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April 17, 2006
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Mr. James D. Boyd, Presiding Member
Mr. John L. Geesman, Associate Member
Committee for the San Francisco
Electric Reliability Project
1516 9th Street
Sacramento, CA 95814

Subject: Applicant's Testimony
San Francisco Electric Reliability Project (04-AFC-1)

Dear Commissioners:

Please find attached 12 copies and one original of the City and County of San Francisco's Testimony, which is being filed pursuant to the Notice of Evidentiary Hearings (First Set) and Hearing Order, dated April 10, 2006. In this filing the Applicant has made some further refinements to its Pre-hearing Conference Statement (filed on March 17, 2006). The following revisions have been made:

- The list of proposed exhibits has been revised and is being provided as Appendix B. We have tried to weed out those documents that relate to the initial project location and are, therefore, no longer relevant.
- We have also replaced Anne Eng's resume with an updated version and are adding a witness in support of Worker Health and Safety (Jim Bushnell). Their resumes are provided in Appendix D.

In addition to our testimony, signed declarations of the witnesses are provided as Appendix A, and a copy of the air quality correspondence and other materials being sponsored by Mr. Gary Rubenstein as part of his testimony are attached as Appendix C.

Sincerely,
CH2M HILL

for John L. Carrier, J.D.
Program Manager

Testimony for the Application for Certification for the San Francisco Electric Reliability Project 04-AFC-1

Submitted to the

California Energy Commission

April 17, 2005

Submitted by

City and County of San Francisco

CH2MHILL
2485 Natomas Park Drive, Suite 600
Sacramento, California 95833

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Executive Summary

I. Introduction

A. Names: Ms. Barbara Hale and Ms. Karen Kubick.

B. Qualifications: Ms. Hale's and Ms. Kubick's qualifications are as noted in their respective resumes contained in Appendix A to the Prehearing Conference Statement of the City and County of San Francisco dated March 17, 2006.

C. Prior Filings: In addition to the statements herein, this testimony includes by reference the following documents submitted in this proceeding:

- Supplement A to the Application for Certification for the San Francisco Electric Reliability Project, Volume 1, dated March 24, 2005, Section 2 (Executive Summary).
- Supplement A to the Application for Certification for the San Francisco Electric Reliability Project, Volume 2, Appendix 1A and 1B, dated March 24, 2005.

To the best of our knowledge, all of the facts contained in this testimony (including all referenced documents) are true and correct. To the extent this testimony contains opinions, such opinions are our own. We make these statements, and render these opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

Project Description, Engineering and Natural Gas Supply

I. Introduction

A. **Names:** Karen Kubick, Steve Brock, and Steve De Young

B. **Qualifications:** Ms. Kubick's, Mr. Brock's and Mr. De Young's qualifications are as noted in their respective resumes contained in Appendix A to the Prehearing Conference Statement of the City and County of San Francisco dated March 17, 2006.

C. **Prior Filings:** In addition to the statements herein, this testimony includes by reference the following documents submitted in this proceeding:

- Application for Certification for San Francisco Electric Reliability Project, dated March 2004 (Docket No. 04-AFC-1), Volume 2, Appendix 6.
- Supplement in Response to Data Adequacy Comments on the Application for Certification for the SFERP, questions on reliability, dated April 16, 2004.
- Applicant's Response to San Francisco Community Power Data Requests, Data Response Set 1, Responses to Data Requests 2-3, dated August 18, 2004.
- Applicant's Response to CEC Staff Data Requests, Informal Data Response Set 4, Responses to Data Requests 155 and 156, dated August 27, 2004.
- Supplement A to the Application for Certification for the San Francisco Electric Reliability Project, Volume 1, dated March 24, 2005, Section 2 (Project Description), Section 6 (Natural Gas Supply), and Section 10 (Engineering).
- Supplement A to the Application for Certification for the San Francisco Electric Reliability Project, Volume 2, dated March 24, 2005, Appendices 10A through 10G.
- Applicant's Response to CEC Staff Data Requests, Data Response Set 3A Final, Responses to Data Requests 179 and 180, dated June 3, 2005.
- Applicant's Response to CARE Data Requests, Data Response Set 3, Response to Data Request 3.1-1, dated June 9, 2005.
- Applicant's Response to CEC Staff Data Requests, Informal Data Response Set 4, Response to Data Request 154, dated August 27, 2004.
- Applicant's Comments on the Preliminary Staff Assessment, Set 1, comments 8 through 11, 77, 81, 82 and 91, dated October 12, 2005.
- Amendment to the Project Description, Vegetated Swale, dated November 18, 2005.

- Amendment to the Project Description, Process and Cooling Water Supply, dated December 20, 2005.
- Supplement B to the Application for Certification for the San Francisco Electric Reliability Project dated January 11, 2006.
- Applicant's Comments on the Final Staff Assessment, Set 1, dated March 17, 2006, Number 91.

To the best of our knowledge, all of the facts contained in this testimony (including all referenced documents) are true and correct. To the extent this testimony contains opinions, such opinions are our own. We make these statements, and render these opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

II. Proposed Licensing Conditions

The FSA for the project filed by the CEC recommends that 15 Conditions of Certification be adopted to address general conditions including compliance monitoring and closure plan issues: COMPLIANCE-1 through COMPLIANCE-. These are acceptable.

The FSA for the project filed by the CEC recommends that 20 Conditions of Certification be adopted to address facility design issues: GEN-1 through GEN-8, CIVIL-1 through CIVIL-4, STRUC-1 through STRUC-4, MECH-1 through MECH-3, and ELECT-1. These are acceptable. There are no Conditions of Certification addressing power plant efficiency or power plant reliability.

III. Correlation to FSA and Hearing Topics:

- Introduction, Project Description, Purpose and Need
- General Conditions/Closure
- Facility Design
- Power Plant Reliability, including Gas Supply
- Power Plant Efficiency

Purpose and Need

I. Introduction

A. Names: Ms. Barbara Hale and Mr. Barry Flynn.

B. Qualifications: Ms. Hale's and Mr. Flynn's qualifications are as noted in their respective resumes contained in Appendix A to the Prehearing Conference Statement of the City and County of San Francisco dated March 17, 2006.

C. Prior Filings: In addition to the statements herein, this testimony includes by reference the following documents submitted in this proceeding:

- Applicant's Response to CEC Staff Data Requests, Informal Data Response Set 4, Response to Data Request 154, dated August 27, 2004.
- Applicant's Response to CEC Staff Data Requests, Informal Data Response Set 5, Response to Data Request 159, dated September 20, 2004.
- Supplement A to the Application for Certification for the San Francisco Electric Reliability Project, Volume 1, dated March 24, 2005, Section 3 (Purpose and Need).
- Applicants Response to CEC Staff, Data Response Set 3A, Data Requests 179-180, dated June 3, 2005,
- Applicant's Response to CARE Data Requests, Data Response Set 3, Responses to Data Requests 3.1-2, 3.4-2 through 3.4-5, dated June 9, 2005.
- Applicant's Response to CARE Data Requests, Data Response Set 3B, Further Response to Data Request 3.4-3, dated June 22, 2005.
- Applicant's Response to Sarvey Data Requests, Data Response Set 1A, Data Response 1.1, dated July 25, 2005.
- Applicant's Comments on the Preliminary Staff Assessment, Set 1, comments 2, 84-87 dated October 12, 2005.

To the best of our knowledge, all of the facts contained in this testimony (including all referenced documents) are true and correct. To the extent this testimony contains opinions, such opinions are our own. We make these statements, and render these opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

II. Proposed Licensing Conditions

There are no conditions of certification addressing purpose and need.

III. Correlation to FSA and Hearing Topics:

- Introduction, Project Description, Purpose and Need
- Local System Effects
- Power Plant Reliability, including Gas Supply

Environmental Justice

I. Introduction

A. Names: Ms. Barbara Hale, Ms. Karen Kubick, and Ms. Anne Eng.

B. Qualifications: Ms. Hale's and Ms. Kubick's qualifications are as noted in their respective resumes contained in Appendix A to the Prehearing Conference Statement of the City and County of San Francisco dated March 17, 2006. Ms. Eng's qualifications were also previously provided in Appendix A to the Prehearing Conference Statement of the City and County of San Francisco dated March 17, 2006. However, an updated copy of Ms. Eng's qualifications are attached herein and should replace the qualifications previously submitted.

C. Prior Filings: In addition to the statements herein, this testimony includes by reference the following documents submitted in this proceeding:

- Supplement A to the Application for Certification for the San Francisco Electric Reliability Project, Volume 1, dated March 24, 2005, Section 4 (Environmental Justice).
- Applicant's Response to CARE Data Requests, Response Set 3A, Data Response 3.4-1, dated June 9, 2005.
- Applicant's Response to Sarvey Data Requests, Response Set 1A, Data Response 1-11, dated July 25, 2005.
- Applicant's Comments on the Preliminary Staff Assessment, Set 1, comment 1, dated October 12, 2005.
- Applicant's Comments on the Preliminary Staff Assessment, Set 2, comment 42, dated October 31, 2005.

To the best of our knowledge, all of the facts contained in this testimony (including all referenced documents) are true and correct. To the extent this testimony contains opinions, such opinions are our own. We make these statements, and render these opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

II. Proposed Licensing Conditions

All Conditions of Certification related to environmental justice are addressed in Air Quality.

