and expected status of transmission, generation, and customer demand. Any significant change to the assumptions underlying the ISO's analysis could change the ISO's conclusions. If such significant changes do occur, the ISO is obligated to review the continued acceptability of this Action Plan. The Action Plan is based on compliance with regional and national requirements, including the Greater Bay Area Generation Outage Standard adopted by the ISO Governing Board as a result of rolling blackouts initiated in the San Francisco Bay Area on June 14, 2000, to protect against the potential for voltage collapse.

## ACTION PLAN UPDATE

A summary of the implementation of the Action Plan is as follows:

- **Hunters Point Units 2 & 3:** the Potrero Static VAR Compensator was completed on schedule in December 2004 and the ISO released Hunters Point Units 2 and 3 from the RMR Agreement effective December 31, 2004.
- **Hunters Point Units 1 & 4:** three transmission infrastructure improvements were completed on schedule in May 2005; the Jefferson-Martin 230 kV Line is still under construction with a projected completion in March 2006; and the Potrero 3 Selective Catalytic Reduction ("SCR") retrofit is in progress after receiving a permit to construct with completion anticipated in June 2005.
- **Potrero Unit 3:** the San Francisco Electric Reliability Project (three peaking units) and the San Francisco Airport Electric Reliability Plant (one peaking unit) has been delayed from December 2006 to June 2007.
- **Potrero Units 4, 5, & 6:** two transmission upgrade projects and one voltage support project have progressed from the evaluation stage to the development stage and are now scheduled for completion in 2007.

The Action Plan is progressing toward release of the identified generating units based on various timelines. A detailed list of the projects and the status of each is shown in the Action Plan updated as of May 23, 2005. (See *Attachment A*) The following is additional detail regarding the projects to be completed to ensure the release of the RMR Agreements.

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<sup>1</sup> In the September 15, 2004 Action Plan, the Potrero Unit 3 release from the RMR Agreement was associated with the completion of four transmission projects and the Potrero Units 4, 5, & 6 release was associated with the completion of new peaking generation units in San Francisco.

### Hunters Point Units 2 & 3

The Potrero Static Var Compensator project required for the release of Hunters Point Units 2 and 3 ("HP 2 & 3") was completed in December 2004 and the RMR Agreement was terminated with respect to the HP 2 & 3 effective December 31, 2004. PG&E retired HP 2 & 3 effective January 1, 2005.

### Hunters Point Units 1 & 4

A series of eight (8) transmission projects and the installation of SCR on Potrero Unit 3 which will reduce the NOx emissions from the unit must be completed prior to the ISO releasing the RMR Agreement for Hunters Point Units 1 and 4 ("HP 1 & 4"). Six of the eight transmission projects have been completed and the Potrero Unit 3 SCR is scheduled to be returned to service in June 2005. HP 1 & 4 will be released from the RMR Agreement when the remaining two transmission projects are in-service. The Jefferson-Martin 230 kV Transmission Line is the critical path item for the remaining two projects. PG&E anticipates this project to be completed in March 2006. While this in-service date is not consistent with the annual designation and extension requirements of the RMR Agreement, ISO Management and PG&E have agreed to work together to ensure that the RMR Agreement for HP 1 & 4 is terminated as soon as possible following completion of the Jefferson-Martin 230 kV Transmission Line.

The Action Plan for release of HP 1 & 4 currently includes the retrofit of Potrero Unit 3 and implicit in the plan is the continued ability to operate the Potrero Unit 3 in the future. As such, release of HP 1&4 will necessitate that all permits required to operate the Potrero Unit 3 have some assurance of being in place. A concern has arisen with respect to the water permit for Potrero Unit 3, and to the extent that the unit becomes unavailable due to lack of permits, then HP 1&4 will be required to remain RMR Units until the generation projects required for the release of Potrero Unit 3 are installed and have reached commercial operation.

### Potrero Unit 3

In the Action Plan, the estimated in-service date of the San Francisco Electric Reliability Project (three peaking units) and the San Francisco Airport Electric Reliability Plant (one peaking unit) (collectively "CCSF CTs") was initially represented as December 2006. The current in-service date reported by CCSF has now been delayed until June 2007. With a projected mid-year in-service date of the CCSF CTs, the ISO would release Potrero Unit 3 from the RMR Agreement at the end of the 2007 Contract Year unless an agreement to terminate the agreement earlier is reached between the ISO, PG&E and the RMR Owner - Mirant.