III. Correlation to FSA and Hearing Topics:

- Environmental Justice

Environmental Justice/Air Quality: PM10Mitigation/Community Benefits

I. Introduction

A. Names: Ms. Karen Kubick, Ms. Anne Eng, and Mr. Gary Rubenstein.

B. Qualifications: Ms. Kubick's and Mr. Rubenstein's qualifications are as noted in their respective resumes contained in Appendix A to the Prehearing Conference Statement of the City and County of San Francisco dated March 17, 2006. Ms. Eng's qualifications were also previously provided in Appendix A to the Prehearing Conference Statement of the City and County of San Francisco dated March 17, 2006. However, an updated copy of Ms. Eng's qualifications are attached herein and should replace the qualifications previously submitted.

C. Prior Filings: In addition to the statements herein, this testimony includes by reference the following documents submitted in this proceeding:

- Applicant's Response to CEC Staff Data Requests, Data Response Set 1A, , Response to Data Request 47, dated July 6, 2004.
- Applicant's Response to San Francisco Community Power Data Requests, Data Response Set 1, Response to Data Request 8, dated August 18, 2004.
- Applicant's Response to CEC Staff Data Requests, Informal Data Response Set 5, Responses to Data Requests 157 and 158, dated September 20, 2004.
- Applicant's Response to CARE Data Requests, Response Set 3A, Data Response 3.4-1, dated June 9, 2005.
- Applicant's Response to Sarvey Data Requests, Response Set 1A, Data Response 1-2 and 1-3, dated July 25, 2005.
- Applicant's "Air Quality Mitigation and Community Benefits Plan", dated August 4, 2005.

To the best of our knowledge, all of the facts contained in this testimony (including all referenced documents) are true and correct. To the extent this testimony contains opinions, such opinions are our own. We make these statements, and render these opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

II. Proposed Licensing Conditions

All Conditions of Certification related to environmental justice are addressed in Air Quality.

III. Correlation to FSA and Hearing Topics:

- Environmental Justice
- Air Quality

Electric Transmission

I. Introduction

A. **Name:** Mr. Steve Brock and Mr. Barry Flynn

B. **Qualifications:** Mr. Brock's and Mr. Flynn's qualifications are as noted in their resumes contained in Appendix A to the Prehearing Conference Statement of the City and County of San Francisco dated March 17, 2006.

C. **Prior Filings:** In addition to the statements herein, this testimony includes by reference the following documents submitted in this proceeding:

- Application for Certification for San Francisco Electric Reliability Project, dated March 2004 (Docket No. 04-AFC-1), Volume 2, Appendix 5.
- Supplement in Response to Data Adequacy Comments on the Application for Certification for the SFERP, questions on transmission system engineering, dated April 16, 2004.
- Supplement A to the Application for Certification for the San Francisco Electric Reliability Project, Volume 1, dated March 24, 2005, Section 5 (Electric Transmission).
- Applicant's Response to CEC Staff Requests, Data Response Set 1A, Responses to Data Requests 70 through 79, dated July 6, 2004.
- Applicant's Response to CEC Staff Data Requests, Informal Data Response Set 3, Response to Data Request 146, dated August 20, 2004.
- Applicant's Response to CEC Staff Data Requests, Data Response Set 3A Final, Responses to Data Requests 182 and 183, dated June 3, 2005.
- Applicant's Response to CEC Staff Data Requests, Data Response Set 3B, Response to Data Request 182, dated June 22, 2005.
- Applicant's Response to CEC Staff Data Requests, Data Response Set 3C, Response to Data Request 183, dated July 19, 2005.
- Applicant's Comments on the Preliminary Staff Assessment, Set 1, comments 63 and 83, dated October 12, 2005.

To the best of our knowledge, all of the facts contained in this testimony (including all referenced documents) are true and correct. To the extent this testimony contains opinions, such opinions are our own. We make these statements, and render these opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

II. Proposed Licensing Conditions

The FSA for the project filed by the CEC recommends that 1 Condition of Certification be adopted to address transmission line safety and nuisance issues: TLSN-1. The FSA also recommends that 8 Conditions of Certification be adopted to address transmission system engineering issues: TSE-1 through TSE-8. These are acceptable.

III. Correlation to FSA and Hearing Topics:

- Transmission Line Safety and Nuisance
- Transmission System Engineering

Air Quality

I. Introduction

A. **Name:** Gary Rubenstein

B. **Qualifications:** Mr. Rubenstein's qualifications are as noted in his resume contained in Appendix A to the Prehearing Conference Statement of the City and County of San Francisco dated March 17, 2006.

C. **Prior Filings:** In addition to the statements herein, this testimony includes by reference the following documents submitted in this proceeding:

- Application for Determination of Compliance and Authority to Construct, filed with the BAAQMD, dated March 18, 2004.
- Supplement in Response to Data Adequacy Comments on the Application for Certification for the San Francisco Electric Reliability Project, dated April 16, 2004, Section 2.1. on Air Quality.
- Applicant's Response to CEC Staff Data Requests, Set 1A, dated July 6, 2004, Responses to Data Requests 2 through 4, and 6 through 11.
- Applicant's Response to CEC Staff Data Requests, Informal Set 6A, dated July 11, 2005, Responses to 6-1 and 6-2.
- Applicant's Response to CEC Staff Data Requests, Informal Set 3, dated August 20, 2004, Responses to Data Requests 148 through 149.
- Application for Determination of Compliance and Authority to Construct, filed with the BAAQMD, dated March 15, 2005.
- Supplement A to the Application for Certification for the San Francisco Electric Reliability Project, dated March 24, 2005, Section 8.1 (Air Quality) and Appendices 8.1A through 8.1F.
- Applicant's Response to CARE Data Requests, Set 3, dated June 9, 2005, Responses to Data Requests 3.3-1through 3.3-3.
- Applicant's Comments and Objections to Sarvey Data Requests, dated July 5, 2005, Comments regarding Data Requests 2 and 3.
- Applicant's Response to Sarvey Data Requests, Set 1A, dated July 25, 2005, Responses to Data Requests 1-2, 1-3, 1-5, 1-6.
- Applicant's "Air Quality Mitigation and Community Benefits Plan", dated August 4, 2005.

- Applicant's Response to Sarvey Data Requests, Set 1B, dated October 6, 2005, Responses to Data Request 1-3
- Applicant's Comments on the Preliminary Staff Assessment, Set 1, comments 12 through 23, and 38, dated October 12, 2005.
- Applicant's Comments on the Preliminary Staff Assessment, Set 2, comment 15, dated October 31, 2005.
- Applicant's Comments on the Final Staff Assessment, Set 1, Comment 1-11, dated March 17, 2006.

Correspondence and Other Materials (These materials are attached to this testimony as Appendix C)

- Letter from Nancy Matthews, Sierra Research, to BAAQMD Public Records, seeking meteorological data from the Potrero Power Plant site, dated July 31, 2003.
- Letter from Gary Rubenstein, Sierra Research, to Mike Ringer, CEC, submitting modeling protocol for SFERP, dated October 31, 2003.
- Letter from Nancy Matthews, Sierra Research, to Rochelle Walker, BAAQMD, seeking data for a cumulative air quality impacts analysis, dated November 20, 2003.
- Letter from Gary Rubenstein, Sierra Research, to Mike Ringer, CEC, submitting revised modeling protocol, dated November 25, 2003.
- Letter from Nancy Matthews, Sierra Research, to Rochelle Walker, BAAQMD, seeking emissions data for the Hunters Point Power Plant, dated January 14, 2004.
- Letter from Gene Willner, BAAQMD, to Nancy Matthews, Sierra Research, providing information regarding sources within a six mile radius of SFERP, dated January 16, 2004.
- Letter from Nancy Matthews, Sierra Research, to BAAQMD Administrative Services Division, seeking emissions data for the Hunters Point Power Plant, dated January 30, 2004.
- Letter from Nancy Matthews, Sierra Research, to BAAQMD Administrative Services Division, seeking emissions data for the Potrero Power Plant, dated January 30, 2004.
- BAAQMD Public Records Request Forms providing information related to the Hunters Point and Potrero Power Plants sent to Nancy Matthews, Sierra Research, dated March 5, 2004.
- Letter from Bob Nishimura, BAAQMD, to Bill Pfanner, CEC, confirming that the BAAQMD contains sufficient information for the district to undertake a Determination of Compliance Review, dated April 7, 2004.

- Letter from Victor Morales-Laimon, BAAQMD, to Nancy Matthews, Sierra Research, confirming receipt of application for Authority to Construct, dated April 14, 2004.
- Letter from Victor Morales-Laimon, BAAQMD, to Nancy Matthews, Sierra Research, confirming that the application for Authority to Construct has been accepted as complete, dated April 21, 2004.
- BAAQMD Public Records Request Forms providing information related to the Hunters Point and Potrero Power Plants sent to Nancy Matthews, Sierra Research, dated June 1, 2004.
- Letter from Nancy Matthews, Sierra Research, to BAAQMD Administrative Services Division, seeking emissions data for the Hunters Point Power Plant, dated June 2, 2004.
- Letter from Nancy Matthews, Sierra Research, to BAAQMD Administrative Services Division, seeking emissions data for the Potrero Power Plant, dated June 2, 2004.
- Letter from Karen Kubick, SFPUC, to Bob Nishimura, BAAQMD, regarding emission reduction credits for SFERP, dated September 17, 2004.
- Letter from Nancy Matthews, Sierra Research, to BAAQMD Administrative Services Division, seeking emissions data for the Hunters Point Power Plant, dated February 8, 2005.
- Letter from Nancy Matthews, Sierra Research, to BAAQMD Administrative Services Division, seeking emission data for the Potrero Power Plant, dated February 8, 2005.
- Letters from Nancy Matthews, Sierra Research, to Brian Bateman, BAAQMD and to Bill Pfanner, CEC, providing corrected pages and corrected modeling files (on CD), dated April 13, 2005 (The CD is not included in this testimony, but will be provided upon request).
- Preliminary Determination of Compliance issued by the BAAQMD for SFERP, dated July 26, 2005.
- Letter from Victor Morales-Laimon, BAAQMD, to Nancy Matthews, Sierra Research, regarding BAAQMD preliminary decision to approved SFERP, dated August 3, 2005.
- Letter from Gary Rubenstein, Sierra Research, to Clean Air Markets Division, USEPA, providing Certificates of Representation for SFERP, dated August 23, 2005.
- Letter from Gary Rubenstein, Sierra Research, to Jack Broadbent, BAAQMD, submitting application for acid rain permit application, dated August 23, 2005.
- Letter from Karen Kubick, SFPUC, to Jack Broadbent, BAAQMD, providing comments on the PDOC, dated August 24, 2005.

- Letter from Victor Morales-Laimon, BAAQMD, to Karen Kubick, SFPUC, regarding receipt of acid rain permit application, dated September 27, 2005.
- Letter from Jack Broadbent, BAAQMD, to Karen Kubick, SFPUC, responding to SFPUC's comments on the PDOC, dated December 13, 2005.
- Final Determination of Compliance issued by the BAAQMD for SFERP, dated November 22, 2005 (issued December 13, 2005).
- Letter from Gary Rubenstein, Sierra Research, to Jack Broadbent, BAAQMD, transmitting SFPUC's editorial comments on the FDOC, dated December 20, 2005.
- Letter from Nancy Matthews, Sierra Research, to William Pfanner, CEC, transmitting copy of SFPUC's editorial comments on the FDOC, dated December 21, 2005.
- Letter from Nancy Matthews, Sierra Research, to William Pfanner, CEC, providing revisions to AFC tables and air quality conditions of certification to reflect BAAQMD's revised PM10 emission limit in FDOC, dated December 21, 2005.
- Revised Final Determination of Compliance issued by BAAQMD for SFERP, dated January 19, 2006 (cover letter dated January 25, 2006).
- Letter from Jack Broadbent, BAAQMD, to Michael Boyd and Lynn Brown, CARE, responding to comments on the PDOC, dated February 1, 2006.
- Letter from Jack Broadbent, BAAQMD, to Robert Sarvey, responding to comments on the PDOC, undated.
- Letter from Russell Stepp, SFPUC, to U.S. EPA Acid Rain Program, submitting the Phase II Annual Compliance Certification Report for the SFERP, dated February 10, 2006.

To the best of my knowledge, all of the facts contained in this testimony (including all referenced documents) are true and correct. To the extent this testimony contains opinions, such opinions are my own. I make these statements, and render these opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

II. Proposed Licensing Conditions

The Air Quality section of the FSA for the project filed by the CEC recommends that 12 Conditions of Certification be adopted to address air quality issues: AQ-SC1 to AQ-SC12. The Air Quality section of the FSA also recommends that 42 Conditions of Certification be adopted to meet air quality permitting requirements: AQ-1 to AQ-42. An errata to the FSA Air Quality section was served on the City on April 14, 2006. This errata contains corrections to the following Conditions of Certification: AQ-SC3, AQ-SC11, AQ-SC12, AQ-12, AQ-18, and AQ-21. With the corrections in the errata, the FSA Conditions of Certification in the Air Quality section are acceptable.

III. Correlation to FSA and Hearing Topics:

- Air Quality

Biological Resources

I. Introduction

A. Name: Mr. John Cleckler and Mr. Gary Rubenstein.

B. Qualifications: Mr. Cleckler's and Mr. Rubenstein's qualifications are as noted in their respective resumes contained in Appendix A to the Prehearing Conference Statement of the City and County of San Francisco dated March 17, 2006.

C. Prior Filings: In addition to the statements herein, this testimony includes by reference the following documents submitted in this proceeding:

- Application for Certification for San Francisco Electric Reliability Project, dated March 2004 (Docket No. 04-AFC-1), Volume 2, Appendices 8.2A and 8.2B.
- Supplement A to the Application for Certification for the San Francisco Electric Reliability Project, Volume 1, dated March 24, 2005, Section 8.2 (Biological Resources).
- Supplement A to the Application for Certification for the San Francisco Electric Reliability Project, Volume 2, dated March 24, 2005, Appendix 8.2C.
- Supplement B to the Application for Certification for the San Francisco Electric Reliability Project dated January 11, 2006, Section 3.6 (Biological Resources).
- Applicant's Comments on the Preliminary Staff Assessment, Set 1, comment 24, dated October 12, 2005.

Mr. Rubenstein will sponsor the following exhibits in the area of Biological Resources (related to nitrogen deposition):

- Applicant's Response to CEC Staff Data Requests, Set 2A, dated October 12, 2004, Responses to Data Requests 157 through 159.
- Supplement A to the Application for Certification for the San Francisco Electric Reliability Project, dated March 24, 2005, analyses in support of Section 8.2 (Biological Resources) related to nitrogen deposition.
- Applicant's Response to CARE Data Requests, Set 3, dated June 9, 2005, Response to Data Request 3.7-1.

To the best of our knowledge, all of the facts contained in this testimony (including all referenced documents) are true and correct. To the extent this testimony contains opinions, such opinions are our own. We make these statements, and render these opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

II. Proposed Licensing Conditions

There are no Conditions of Certification addressing biological resource issues.

III. Correlation to FSA and Hearing Topics:

- Biological Resources.

Cultural Resources

I. Introduction

A. Name: Douglas Davy, PhD.

B. Qualifications: Dr. Davy's qualifications are as noted in his resume contained in Appendix A to the Prehearing Conference Statement of the City and County of San Francisco dated March 17, 2006.

C. Prior Filings: In addition to the statements herein, this testimony includes by reference the following documents submitted in this proceeding:

- Application for Certification for San Francisco Electric Reliability Project, dated March 2004 (Docket No. 04-AFC-1), Volume 2, Appendices 8.3C and 8.3D.
- Supplement in Response to Data Adequacy Comments on the Application for Certification for the SFERP, questions on cultural resources, dated April 16, 2004.
- Applicant's Response to CEC Staff Requests, Data Response Set 1A, Responses to Data Requests 22 and 23, dated July 6, 2004.
- Supplement A to the Application for Certification for the San Francisco Electric Reliability Project, Volume 1, dated March 24, 2005, Section 8.3 (Cultural Resources).
- Supplement A to the Application for Certification for the San Francisco Electric Reliability Project, Volume 2, dated March 24, 2005, Appendices 8.3A through 8.3D.
- Applicant's Response to CEC Staff Data Requests, Data Response Set 3A, Responses to Data Requests 161 through 178, dated June 3, 2005.
- Applicant's Response to CEC Staff Data Requests, Data Response Set 3C, Responses to Data Requests 161, 163, 173, 175, and 177, dated July 19, 2005.
- Applicant's Response to CEC Staff Requests, Informal Set 7, dated July 19, 2005, Responses to Request 7-1.
- Applicant's Response to CEC Staff Data Requests, Data Response Set 3D, Response to Data Request 161 (revised), dated September 13, 2005.
- Applicant's Response to CEC Staff Data Requests, Data Response Set 3E, Response to Data Request 173, dated October 6, 2005.
- Applicant's Comments on the Preliminary Staff Assessment, Set 1, comment 25, dated October 12, 2005.

- Supplement B to the Application for Certification for the San Francisco Electric Reliability Project dated January 11, 2006, Section 3.7 (Cultural Resources) and Appendix A.
- Applicant's Comments on the Final Staff Assessment, Set 1, comment 12, dated March 17, 2006

To the best of my knowledge, all of the facts contained in this testimony (including all referenced documents) are true and correct. To the extent this testimony contains opinions, such opinions are my own. I make these statements, and render these opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

II. Proposed Licensing Conditions

The Cultural Resources section of the FSA for the project filed by the CEC recommends that 8 Conditions of Certification be adopted to address cultural resource issues: Conditions CUL-1through CUL-8. An errata to the FSA Cultural Resources section was served on the City on April 14, 2006. This errata contains a correction to Condition of Certification CUL-6. With the correction in the errata, the FSA Conditions of Certification in the Cultural Resources section are acceptable.

III. Correlation to FSA and Hearing Topics:

- Cultural Resources.

Land Use

I. Introduction

A. Name: Mr. Steven Smith

B. Qualifications: Mr. Smith's qualifications are as noted in his resume contained in Appendix A to the Prehearing Conference Statement of the City and County of San Francisco dated March 17, 2006.

C. Prior Filings: In addition to the statements herein, this testimony includes by reference the following documents submitted in this proceeding:

- Applicant's Response to CEC Staff Requests, Data Response Set 1A, Responses to Data Requests 30, 36, 37, and 39, dated July 6, 2004.
- Applicant's Response to CEC Staff Data Requests, Informal Data Response Set 3, Responses to Data Requests 124, 125, 127, and 129, dated August 20, 2004.
- Supplement A to the Application for Certification for the San Francisco Electric Reliability Project, Volume 1, dated March 24, 2005, Section 8.4 (Land Use).
- Applicant's Comments on the Preliminary Staff Assessment, Set 1, comment 36, dated October 12, 2005.
- Applicant's Comments on the Preliminary Staff Assessment, Set 2, un-numbered comment, dated October 31, 2005.
- Supplement B to the Application for Certification for the San Francisco Electric Reliability Project dated January 11, 2006 Section 3.10 (Land Use).