### POTRERO UNITS 4-6

PG&E has advanced these projects forward as follows: two transmission upgrade projects and one voltage support project have progressed from the evaluation stage to the development stage and are now scheduled for completion in 2007. The remaining transmission upgrade is currently in the engineering phase of the project with completion currently scheduled for May 2006. It should be noted that there is an explicit assumption noted on the Action Plan that the CCSF CTs are completed along with all four of the transmission projects in order to release these units from the RMR Agreements.

### **NEXT STEPS**

Management will continue to work with the parties responsible for implementing the projects identified in the Action Plan to determine the status of each and continue to monitor for any issues that would change the conclusions or jeopardize the implementation of the Action Plan. The ISO intends to provide the Board with a quarterly update, at a minimum, or more frequently when significant information is available.

**Attachment A**  
**CAISO Revised Action Plan for San Francisco**  
 PG&E Transmission Projects and City Peaking Power Plants Necessary  
 To Meet NERC/WECC/CAISO Planning Requirements

Project	Estimated Completion Date/Status	Issue	Resolution of Issue
<b>Release Hunters Point Units 2 &amp; 3 From Their RMR Agreements</b>			
1 Potrero Static VAR Compensator	December 2004, Completed	NERC/WECC/CAISO Planning Standards	This project allowed ISO/PG&E to meet planning requirements with Hunters Point Power Plant Units 2 and 3 released from their RMR Agreement
<b>Release Hunters Point Units 1 &amp; 4 From Their RMR Agreements</b>			
2 San Mateo-Martin No. 4 Line Voltage Conversion	Completed	NERC/WECC/CAISO Planning Standards	This project in combination with the other listed projects allows ISO/PG&E to meet planning requirements with Hunters Point Power Plant Units 1 and 4 released from their RMR Agreement
3 Ravenswood 2 <sup>nd</sup> 230/115 kV Transformer Project	Completed	NERC/WECC/CAISO Planning Standards	This project in combination with the other listed projects allows ISO/PG&E to meet planning requirements with Hunters Point Power Plant Units 1 and 4 released from their RMR Agreement
4 San Francisco Internal Cable Higher Emergency Ratings	Completed: To Be Used Upon Completion of the Jefferson-Martin 230kV Project	NERC/WECC/CAISO Planning Standards	These ratings are an interim solution that in combination with the other listed projects allows PG&E to meet planning requirements with Hunters Point Power Plant Units 1 and 4 released from their RMR Agreements. In 2007, a third Martin-Hunters Point 115 kV cable will replace the emergency ratings.
5 Tesla-Newark No. 2 230 kV Line Reconductoring	May 2005, Completed	RMR Criteria	This project in combination with the other listed projects allows ISO/PG&E to meet planning requirements with Hunters Point Power Plant Units 1 and 4 released from their RMR Agreement
6 Ravenswood-Ames 115 kV Lines Reinforcement	May 2005, Completed	RMR Criteria	This project in combination with the other listed projects allows ISO/PG&E to meet planning requirements with Hunters Point Power Plant Units 1 and 4 released from their RMR Agreement
7 San Mateo 230 kV Bus Insulator Replacement	May 2005, Completed	Operations Requirement During San Mateo Bus Wash	Eliminate bus wash at San Mateo 230 kV bus will reduce the 400 MW generation operational requirement down to less than 200 MW

8	Potrero-Hunters Point (AP-1) 115 kV Cable	December 2005 CPUC Permit Approval Granted	NERC/WECC/CAISO Planning Standards	This project in combination with the other listed projects allows ISO/PG&E to meet planning requirements with Hunters Point Power Plant Units 1 and 4 released from their RMR Agreement. Scheduled for Dec. 2005 operation.
9	Jefferson-Martin 230 kV Line	December 2005 to March 2006 Under construction	NERC/WECC/CAISO Planning Standards	This project in combination with the other listed projects allows ISO/PG&E to meet planning requirements with Hunters Point Power Plant Units 1 and 4 released from their RMR Agreement
10	Potrero 3 SCR retrofit	June 2005 Construction in Progress	NERC/WECC/CAISO Planning Standards	This project ensures the availability of Potrero 3 at full capacity thereby reducing overall Greater Bay Area RMR requirements. This project or the reduced capacity available without the retrofit in combination with the other listed projects allows ISO/PG&E to meet planning requirements with Hunters Point Power Plant Units 1 and 4 released from their RMR Agreements

### **Release Potrero Unit 3 From Its RMR Agreement**

11	San Francisco Electric Reliability Project and San Francisco Airport Electric Reliability Plant	June 2007	NERC/WECC/CAISO Planning Standards	These projects will allow ISO/PG&E to meet planning requirements with Potrero 3 released from its RMR Agreement. CEC permit suspended due to a change in where to site near Potrero.
<b>Release Potrero Units 4, 5, &amp; 6 From Their RMR Agreements (assumes previous completion of Peaking Power Plants by the City)</b>				
12	Upgrade the Newark-Dumbarton 115kV line	May 2006 Engineering in Progress	NERC/WECC/CAISO Planning Standards	This upgrade is needed in combination with the other listed mitigations to allow ISO/PG&E to meet planning requirements with Potrero Units 4, 5, and 6 released from their RMR Agreement
13	Upgrade the Bair-Belmont 115kV Line	Scheduled for 2007	NERC/WECC/CAISO Planning Standards	This upgrade is needed in combination with the other listed mitigations to allow ISO/PG&E to meet planning requirements with Potrero Units 4, 5, and 6 released from their RMR Agreement
14	Upgrade the Metcalf-Hicks & Metcalf-Vasona 230 kV lines	Scheduled for 2007	NERC/WECC/CAISO Planning Standards	This upgrade is needed in combination with the other listed mitigations to allow ISO/PG&E to meet planning requirements with Potrero Units 4, 5, and 6 released from their RMR Agreement
15	Add voltage support at Ravenswood substation	Scheduled for 2007	NERC/WECC/CAISO Planning Standards	This upgrade is needed in combination with the other listed mitigations to allow ISO/PG&E to meet planning requirements with Potrero Units 4, 5, and 6 released from their RMR Agreement

**Attachment A**  
**CAISO Revised Action Plan for San Francisco**  
 PG&E Transmission Projects and City Peaking Power Plants Necessary  
 To Meet NERC/WECC/CAISO Planning Requirements

**AS OF SEPTEMBER 2, 2005**

Project	Estimated Completion Date/Status	Issue	Resolution of Issue
<b>Release Hunters Point Units 2 &amp; 3 From Their RMR Agreements</b>			
1 Potrero Static VAR Compensator	December 2004, Completed	NERC/WECC/CAISO Planning Standards	This project allowed ISO/PG&E to meet planning requirements with Hunters Point Power Plant Units 2 and 3 released from their RMR Agreement
<b>Release Hunters Point Units 1 &amp; 4 From Their RMR Agreements</b>			
2 San Mateo-Martin No. 4 Line Voltage Conversion	Completed	NERC/WECC/CAISO Planning Standards	This project in combination with the other listed projects allows ISO/PG&E to meet planning requirements with Hunters Point Power Plant Units 1 and 4 released from their RMR Agreement
3 Ravenswood 2 <sup>nd</sup> 230/115 kV Transformer Project	Completed	NERC/WECC/CAISO Planning Standards	This project in combination with the other listed projects allows ISO/PG&E to meet planning requirements with Hunters Point Power Plant Units 1 and 4 released from their RMR Agreement
4 San Francisco Internal Cable Higher Emergency Ratings	Completed: To Be Used Upon Completion of the Jefferson-Martin 230kV Project	NERC/WECC/CAISO Planning Standards	These ratings are an interim solution that in combination with the other listed projects allows PG&E to meet planning requirements with Hunters Point Power Plant Units 1 and 4 released from their RMR Agreements. In 2007, a third Martin-Hunters Point 115 kV cable will replace the emergency ratings.
5 Tesla-Newark No. 2 230 kV Line Reconductoring	February May 2005, Completed	RMR Criteria	This project in combination with the other listed projects allows ISO/PG&E to meet planning requirements with Hunters Point Power Plant Units 1 and 4 released from their RMR Agreement
6 Ravenswood-Ames 115 kV Lines Reinforcement	April May 2005, Completed	RMR Criteria	This project in combination with the other listed projects allows ISO/PG&E to meet planning requirements with Hunters Point Power Plant Units 1 and 4 released from their RMR Agreement
7 San Mateo 230 kV Bus Insulator Replacement	May 2005, Completed	Operations Requirement During San Mateo Bus Wash	Eliminate bus wash at San Mateo 230 kV bus will reduce the 400 MW generation operational requirement down to less than 200 MW