To the best of my knowledge, all of the facts contained in this testimony (including all referenced documents) are true and correct. To the extent this testimony contains opinions, such opinions are my own. I make these statements, and render these opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

II. Proposed Licensing Conditions

The FSA for the project filed by the CEC recommends that 3 Conditions of Certification be adopted to address land use issues: LAND-1 through LAND-3. These are acceptable.

III. Correlation to FSA and Hearing Topics:

- Land Use.

Noise and Vibration

I. Introduction

A. Name: Mark Bastasch

B. Qualifications: Mr. Bastasch's qualifications are as noted in his resume contained in Appendix A to the Prehearing Conference Statement of the City and County of San Francisco dated March 17, 2006.

C. Prior Filings: In addition to the statements herein, this testimony includes by reference the following documents submitted in this proceeding:

- Applicant's Response to CEC Staff Data Requests, Informal Data Response Set 3, Response to Data Request 130, dated August 20, 2004.
- Applicant's Response to CEC Staff Data Requests, Informal Data Response Set 4, Responses to Data Requests 152 and 153, dated August 27, 2004.
- Supplement A to the Application for Certification for the San Francisco Electric Reliability Project, Volume 1, dated March 24, 2005, Section 8.5 (Noise).
- Applicant's Response to CEC Staff Data Requests, Data Response Set 3A, Response to Data Request 181, dated June 3, 2005.
- Applicant's Response to CARE Data Requests, Data Response Set 3, Responses to Data Requests 3.6-1 and 3.6-2, dated June 9, 2005.
- Applicant's Comments on the Preliminary Staff Assessment, Set 1, comment 37, dated October 12, 2005.
- Supplement B to the Application for Certification for the San Francisco Electric Reliability Project dated January 11, 2006, Section 3.13 (Noise and Vibration).
- Applicant's Comments on the Final Staff Assessment, Set 1, comments 16 through 18, dated March 17, 2006.

To the best of my knowledge, all of the facts contained in this testimony (including all referenced documents) are true and correct. To the extent this testimony contains opinions, such opinions are my own. I make these statements, and render these opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

II. Proposed Licensing Conditions

The FSA for the project filed by the CEC recommends that 6 Conditions of Certification be adopted to address noise and vibration issues: NOISE-1 through NOISE-6. These are acceptable. However, for the sake of clarity, the City will seek one clarification to NOISE-4, Verification during the evidentiary hearings as set forth in the City's FSA Comments, Set 1, dated March 17, 2006:

NOISE-4, Verification: Please clarify that the 15 days in the verification section (both the first and second paragraphs) means "15 business days."

III. Correlation to FSA and Hearing Topics:

- Noise and Vibration.

Public Health

I. Introduction

A. Names: Mr. John Lowe and Mr. Gary Rubenstein

B. Qualifications: Mr. Lowe's and Mr. Rubenstein's qualifications are as noted in their respective resumes contained in Appendix A to the Prehearing Conference Statement of the City and County of San Francisco dated March 17, 2006.

C. Prior Filings: In addition to the statements herein, this testimony includes by reference the following documents submitted in this proceeding.

- Supplement A to the Application for Certification for the San Francisco Electric Reliability Project, Volume 1, dated March 24, 2005, Section 8.6 (Public Health).
- Applicant's Response to CARE Data Requests, Data Response Set 3, Response to Data Request 3.5-1, dated June 9, 2005.
- Applicant's Comments on the Preliminary Staff Assessment, Set 1, comments 39 through 41, dated October 12, 2005.
- Supplement B to the Application for Certification for the San Francisco Electric Reliability Project dated January 11, 2006, Section 3.2 (Public Health).

Mr. Rubenstein will sponsor the following exhibits in the area of Public Health:

- Applicant's Response to CEC Staff Data Requests, Set 1A, dated July 6, 2004, Responses to Data Requests 42 through 47.
- Applicant's Response to CEC Staff Data Requests, Informal Set 2, dated August 20, 2004, Responses to Data Requests 120 through 123.
- Applicant's Response to CEC Staff Data Requests, Informal Set 3, dated August 20, 2004, Responses to Data Request 150.
- Supplement A to the Application for Certification for the San Francisco Electric Reliability Project, dated March 24, 2005, analyses in support of Section 8.6 (Public Health).

To the best of our knowledge, all of the facts contained in this testimony (including all referenced documents) are true and correct. To the extent this testimony contains opinions, such opinions are our own. We make these statements, and render these opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

II. Proposed Licensing Conditions

The FSA for the project filed by the CEC recommends that 1 Condition of Certification be adopted to address public health issues: PUBLIC HEALTH-1. It is acceptable.

III. Correlation to FSA and Hearing Topics:

- Public Health.

Worker Health and Safety

I. Introduction

A. Name: Sarah Madams and James P. Bushnell.

B. Qualifications: Ms. Madams' qualifications are as noted in her resume contained in Appendix A to the Prehearing Conference Statement of the City and County of San Francisco dated March 17, 2006. Mr. Bushnell's qualifications are attached.

C. Prior Filings: In addition to the statements herein, this testimony includes by reference the following documents submitted in this proceeding:

- Applicant's Response to CEC Staff Data Requests, Informal Data Response Set 1, Responses to Data Requests 115 through 118, dated August 2, 2004.
- Supplement A to the Application for Certification for the San Francisco Electric Reliability Project, Volume 1, dated March 24, 2005, Section 8.7 (Worker Health and Safety).
- Supplement B to the Application for Certification for the San Francisco Electric Reliability Project dated January 11, 2006, Section 3.5 (Worker Safety and Fire Protection).
- Applicant's Comments on the Preliminary Staff Assessment, Set 1, comments 75 and 76, dated October 12, 2005.
- Applicant's Comments on the Preliminary Staff Assessment, Set 2, comment 76, dated October 31, 2005.

To the best of our knowledge, all of the facts contained in this testimony (including all referenced documents) are true and correct. To the extent this testimony contains opinions, such opinions are our own. We make these statements, and render these opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

II. Proposed Licensing Conditions

The FSA for the project filed by the CEC recommends that 5 Conditions of Certification be adopted to address worker safety and fire protection issues: WORKER SAFETY-1 through WORKER SAFETY-5. These are acceptable.

III. Correlation to FSA and Hearing Topics:

- Worker Safety and Fire Protection.

Socioeconomics

I. Introduction

A. Name: Ms. Fatuma Yusuf and Mr. John Carrier.

B. Qualifications: Ms. Yusuf's and Mr. Carrier's qualifications are as noted in their resumes contained in Appendix A to the Prehearing Conference Statement of the City and County of San Francisco dated March 17, 2006.

C. Prior Filings: In addition to the statements herein, this testimony includes by reference the following documents submitted in this proceeding:

- Application for Certification for San Francisco Electric Reliability Project, dated March 2004 (Docket No. 04-AFC-1), Volume 2, Appendix 8.8A.
- Supplement A to the Application for Certification for the San Francisco Electric Reliability Project, Volume 1, dated March 24, 2005, Section 8.8 (Socioeconomics).
- Supplement A to the Application for Certification for the San Francisco Electric Reliability Project, Volume 2, dated March 24, 2005, Appendices 8.8A and 8.8B.
- Applicant's Comments on the Preliminary Staff Assessment, Set 1, comment 42, dated October 12, 2005.
- Applicant's Comments on the Preliminary Staff Assessment, Set 2, comment 42, dated October 31, 2005.
- Supplement B to the Application for Certification for the San Francisco Electric Reliability Project dated January 11, 2006, Section 3.14 (Socioeconomics).

To the best of our knowledge, all of the facts contained in this testimony (including all referenced documents) are true and correct. To the extent this testimony contains opinions, such opinions are our own. We make these statements, and render these opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

II. Proposed Licensing Conditions

The FSA for the project filed by the CEC does not recommend Conditions of Certification to address socioeconomic resource issues.

III. Correlation to FSA and Hearing Topics:

- Socioeconomics (excluding Environmental Justice)

Agriculture and Soils

I. Introduction

A. Name: Mr. Steve Long

B. Qualifications: Mr. Long's qualifications are as noted in his resume contained in Appendix A to the Prehearing Conference Statement of the City and County of San Francisco dated March 17, 2006.

C. Prior Filings: In addition to the statements herein, this testimony includes by reference the following documents submitted in this proceeding:

- Applicant's Response to CEC Staff Requests, Data Response Set 1A, Responses to Data Requests 53, dated July 6, 2004.
- Supplement A to the Application for Certification for the San Francisco Electric Reliability Project, Volume 1, dated March 24, 2005, Section 8.9 (Agriculture and Soils).
- Applicant's Response to CEC Staff Data Requests, Data Response Set 3A Final, Responses to Data Requests 185 through 187, dated June 3, 2005.
- Applicant's Response to CEC Staff Data Requests, Data Response Set 3C, Response to Data Request 187, dated July 19, 2005.
- Applicant's Comments on the Preliminary Staff Assessment, Set 1, comments 53, dated October 12, 2005.
- Applicant's Response to CEC Staff Data Requests, Data Response Set 3F, Response to Data Request 187, dated January 11, 2006.
- Supplement B to the Application for Certification for the San Francisco Electric Reliability Project dated January 11, 2006, Section 3.9 {Soils and Water Resources (Soil section)}Applicant's Response to CEC Staff Data Requests, Informal Data Response Set 9A, Responses to Data Requests S&WR 9-21, dated January 13, 2006.