8	Potrero-Hunters Point (AP-1) 115 kV Cable	December 2005 CPUC Permit Approval Granted	NERC/WECC/CAISO Planning Standards	This project in combination with the other listed projects allows ISO/PG&E to meet planning requirements with Hunters Point Power Plant Units 1 and 4 released from their RMR Agreement. Scheduled for Dec. 2005 operation.
9	Jefferson-Martin 230 kV Line	December 2005 to March 2006 March '06 to June '06 Under construction	NERC/WECC/CAISO Planning Standards	This project in combination with the other listed projects allows ISO/PG&E to meet planning requirements with Hunters Point Power Plant Units 1 and 4 released from their RMR Agreement
10	Potrero 3 SCR retrofit	June 2005 Construction in Progress Completed	NERC/WECC/CAISO Planning Standards	This project ensures the availability of Potrero 3 at full capacity thereby reducing overall Greater Bay Area RMR requirements. This project or the reduced capacity available without the retrofit in combination with the other listed projects allows ISO/PG&E to meet planning requirements with Hunters Point Power Plant Units 1 and 4 released from their RMR Agreements

### **Release Potrero Unit 3 From Its RMR Agreement**

11	San Francisco Electric Reliability Project and San Francisco Airport Electric Reliability Plant	June 2007	NERC/WECC/CAISO Planning Standards	These projects will allow ISO/PG&E to meet planning requirements with Potrero 3 released from its RMR Agreement. CEC permit suspended due to a change in where to site near Potrero.
<b>Release Potrero Units 4, 5, &amp; 6 From Their RMR Agreements (assumes previous completion of Peaking Power Plants by the City)</b>				
12	Upgrade the Newark-Dumbarton 115kV line	December May 2006 Engineering in Progress	NERC/WECC/CAISO Planning Standards	This upgrade is needed in combination with the other listed mitigations to allow ISO/PG&E to meet planning requirements with Potrero Units 4, 5, and 6 released from their RMR Agreement
13	Upgrade the Bair-Belmont 115kV Line	Scheduled for May 2007	NERC/WECC/CAISO Planning Standards	This upgrade is needed in combination with the other listed mitigations to allow ISO/PG&E to meet planning requirements with Potrero Units 4, 5, and 6 released from their RMR Agreement
14	Upgrade the Metcalf-Hicks & Metcalf-Vasona 230 kV lines	Scheduled for May 2007	NERC/WECC/CAISO Planning Standards	This upgrade is needed in combination with the other listed mitigations to allow ISO/PG&E to meet planning requirements with Potrero Units 4, 5, and 6 released from their RMR Agreement
15	Add voltage support at Ravenswood substation	Scheduled for May 2007	NERC/WECC/CAISO Planning Standards	This upgrade is needed in combination with the other listed mitigations to allow ISO/PG&E to meet planning requirements with Potrero Units 4, 5, and 6 released from their RMR Agreement



# CALIFORNIA ISO

## Attachment 2

October 27, 2004

*Via Facsimile and US Mail Delivery*

The Honorable Mayor Gavin Newsom  
The Honorable Supervisor Sopenia Maxwell  
The Honorable City Attorney Dennis Herrera  
City and County of San Francisco  
City Hall  
One Carlton B. Goodlett Place  
San Francisco, CA 94102

RE: September 14, 2004 Letter to Marcie Edwards, California ISO Interim CEO

Thank you for your expression of appreciation for the efforts of the California Independent System Operator (ISO) to provide an Action Plan that will release all existing in-City generation from their Reliability Must Run (RMR) Agreements. I am pleased you find the Action Plan a significant step toward achieving the mutual interests of the City of San Francisco (City), its constituents, and the California ISO. I appreciate the leadership and support you and your staff has shown for new generation and transmission infrastructure in San Francisco. As such, the ISO views the City peaking power plants as an integral part of the Action Plan and continued reliability of the San Francisco power supply.

This letter is in response to the subject letter and comments made by Deputy City Attorney Theresa Mueller during the September 15, 2004 ISO Board of Governors meeting. In addition to answering your questions, we have provided our assessment of some of the areas of risk that load serving entities and policy makers should consider when planning for their energy future. I expect that you will find this response helpful as you balance the myriad interests of San Francisco.

**Potrero 3 Retrofit:** The ISO remains prepared to release Hunters Point 1 & 4 from the RMR Agreement once Jefferson-Martin and the eight previously defined transmission projects are in place. As we have described in all of our planning documents on this issue, Potrero 3 must be available to provide energy in order to allow for the release of Hunters Point generation. Potrero Unit 3 can operate in two ways. The first is with the environmental retrofit that will allow the unit to operate cleaner, more reliably, and produce more energy. However, the second way is without the retrofit, which will allow the unit to operate, but at a lower output level, greater pollution impact to the Greater Bay Area, higher cost to PG&E ratepayers, and an overall lower level of reliability to the San Francisco Peninsula Area. Due to the retrofit of Potrero 3 being in jeopardy, we have initiated steps to implement the non-retrofit alternative. This being said, we continue to prefer the retrofit of Potrero 3 because the non-retrofit alternative creates a greater zone of risk to the reliability of the area. The energy represented between the two alternatives is approximately 70 MWs that allows for the local area to be operated above the reliability requirements. This enhances the ability to reliably serve load and provides greater operational flexibility.

**Release of Potrero 3 from RMR Agreement:** As requested and then studied, the Action Plan has been revised to allow the release of Potrero 3 power plant before the release of Potrero 4, 5, and 6 from the RMR Agreement. This determination assumes that the City peaking power plants are interconnected at Potrero and licensed to operate 4,000 hours at full output, as indicated by their application for construction. We understand that other sites are being considered for the City peaking power plants. If the City peaking power plant installation location and/or the interconnection point is revised or the operating hours are reduced, further study would be required and could jeopardize our original Action Plan to release existing San Francisco generation from the RMR Agreements. Attached is the table originally presented to the ISO Board of Governors revised to show the change in sequence of release from the RMR Agreement of Potrero Unit 3 with Potrero Units 4, 5, and 6 (Attachment 1). As promised, the forecasted load growth and the capability of the infrastructure assumed in the Action Plan are attached for your reference (Attachment 2).

As much as the Action Plan is intended to provide a bright line, it must allow for adjustments if the carefully sequenced projects slip or if we find that the load growth exceeds both those assumed in the planning analyses and the capability of the infrastructure itself. The Action Plan was provided on an expedited basis and does not benefit from the customary peer review such significant system changes typically receive. We are confident that the Action Plan complies with the reliability standards and will continue to analyze system conditions to verify the sustained compliance. This continuous monitoring of system conditions is also customary and will help avoid any surprises or unanticipated circumstances to occur that would jeopardize the Action Plan.

**Risk Assessment:** As we all understand, the consideration of risk is an integral component for policy makers as they make determinations affecting the energy future of a critical load center such as San Francisco. The ISO remains committed to the Action Plan; however, the implementation of this Plan results in a fundamental shift in how load in San Francisco will be served in the future and is not without some risk. Per the Action Plan, there will be a net removal of over 300 MW of generation in this local area. Importing remote generation into San Francisco through the underlying transmission infrastructure will make up this difference. Although this meets the required reliability standards, it does decrease the overall flexibility that the operators have at their disposal to manage unforeseen emergencies (Attachment 3).

In closing, we consider this Action Plan as one step in achieving the broader and long-term energy plan goals of San Francisco. The ISO commits to work with the City, PG&E, and all interested stakeholders as you identify future infrastructure projects that will be required to meet the electric demands of the City's businesses and families.