To the best of my knowledge, all of the facts contained in this testimony (including all referenced documents) are true and correct. To the extent this testimony contains opinions, such opinions are my own. I make these statements, and render these opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

II. Proposed Licensing Conditions

The FSA for the project filed by the CEC recommends that 12 Conditions of Certification be adopted to address soil, and water resource issues: SOIL&WATER-1 through 12. In supplemental testimony filed by CEC staff on April 10, 2006, an additional Condition of Certification SOIL&WATER 13 was proposed. Conditions of Certification SOIL&WATER 1

though SOIL&WATER 5 and SOIL & WATER 8 through SOIL & WATER 12 are acceptable. The City's position on SOIL & WATER 6, 7 and 13 is, and will be discussed in other testimony.

III. Correlation to FSA and Hearing Topics:

- Soil and Water Resources.

Traffic and Transportation

I. Introduction

A. Name: Mr. Loren Bloomberg

B. Qualifications: Mr. Bloomberg's qualifications are as noted in his resume contained in Appendix A to the Prehearing Conference Statement of the City and County of San Francisco dated March 17, 2006.

C. Prior Filings: In addition to the statements herein, this testimony includes by reference the following documents submitted in this proceeding:

- Applicant's Response to CEC Staff Requests, Data Response Set 1A, Responses to Data Requests 57-58, 62-68, dated July 6, 2004.
- Supplement A to the Application for Certification for the San Francisco Electric Reliability Project, Volume 1, dated March 24, 2005, Section 8.10 (Traffic and Transportation).
- Applicant's Comments on the Preliminary Staff Assessment, Set 1, comment 62, dated October 12, 2005.
- Applicant's Comments on the Preliminary Staff Assessment, Set 2, unnumbered comment, dated October 31, 2005.
- Supplement B to the Application for Certification for the San Francisco Electric Reliability Project dated January 11, 2006, Section 3.11 (Traffic and Transportation).

To the best of my knowledge, all of the facts contained in this testimony (including all referenced documents) are true and correct. To the extent this testimony contains opinions, such opinions are my own. I make these statements, and render these opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

II. Proposed Licensing Conditions

The FSA for the project filed by the CEC recommends that 6 Conditions of Certification be adopted to address traffic and transportation issues: TRANS-1 through TRANS-6. These are acceptable.

III. Correlation to FSA and Hearing Topics:

- Traffic and Transportation.

Visual Resources

I. Introduction

A. Name: Ms. Wendy Haydon, Dr. Tom Priestley, and Mr. Gary Rubenstein.

B. Qualifications: Ms. Haydon's, Dr. Priestley's, and Mr. Rubenstein's qualifications are as noted in their resumes contained in Appendix A to the Prehearing Conference Statement of the City and County of San Francisco dated March 17, 2006.

C. Prior Filings: In addition to the statements herein, this testimony includes by reference the following documents submitted in this proceeding:

- Applicant's Response to CEC Staff Data Requests, Data Response Set 1A, Responses to Data Requests 81 through 87, dated July 6, 2004.
- Applicant's Response to CEC Staff Data Requests, Informal Data Response Set 1, Responses to Data Requests 119a, 119b, and 119c, dated August 2, 2004.
- Supplement A to the Application for Certification for the San Francisco Electric Reliability Project, Volume 1, dated March 24, 2005, Section 8.11 (Visual Resources).
- Applicant's Response to CEC Staff Data Requests, Data Response Set 3A, Response to Data Request 193, dated June 3, 2005.
- Applicant's Comments on the Preliminary Staff Assessment, Set 1, comments 64 through 69, dated October 12, 2005.
- Supplement B to the Application for Certification for the San Francisco Electric Reliability Project dated January 11, 2006, Section 3.12 (Visual Resources).

To the best of our knowledge, all of the facts contained in this testimony (including all referenced documents) are true and correct. To the extent this testimony contains opinions, such opinions are our own. We make these statements, and render these opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

II. Proposed Licensing Conditions

The FSA for the project filed by the CEC recommends that 5 Conditions of Certification be adopted to address visual resource issues: VIS-1 through VIS-5. These are acceptable.

III. Correlation to FSA and Hearing Topics:

- Visual Resources.

Hazardous Materials Handling

I. Introduction

A. Name: Ms. Karen Parker

B. Qualifications: Ms. Parker's qualifications are as noted in her resume contained in Appendix A to the Prehearing Conference Statement of the City and County of San Francisco dated March 17, 2006.

C. Prior Filings: In addition to the statements herein, this testimony includes by reference the following documents submitted in this proceeding:

- Applicant's Response to CEC Staff Requests, Data Response Set 1A, Responses to Data Requests 27 through 29, dated July 6, 2004.
- Applicant's Response to CEC Staff Data Requests, Informal Data Response Set 3, Response to Data Request 151, dated August 20, 2004.
- Supplement A to the Application for Certification for the San Francisco Electric Reliability Project, Volume 1, dated March 24, 2005, Section 8.12 (Hazardous Materials)
- Supplement A to the Application for Certification for the San Francisco Electric Reliability Project, Volume 2, dated March 24, 2005, Appendix 8.12A.
- Applicant's Response to Sarvey Data Requests, Set 1A, dated July 25, 2005, Responses to Data Requests 1-7 through 1-10, 1-12, 1-13, 1-14 and 1-15.
- Applicant's Comments on the Preliminary Staff Assessment, Set 1, comments 26 through 35, dated October 12, 2005.
- Applicant's Comments on the Preliminary Staff Assessment, Set 2, comments 31 and 34, dated October 31, 2005.
- Supplement B to the Application for Certification for the San Francisco Electric Reliability Project dated January 11, 2006, Section 3.3 (Hazardous Materials Management).
- Applicant's Comments on the Final Staff Assessment, Set 1, comments 13 through 15, dated March 17, 2006

To the best of my knowledge, all of the facts contained in this testimony (including all referenced documents) are true and correct. To the extent this testimony contains opinions, such opinions are my own. I make these statements, and render these opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

II. Proposed Licensing Conditions

The FSA for the project filed by the CEC recommends that 9 Conditions of Certification be adopted to address hazardous materials management issues: HAZ-1 through HAZ-8. HAZ-1 through HAZ-9 are acceptable. During the evidentiary hearings, the City will seek two changes as follows to HAZ-9. These changes are set forth in the Final Staff Assessment Comments, Set 1, dated March 17, 2006. From the discussion at the workshop on the Final Staff Assessment, the City understands these changes to be acceptable to staff.

HAZ-9, item 10: Requiring a person on site 24-hours a day is excessive. The requirement should be changed to having a person monitor the security cameras 24 hours a day as follows:

10. Additional measures to ensure adequate perimeter security consisting of either:

    A. Security guards present 24 hours per day, 7 days per week. or

    B. ~~Power plant personnel on-site 24 hours per day, 7 days a week and~~ **all** of the following:

        1. The CCTV monitoring system required in number 9 above shall include cameras that are able to pan, tilt, and zoom (PTZ), have low-light capability, are recordable, and are able to view 100 percent of the perimeter fence, the ammonia storage tank, the outside entrance to the control room, and the front gate from a monitor in the power plant control room; **and**

        2. Perimeter breach detector **or** on-site motion detectors; **and**

        3. A person monitoring the CCTV monitoring system 24-hours a day seven days a week. Such person may be at a remote location.

HAZ-9, Verification: This should be clarified so that the "30 days prior to the initial receipt of hazardous materials on-site" refers to hazardous materials used for operations, that, is the receipt of ammonia. The following clarification should be made:

Verification: Prior to receiving any hazardous material on site for commissioning or operations~~At least 30 days prior to the initial receipt of hazardous materials on-site~~, the project owner shall notify the CPM that a site-specific Vulnerability Assessment and Operations Site Security Plan are available for review and approval.

III. Correlation to FSA and Hearing Topics:

- Hazardous Materials.

Waste Management

I. Introduction

A. Name: Ms. Karen Parker, Ms. Karen Kubick, Mr. Randall Smith, Mr. Steve De Young, and Mr. Tom Lae.

B. Qualifications: Ms. Parker's, Ms. Kubick's, Mr. Smith's, Mr. De Young's, and Mr. Lae's qualifications are as noted in their resumes contained in Appendix A to the Prehearing Conference Statement of the City and County of San Francisco dated March 17, 2006.