Sincerely,

**ORIGINAL SIGNED BY**

Marcie L. Edwards  
Interim Chief Executive Officer

ATTACHMENT 1 – Revised Action Plan  
ATTACHMENT 2 – Load Forecast/Load Serving Capability Chart  
ATTACHMENT 3 – Risk Assessment

Cc: Michael Kahn  
Mike Florio  
Tim Gage  
Ed Cazalet  
Ken Wiseman  
Randy Abernathy  
Charles Robinson  
Jim Detmers  
Armando Perez  
Gary DeShazo  
Julietta Gill  
Joseph Desmond

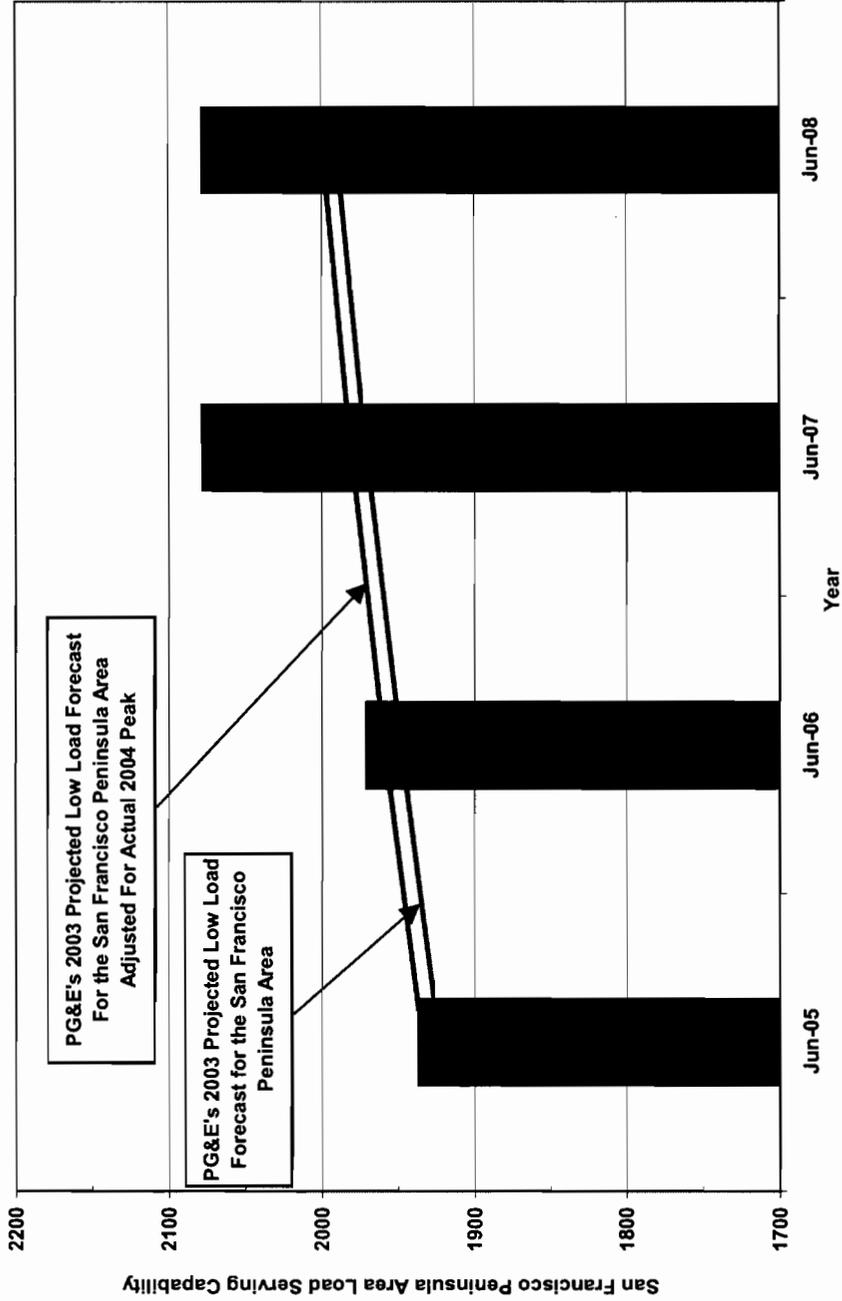
## Attachment 1

PG&E Transmission Projects, City Peaking Power Plants and Mirant Retrofit of Potrero 3 Necessary  
To Meet NERC/WECC/CAISO Planning Requirements

Project	<i>Estimated Completion Date/Status</i>	<i>Issue</i>	<u>Resolution of Issue</u>
<b>Release Hunters Point Units 2 &amp; 3 From Their RMR Agreements</b>			
1 Potrero Static VAR Compensator	December 2004, Under Construction	NERC/WECC/CAISO Planning Standards	This project allows ISO/PG&E to meet planning requirements with Hunters Point Power Plant Units 2 and 3 released from their RMR Agreement
<b>Release Hunters Point Units 1 &amp; 4 From Their RMR Agreements</b>			
2 San Mateo-Martin No. 4 Line Voltage Conversion	Completed	NERC/WECC/CAISO Planning Standards	This project in combination with the other listed projects allows ISO/PG&E to meet planning requirements with Hunters Point Power Plant Units 1 and 4 released from their RMR Agreement
3 Ravenswood 2 <sup>nd</sup> 230/115 kV Transformer Project	Completed	NERC/WECC/CAISO Planning Standards	This project in combination with the other listed projects allows ISO/PG&E to meet planning requirements with Hunters Point Power Plant Units 1 and 4 released from their RMR Agreement
4 San Francisco Internal Cable Higher Emergency Ratings	Completed: To Be Used Upon Completion of the Jefferson-Martin 230kV Project	NERC/WECC/CAISO Planning Standards	These ratings are an interim solution that in combination with the other listed projects allows PG&E to meet planning requirements with Hunters Point Power Plant Units 1 and 4 released from their RMR Agreements. In 2007, a third Martin-Hunters Point 115 kV cable will replace the emergency ratings.
5 Tesla-Newark No. 2 230 kV Line Reconductoring	May 2005, Construction in Progress	RMR Criteria	This project in combination with the other listed projects allows ISO/PG&E to meet planning requirements with Hunters Point Power Plant Units 1 and 4 released from their RMR Agreement
6 Ravenswood-Ames 115 kV Lines Reinforcement	May 2005, Engineering in Progress	RMR Criteria	This project in combination with the other listed projects allows ISO/PG&E to meet planning requirements with Hunters Point Power Plant Units 1 and 4 released from their RMR Agreement
7 San Mateo 230 kV Bus Insulator Replacement	May 2005, Engineering in Progress	Operations Requirement During San Mateo Bus Wash	Eliminate bus wash at San Mateo 230 kV bus will reduce the 400 MW generation operational requirement down to less than 200 MW
8 Potrero-Hunters Point (AP-1) 115 kV Cable	December 2005 Pending CPUC	NERC/WECC/CAISO Planning Standards	This project in combination with the other listed projects allows ISO/PG&E to meet planning requirements with Hunters Point Power

		Permit Approval			Plant Units 1 and 4 released from their RMR Agreement
9	Jefferson-Martin 230 kV Line	December 2005 to March 2006	NERC/WECC/CAISO Planning Standards		This project in combination with the other listed projects allows ISO/PG&E to meet planning requirements with Hunters Point Power Plant Units 1 and 4 released from their RMR Agreement
10	Potrero 3 SCR retrofit	Permit Authority Under Appeal	NERC/WECC/CAISO Planning Standards		This project ensures the availability of Potrero 3 at full capacity thereby reducing overall Greater Bay Area RMR requirements. This project or the reduced capacity available without the retrofit in combination with the other listed projects allows ISO/PG&E to meet planning requirements with Hunters Point Power Plant Units 1 and 4 released from their RMR Agreements
<b>Release Potrero Unit 3 From Its RMR Agreement</b>					
11	San Francisco Electric Reliability Project and San Francisco Airport Electric Reliability Plant	December 2006	NERC/WECC/CAISO Planning Standards		These projects will allow ISO/PG&E to meet planning requirements with Potrero 4, 5, and 6 released from their RMR Agreements
<b>Release Potrero Units 4, 5, &amp; 6 From Their RMR Agreements (assumes previous completion of Peaking Power Plants by the City)</b>					
12	Upgrade the Newark-Dumbarton 115kV line	May 2006	NERC/WECC/CAISO Planning Standards		This upgrade is needed in combination with the other listed mitigations to allow ISO/PG&E to meet planning requirements with Potrero Unit 3 released from its RMR Agreement
13	Upgrade the Bair-Belmont 115kV Line	Under Evaluation By PG&E, likely to be scheduled for 2007	NERC/WECC/CAISO Planning Standards		This upgrade is needed in combination with the other listed mitigations to allow ISO/PG&E to meet planning requirements with Potrero Unit 3 released from its RMR Agreement
14	Upgrade the Metcalf-Hicks & Metcalf-Vasona 230 kV lines	Under Evaluation By PG&E, likely to be scheduled for 2007	NERC/WECC/CAISO Planning Standards		This upgrade is needed in combination with the other listed mitigations to allow ISO/PG&E to meet planning requirements with Potrero Unit 3 released from its RMR Agreement
15	Add voltage support at Ravenswood substation	Under Evaluation By PG&E, likely to be scheduled for 2007	NERC/WECC/CAISO Planning Standards		This upgrade is needed in combination with the other listed mitigations to allow ISO/PG&E to meet planning requirements with Potrero Unit 3 released from its RMR Agreement