C. Prior Filings: In addition to the statements herein, this testimony includes by reference the following documents submitted in this proceeding:

- Applicant's Response to CEC Staff Requests, Data Response Set 1A, Responses to Data Requests 88 through 90, dated July 6, 2004.
- Applicant's Response to CEC Staff Data Requests, Informal Data Response Set 3, Response to Data Request 145, dated August 20, 2004.
- Supplement A to the Application for Certification for the San Francisco Electric Reliability Project, Volume 1, dated March 24, 2005, Section 8.13 (Waste Management).
- Applicant's Response to CEC Staff Data Requests, Data Response Set 3A Final, Response to Data Request 184, dated June 3, 2005.
- Applicant's Response to CEC Staff Data Requests, Informal Data Response Set 6A, Responses to Data Request 6-11, dated July 11, 2005.
- Applicant's Response to Sarvey Data Requests, Set 1A, dated July 25, 2005, Responses to Data Requests 1-16 through 1-18.
- Applicant's Comments on the Preliminary Staff Assessment, Set 1, comments 43, 44, and 70 through 74, dated October 12, 2005.
- Applicant's Response to CEC Staff Data Requests, Informal Data Response Set 6D, Response to Data Request 6-10, dated October 14, 2005.
- Applicant's Response to CEC Staff Data Requests, Informal Data Response Set 6D, Response to Data Request 6-10 (addendum), dated October 22, 2005.
- Applicant's Comments on the Preliminary Staff Assessment, Set 2, comments 70 through 73, dated October 31, 2005.
- Applicant's Comments on the Preliminary Staff Assessment, Set 3, comment 71, dated November 11, 2005.

- Applicant's Comments on the Preliminary Staff Assessment, Set 4, Revised, comment 70, dated December 30, 2005.
- Supplement B to the Application for Certification for the San Francisco Electric Reliability Project dated January 11, 2006, Section 3.4 (Waste Management).
- Applicant's Response to CEC Staff Data Requests, Informal Data Response Set 9A, Responses to Data Requests S&WR 9-13 and 9-21, dated January 13, 2006.
- Applicant's Final Field Sampling Plan, dated February 14, 2006.
- Applicant's Comments on the Final Staff Assessment, Set 1, comments 19 through 23 and 25 through 32, dated March 17, 2006.
- Applicant's Draft Field Investigation Summary Report, dated March 30, 2006.

To the best of our knowledge, all of the facts contained in this testimony (including all referenced documents) are true and correct. To the extent this testimony contains opinions, such opinions are our own. We make these statements, and render these opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

II. Proposed Licensing Conditions

The FSA for the project filed by the CEC recommends that 8 Conditions of Certification be adopted to address waste management issues: WASTE-1 through WASTE-8. In supplemental testimony filed by CEC staff on April 10, 2006, FSA WASTE-6 was withdrawn and a new WASTE-6 was proposed to replace WASTE-7. Conditions of Certification WASTE-1 though WASTE-5 and WASTE-8 as set forth in the FSA are acceptable. As detailed various documents filed to date, the City has outstanding questions or concerns about FSA WASTE-6 and WASTE-7, and about the proposed new WASTE-6 set forth in staff's supplemental testimony. The City expects to address these further in supplemental testimony to be filed on May 1.

III. Correlation to FSA and Hearing Topics:

- Waste Management.

Water Resources/Water Supply Pipelines

I. Introduction

A. Name: Mr. Matt Franck, Ms. Karen Kubick, Mr. Randall Smith, Mr. Steve De Young, and Mr. Tom Lae for Water Resources. Mr. Steve Brock for Water Supply Pipelines.

B. Qualifications: Mr. Franck's, Ms. Kubick's, Mr. Smith's, Mr. De Young's, Mr. Lae's and Mr. Brock's qualifications are as noted in their resumes contained in Appendix A to the Prehearing Conference Statement of the City and County of San Francisco dated March 17, 2006.

C. Prior Filings: In addition to the statements herein, this testimony includes by reference the following documents submitted in this proceeding:

- Supplement in Response to Data Adequacy Comments on the Application for Certification for the SFERP, questions on water resources, dated April 16, 2004.
- Applicant's Response to CEC Staff Requests, Data Response Set 1A, Responses to Data Requests 50, 53, 55, dated July 6, 2004.
- Applicant's Response to CEC Staff Requests, Data Response Set 1B, Responses to Data Requests 92 -95, 97-106, 112 dated July 12, 2004.
- Applicant's Response to CEC Staff Data Requests, Informal Data Response Set 3, Responses to Data Requests 131, 133-137, 139-144, dated August 20, 2004.
- Supplement A to the Application for Certification for the San Francisco Electric Reliability Project, Volume 1, dated March 24, 2005 , Section 7 (Water Supply Pipelines) and Section 8.13 (Waste Management).
- Applicant's Response to CEC Staff Data Requests, Data Response Set 3A Final, Responses to Data Requests 185 through 192, dated June 3, 2005.
- Applicant's Response to CEC Staff Data Requests, Informal Data Response Set 6A, Responses to Data Requests 6-1 through 6-11, dated July 11, 2005.
- Applicant's Response to CEC Staff Data Requests, Data Response Set 3C, Response to Data Request 187, dated July 19, 2005.
- Applicant's Response to Sarvey Data Requests, Set 1A, dated July 25, 2005, Data Requests 1-19 through 1-22.
- Applicant's Response to CEC Staff Data Requests, Informal Data Response Set 6B, Response to Data Request 6-9, dated August 10, 2005.
- Applicant's Response to CEC Staff Data Requests, Informal Data Response Set 6C, Response to Data Request 6-12, dated August 25, 2005.

- Applicant's Comments on the Preliminary Staff Assessment, Set 1, comments 43 through 61 and 71 through 72, dated October 12, 2005.
- Applicant's Response to CEC Staff Data Requests, Informal Data Response Set 6D, Response to Data Request 6-10, dated October 14, 2005.
- Applicant's Response to CEC Staff Data Requests, Informal Data Response Set 6D, Response to Data Request 6-10 (addendum), dated October 22, 2005.
- Applicant's Comments on the Preliminary Staff Assessment, Set 2, comments 45, 52, 54, 57, 60, 70, 71 and 72, dated October 31, 2005.
- Applicant's Comments on the Preliminary Staff Assessment, Set 3, comments 45 and 71, dated November 11, 2005.
- Amendment to the Project Description, Vegetated Swale, dated November 18, 2005.
- Amendment to the Project Description, Process and Cooling Water Supply, dated December 20, 2005.
- Applicant's Response to CEC Staff Data Requests, Data Response Set 3F, Response to Data Request 187, dated January 11, 2006.
- Supplement B to the Application for Certification for the San Francisco Electric Reliability Project dated January 11, 2006.
- Applicant's Response to CEC Staff Data Requests, Informal Data Response Set 9A, Responses to Data Requests S&WR 9-1 through 9-12 and 9-14 through 9-21, dated January 13, 2006.
- Applicant's Response to CEC Staff Data Requests, Informal Data Response Set 9B, Revised Responses to Data Requests S&WR 9-2 and 9-17, dated January 19, 2006.
- Applicant's Final Field Sampling Plan, dated February 14, 2006.
- Applicant's Comments on the Final Staff Assessment, Set 1, comments 19 through 26, 29 through 32, dated March 17, 2006.
- Applicant's Comments on the Final Staff Assessment, Set 2, comments 2-1 and 2-2, dated March 24, 2006.
- Applicant's Draft Field Investigation Summary Report, dated March 30, 2006

To the best of our knowledge, all of the facts contained in this testimony (including all referenced documents) are true and correct. To the extent this testimony contains opinions, such opinions are our own. We make these statements, and render these opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

II. Proposed Licensing Conditions

The FSA for the project filed by the CEC recommends that 12 Conditions of Certification be adopted to address soil, and water resource issues: SOIL&WATER-1 through 12. In

supplemental testimony filed by CEC staff on April 10, 2006, an additional Condition of Certification SOIL&WATER 13 was proposed. Conditions of Certification SOIL&WATER 1 though SOIL&WATER 5 and SOIL & WATER 8 through SOIL & WATER 12 are acceptable. As detailed various documents filed to date, the City has outstanding questions or concerns about FSA SOIL&WATER-6 and SOIL & WATER-7, and about the proposed new SOIL & WATER-13 set forth in staff's supplemental testimony. The City expects to address these further in supplemental testimony to be filed on May 1.

III. Correlation to FSA and Hearing Topics:

- Soil and Water Resources.

Geologic Resources

I. Introduction

A. Name: Mr. Tom Lae

B. Qualifications: Mr. Lae's qualifications are as noted in his resume contained in Appendix A to the Prehearing Conference Statement of the City and County of San Francisco dated March 17, 2006.

C. Prior Filings: In addition to the statements herein, this testimony includes by reference the following documents submitted in this proceeding:

- Supplement A to the Application for Certification for the San Francisco Electric Reliability Project, Volume 1, dated March 24, 2005, Section 8.15 (Geologic Hazards and Resources).
- Applicant's Response to CEC Staff Data Requests, Informal Data Response Set 8, Response to Data Request GEO-1, dated October 7, 2005.
- Supplement B to the Application for Certification for the San Francisco Electric Reliability Project dated January 11, 2006, Section 3.8 (Geology and Paleontology).

To the best of my knowledge, all of the facts contained in this testimony (including all referenced documents) are true and correct. To the extent this testimony contains opinions, such opinions are my own. I make these statements, and render these opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

II. Proposed Licensing Conditions

There are no Conditions of Certification related to Geology.

III. Correlation to FSA and Hearing Topics:

- Geology and Paleontology.

Paleontological Resources

I. Introduction

B. Name: Mr. Geof Spaulding

B. Qualifications: Mr. Spaulding's qualifications are as noted in his resume contained in Appendix A to the Prehearing Conference Statement of the City and County of San Francisco dated March 17, 2006.

C. Prior Filings: In addition to the statements herein, this testimony includes by reference the following documents submitted in this proceeding:

- Supplement A to the Application for Certification for the San Francisco Electric Reliability Project, Volume 1, dated March 24, 2005, Section 8.16 (Paleontological Resources).
- Applicant's Comments on the Preliminary Staff Assessment, Set 1, comments 78 through 80, dated October 12, 2005.
- Supplement B to the Application for Certification for the San Francisco Electric Reliability Project dated January 11, 2006, Section 3.8 (Geology and Paleontology).
- Applicant's Comments on the Final Staff Assessment, Set 1, comments 33 through 35, dated March 17, 2006.

To the best of my knowledge, all of the facts contained in this testimony (including all referenced documents) are true and correct. To the extent this testimony contains opinions, such opinions are my own. I make these statements, and render these opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

II. Proposed Licensing Conditions

The FSA for the project filed by the CEC recommends that 7 Conditions of Certification be adopted to address paleontological issues: PAL-1 through PAL-7. These are acceptable. However, for the sake of clarity, the City may seek clarifications to PAL-2 through PAL-4 during the evidentiary hearings as set forth in the City's FSA Comments, Set 1, dated March 17, 2006:

> Staff clearly establishes that their concern is for undisturbed sediments "Staff considers the probability that paleontological resources will be encountered. . . to be high when native materials are encountered. . ." (p. 5.2-9, last paragraph; also p. 5.2- 5, 2nd paragraph). The City concurs and would, therefore, suggest the following revisions be made to focus activities to construction in native materials:
>
> **PAL-2:** The project owner shall provide to the PRS and the CPM, for approval, maps and drawings showing the footprint of the power plant, construction laydown areas, and all related facilities. Maps shall identify all areas of the project where

ground disturbance is anticipated in previously undisturbed sediments. If the PRS requests enlargements or strip maps for linear facility routes, the project owner shall provide copies to the PRS and CPM. The site grading plan and the plan and profile drawings for the utility lines would be acceptable for this purpose. The plan drawings should show the location, depth, and extent of all ground disturbances and can be at a scale of 1 inch = 40 feet to 1 inch = 100 feet range. If the footprint of the power plant or linear facility changes, then the project owner shall provide maps and drawings reflecting these changes to the PRS and CPM.

PAL-3, Item 5: Please make the following revisions:

5. A discussion of where undisturbed sediment is likely to be encountered during excavations and ~~the locations of~~ where the monitoring of project construction activities is deemed necessary, and a proposed plan for the monitoring and sampling;

As described previously, please limit monitoring to undisturbed soils.

PAL-4 Prior to ground disturbance and for the duration of construction in native sediment, the project owner and the PRS shall prepare and conduct weekly CPM-approved training for all recently employed project managers, construction supervisors and workers who are involved with or operate ground-disturbing equipment or tools in previously undisturbed soils. Workers . . .

III. Correlation to FSA and Hearing Topics:

- Geology and Paleontology.

Alternatives

I. Introduction

A. Names: Ms. Barbara Hale, Ms. Karen Kubick, Mr. Gary Rubenstein, Mr. Steve Brock, and Mr. Barry Flynn.

B. Qualifications: Ms. Hale's, Ms. Kubick's, Mr. Rubenstein's, Mr. Brock's and Mr. Flynn's qualifications are as noted in their respective resumes contained in Appendix A to the Prehearing Conference Statement of the City and County of San Francisco dated March 17, 2006.

C. Prior Filings: In addition to the statements herein, this testimony includes by reference the following documents submitted in this proceeding:

- Applicant's Response to CEC Staff Requests, Data Response Set 1A, Responses to Data Requests 12 through 18, dated July 6, 2004.
- Applicant's Response to San Francisco Community Power, Data Response Set 1, number 9, dated August 18, 2004.
- Applicant's Response to CEC Staff Data Requests, Informal Data Response Set 5, Response to Data Request 160, dated September 20, 2004.
- Supplement A to the Application for Certification for the San Francisco Electric Reliability Project, Volume 1, dated March 24, 2005, Section 9 (Alternatives).
- Applicant's Response to CEC Staff Requests, Data Response Set 3A, Responses to Data Requests 179 through 180, dated June 3, 2005.
- Applicant's Response to CARE Data Requests, Data Response Set 3, Responses to Data Requests 3.2-1 and 3.2-2, dated June 9, 2005.
- Applicant's Response to CARE Data Requests, Data Response Set 3B, Further Response to Data Request 3.2-2, dated June 22, 2005.
- Applicant's Response to Sarvey Requests, Data Response Set 1A, Response to Data Request 1-13, dated July 25, 2005.
- Applicant's Comments on the Preliminary Staff Assessment, Set 1, comments 88 through 90, dated October 12, 2005.

To the best of our knowledge, all of the facts contained in this testimony (including all referenced documents) are true and correct. To the extent this testimony contains opinions, such opinions are our own. We make these statements, and render these opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

II. Proposed Licensing Conditions

There are no Conditions of Certification related to Alternatives.

III. Correlation to FSA and Hearing Topics:

- Alternatives.

APPENDIX A

Declarations

DECLARATION OF
SARAH MADAMS

I, Sarah Madams, declare as follows:

1. I am presently employed by CH2M HILL Incorporated as a Project Consultant.

2. A copy of my professional qualifications and experience were previously provided in Appendix A of the Prehearing Conference Statement filed by the Applicant on March 17, 2006.

3. I am sponsoring the attached testimony on Worker Health and Safety for the San Francisco Electric Reliability Project based on my independent analysis and my professional experience and knowledge.

4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.

5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: April 13, 2006 Signed: S Madams

At: Sacramento, CA

DECLARATION OF
THOMAS PRIESTLEY

I, Thomas Priestley, declare as follows:

1. I am presently employed by CH2M HILL Incorporated as a Senior Technologist.

2. A copy of my professional qualifications and experience were previously provided in Appendix A of the Prehearing Conference Statement filed by the Applicant on March 17, 2006.

3. I supervised the preparation of the attached testimony on Visual Resources for the San Francisco Electric Reliability Project based on my independent analysis and my professional experience and knowledge.

4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.

5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: April 12, 2006 Signed: Thomas J. Priestley

At: Oakland, CA

DECLARATION OF
WENDY HAYDON

I, Wendy Haydon, declare as follows:

1. I am presently employed by CH2M HILL Incorporated as a Project Planner.
2. A copy of my professional qualifications and experience were previously provided in Appendix A of the Prehearing Conference Statement filed by the Applicant on March 17, 2006.
3. I helped prepare the attached testimony on Visual Resources for the San Francisco Electric Reliability Project based on my independent analysis and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: April 12, 2006 Signed: Wendy Haydon

At: Sacramento, CA

DECLARATION OF
DOUG DAVY

I, Doug Davy, declare as follows:

1. I am presently employed by CH2M HILL Incorporated as a Senior Project Manager.
2. A copy of my professional qualifications and experience were previously provided in Appendix A of the Prehearing Conference Statement filed by the Applicant on March 17, 2006.
3. I prepared the attached testimony on Cultural Resources for the San Francisco Electric Reliability Project based on my independent analysis and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 4/12/06 Signed: _____

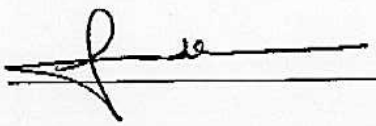
At: Sacramento, CA

DECLARATION OF
FATUMA YUSUF

I, Fatuma Yusuf, declare as follows:

1. I am presently employed by CH2M HILL Incorporated as a Client Service Manager.
2. A copy of my professional qualifications and experience were previously provided in Appendix A of the Prehearing Conference Statement filed by the Applicant on March 17, 2006.
3. I prepared the attached testimony on Socioeconomics for the San Francisco Electric Reliability Project based on my independent analysis and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 4/14/06 Signed: 

At: Sacramento, CA

DECLARATION OF
W. GEOFFREY SPAULDING

I, W. Geoffrey Spaulding, declare as follows:

1. I am presently employed by CH2M HILL Incorporated as a Senior Scientist.
2. A copy of my professional qualifications and experience were previously provided in Appendix A of the Prehearing Conference Statement filed by the Applicant on March 17, 2006.
3. I prepared the attached testimony on Paleontological Resources for the San Francisco Electric Reliability Project based on my independent analysis and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: April 12, 2006 Signed: W. Geoffrey Spaulding

At: Las Vegas, NV

DECLARATION OF
JOHN CARRIER

I, John Carrier, declare as follows:

1. I am presently employed by CH2M HILL Incorporated as a Program Manager.

2. A copy of my professional qualifications and experience were previously provided in Appendix A of the Prehearing Conference Statement filed by the Applicant on March 17, 2006.

3. The attached testimony on Socioeconomics for the San Francisco Electric Reliability Project was prepared under my direction and is based on my independent analysis and my professional experience and knowledge.

4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.