**Attachment 2  
San Francisco Peninsula Area Load Serving Capability  
Based On the Revised Action Plan**



■ ISO Action Plan Generation & Transmission On-line

Note: The columns represent the aggregate capability to serve load in the San Francisco Peninsula Area  
ISO Grid Planning 10/18/2004

### Attachment 3

#### *Zones of discretionary risk associated with energy planning for the San Francisco Peninsula*

Via the Action Plan, the ISO has outlined a sequence of transmission and generation additions that will permit the release of Hunters Point and Potrero Generation from their RMR Agreements. The Action Plan meets all established reliability planning criteria using the best information currently available.

However, it should be noted that the Action Plan meets only the *minimum* standards, and is therefore not without some risk. Therefore, in order to assist San Francisco in its overall long term planning effort, the ISO has attempted to quantify those zones of risk that San Francisco should consider when planning for their energy future.

The following are items to consider in assessing the level of acceptable risk:

- The original design and subsequent configuration of the power system in San Francisco was based on more local generation versus imported generation. The Action Plan moves away from the original design in the area, and therefore creates greater dependency on imported energy. This increased dependency translates into understanding that a loss of a transmission circuit(s) supplying the SF area may result in customer power outages in situations wherein the remaining amount of local generation may be insufficient to eliminate. In short, the customer demand on the Peninsula at a peak load period is estimated at 1,970 MW in 2007. Local generation, assuming full use of the planned City peaking power plants, without both Hunters Point and Potrero, and assuming all the transmission enhancements outlined in the action plan are completed, will be approximately 192 MW. The difference (nearly 1,800 MW) is the amount upon which the peninsula will be dependent upon the transmission system. Risks are potentially small that multiple transmission outages will occur during peak periods, but it should be understood that choosing to minimize the amount of local generation thereby minimizes the choices available during emergency conditions such as loss of a transmission circuit(s).
- The reality of all generation is that at one point or another the units will trip off-line or break down. Again, without having more local generation immediately available, dependency on imports is increased. In other words, while the minimum planning criteria will have been met, the loss of the associated operational flexibility carries risk under peak load/multiple equipment outage scenarios.
- Greater dependency on external generation as opposed to local generation also carries with it a greater risk in areas that are prone to natural disasters. Natural disasters such as earthquakes, fires, and

hurricanes play havoc with power lines. Much like bridges, transmission lines can fail in natural disasters, thereby isolating customers from their generation when that generation is not local.

- While every effort has been made to model San Francisco's projected energy requirements, there remains a number of potential projects that may notably increase the City's energy needs over and above that currently forecast. An example is the proposed cruise ship terminal where the ships would be required to interconnect with the Control Grid to operate while in port instead of relying on their 10 MW diesel generators that would pollute the area. Each 10 MW ship would consume the margin that was allowed in the Action Plan for one year's load growth. Activities such as this will require more generation to operate, and hasten the need for more projects to serve this volume of load.
- There are load-dropping schemes in place to assure compliance with the Reliability Criteria for critical double contingencies. Reducing San Francisco generation, as outlined in the Action Plan, may result in the need to increase the amount of load that is shed in the San Francisco Peninsula Area to mitigate line overloads for these critical double contingencies.

The ISO supports the interests of both the City and the community to allow for the existing generation to be released once the elements of the Action Plan are in place, but we caution the City that there are associated risks in operating a system at the minimum reliability required. The ISO remains supportive of the new City peaking power plant project and encourages the City to move forward expeditiously with the siting. You will therefore see that the City peaking power plant project is an integral part of the Action Plan and the continued reliability of the San Francisco power supply. We strongly encourage the City to foster new generation and transmission opportunities to further enhance both their ability to meet projected customer demand as well as provide critical operational flexibility in emergencies.