5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 4/13/06 Signed: John Carrier

At: Sacramento, CA

DECLARATION OF
JOHN CLECKLER

I, John Cleckler, declare as follows:

1. I am presently employed by CH2M HILL Incorporated as a Project Scientist.
2. A copy of my professional qualifications and experience were previously provided in Appendix A of the Prehearing Conference Statement filed by the Applicant on March 17, 2006.
3. I prepared the attached testimony on Biological Resources for the San Francisco Electric Reliability Project based on my independent analysis and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 4/12/06 Signed:

At: Sacramento, CA

DECLARATION OF
JOHN LOWE

I, John Lowe, declare as follows:

1. I am presently employed by CH2M HILL Incorporated as a Project Scientist.
2. A copy of my professional qualifications and experience were previously provided in Appendix A of the Prehearing Conference Statement filed by the Applicant on March 17, 2006.
3. I prepared the attached testimony on Public Health for the San Francisco Electric Reliability Project based on my independent analysis and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: April 14, 2006 Signed: John Lowe

At: Dayton, OH

DECLARATION OF
KAREN PARKER

I, Karen Parker, declare as follows:

1. I am presently employed by CH2M HILL Incorporated as a Project Manager.
2. A copy of my professional qualifications and experience were previously provided in Appendix A of the Prehearing Conference Statement filed by the Applicant on March 17, 2006.
3. The attached testimony on Hazardous Materials Handling, and Waste Management for the San Francisco Electric Reliability Project was prepared under my direction and is based on my independent analysis and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 4/13/06 Signed: Karen L. Parker

At: Sacramento, CA

DECLARATION OF
LOREN BLOOMBERG

I, Loren Bloomberg, declare as follows:

1. I am presently employed by CH2M HILL Incorporated as a Senior Technologist.
2. A copy of my professional qualifications and experience were previously provided in Appendix A of the Prehearing Conference Statement filed by the Applicant on March 17, 2006.
3. I prepared the attached testimony on Traffic and Transportation for the San Francisco Electric Reliability Project based on my independent analysis and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 4/12/06 Signed:

At: Santa Ana, CA

DECLARATION OF
MARK BASTASCH

I, Mark Bastasch, declare as follows:

1. I am presently employed by CH2M HILL Incorporated as a Project Engineer.
2. A copy of my professional qualifications and experience were previously provided in Appendix A of the Prehearing Conference Statement filed by the Applicant on March 17, 2006.
3. I prepared the attached testimony on Noise for the San Francisco Electric Reliability Project based on my independent analysis and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: April 12, 2006 Signed:

At: Portland, OR

DECLARATION OF
MATTHEW FRANCK

I, Matthew Franck, declare as follows:

1. I am presently employed by CH2M HILL Incorporated as a Project Planner.
2. A copy of my professional qualifications and experience were previously provided in Appendix A of the Prehearing Conference Statement filed by the Applicant on March 17, 2006.
3. I prepared the attached testimony on Water Supply Pipelines, and Water Resources for the San Francisco Electric Reliability Project based on my independent analysis and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 4/14/06 Signed: MTF

At: Sacramento, CA

DECLARATION OF
STEVE LONG

I, Steve Long, declare as follows:

1. I am presently employed by CH2M HILL Incorporated as a Project Scientist.
2. A copy of my professional qualifications and experience were previously provided in Appendix A of the Prehearing Conference Statement filed by the Applicant on March 17, 2006.
3. I prepared the attached testimony on Agriculture and Soils for the San Francisco Electric Reliability Project based on my independent analysis and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: April 12, 2006 Signed: Steven P. Long

At: Sacramento, CA

DECLARATION OF
THOMAS A. LAE

I, Thomas A. Lae, declare as follows:

1. I am presently employed by CH2M HILL Incorporated as an Associate Project Manager.

2. A copy of my professional qualifications and experience were previously provided in Appendix A of the Prehearing Conference Statement filed by the Applicant on March 17, 2006.

3. I prepared the attached testimony on Geologic Hazards and Resources and I helped prepared the attached testimony on Waste Management and Water Resources for the San Francisco Electric Reliability Project based on my independent analysis and my professional experience and knowledge.

4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.

5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 4/17/2006 Signed: T A Lae

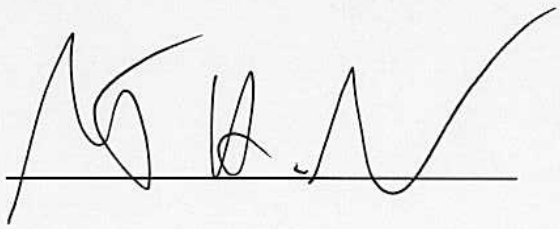
At: Sacramento, CA

DECLARATION OF
STEVE SMITH

I, Steve Smith, declare as follows:

1. I am presently employed by CH2M HILL Incorporated as a Project Planner.
2. A copy of my professional qualifications and experience were previously provided in Appendix A of the Prehearing Conference Statement filed by the Applicant on March 17, 2006.
3. I prepared the attached testimony on Land Use for the San Francisco Electric Reliability Project based on my independent analysis and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 4/14/06 Signed: 

At: San Francisco, CA

DECLARATION OF
JAMES P BUSHNELL

I, James P Bushnell, declare as follows:

1. I am presently employed by CH2M HILL Incorporated as a Regional Health, Safety and Environmental Protection Program Manager
2. A copy of my professional qualifications and experience are attached.
3. I am sponsoring the attached testimony on Worker Health and Safety for the San Francisco Electric Reliability Project based on my independent analysis and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: April 17, 2006 Signed:

At: Seattle, WA

DECLARATION OF
STEVE DE YOUNG

I, Steve De Young, declare as follows:

1. I am presently employed by De Young Environmental Consultants as a Principal.

2. A copy of my professional qualifications and experience were previously provided in Appendix A of the Prehearing Conference Statement filed by the Applicant on March 17, 2006.

3. I am sponsoring the attached testimony on Project Description, Waste Management, and Water for the San Francisco Electric Reliability Project. Based on my independent analysis and my professional experience and knowledge I concur with the analysis provided in those sections.

4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.

5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 4/17/06 Signed: _____

At: Walnut Creek, CA

DECLARATION OF
GARY RUBENSTEIN

I, Gary Rubenstein, declare as follows:

1. I am presently employed by Sierra Research as a Senior Partner.

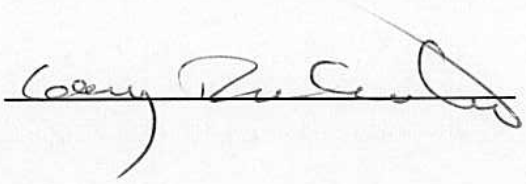
2. A copy of my professional qualifications and experience were previously provided in Appendix A of the Pre-hearing Conference Statement filed by the Applicant on March 17, 2006.

3. I am sponsoring the attached testimony on Environmental Justice/ Air Quality: PM_{10} Mitigation/Community Benefits, Air Quality, Biological Resources (nitrogen deposition), Public Health (modeling), Visual Resources (plume modeling), and Alternatives (air pollution emission control) for the San Francisco Electric Reliability Project. Based on my independent analysis and my professional experience and knowledge, I concur with the analysis provided in those sections.

4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.

5. I am personally familiar with the facts and conclusions related in the testimony, and if called as a witness I could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: APRIL 14, 2006 Signed: 

At: Sacramento, CA

DECLARATION OF

BARRY R. FLYNN

I, Barry R. Flynn, declare as follows:

1. I am presently employed by Flynn Resource Consultants, Inc. as a Principal.
2. A copy of my professional qualifications and experience were previously provided in Appendix A of the Prehearing Conference Statement filed by the Applicant on March 17, 2006.
3. I am sponsoring the attached testimony on Purpose and Need, Electric Transmission and Alternatives for the San Francisco Electric Reliability Project. Based on my independent analysis and my professional experience and knowledge I concur with the analysis provided in those sections.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: April 11, 2006

Signed: Barry R. Flynn

At: Discovery Bay, CA

DECLARATION OF
STEVE BROCK

I, Steve Brock, declare as follows:

1. I am presently employed by PB Power as a Supervising Mechanical Engineer.
2. A copy of my professional qualifications and experience were previously provided in Appendix A of the Prehearing Conference Statement filed by the Applicant on March 17, 2006.
3. I am sponsoring the attached testimony on Project Description, Electric Transmission, Water Supply Pipelines, Alternatives, and Engineering for the San Francisco Electric Reliability Project. Based on my independent analysis and my professional experience and knowledge I concur with the analysis provided in those sections.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 17 Apr 2006 Signed: Steven B Brock

At: San Francisco, CA

DECLARATION OF
BARBARA HALE

I, Barbara Hale, declare as follows:

1. I am presently employed by City and County of San Francisco as the Assistant General Manager of the Power Enterprise for the San Francisco Public Utilities Commission.

2. A copy of my professional qualifications and experience were previously provided in Appendix A of the Prehearing Conference Statement filed by the Applicant on March 17, 2006.

3. I am sponsoring the attached testimony on Executive Summary, Purpose and Need, Environmental Justice, and Alternatives for the San Francisco Electric Reliability Project. Based on my independent analysis and my professional experience and knowledge I concur with the analysis provided in those sections.

4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.

5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: April 13, 2006 Signed: _____

At: San Francisco, CA

DECLARATION OF
KAREN KUBICK

I, Karen Kubick, declare as follows:

1. I am presently employed by City and County of San Francisco as a the Manager of Infrastructure Development for the San Francisco Public Utilities Commission.

2. A copy of my professional qualifications and experience were previously provided in Appendix A of the Prehearing Conference Statement filed by the Applicant on March 17, 2006.

3. I am sponsoring the attached testimony on Executive Summary, Project Description, Environmental Justice, Environmental Justice/ Air Quality: PM10 Mitigation/Community Benefits, Water Supply Pipelines, Waste Management, Water Resources, Alternatives, and Engineering for the San Francisco Electric Reliability Project. I have reviewed these sections and find that they are consistent with my independent analysis and my professional experience and knowledge.

4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.

5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 4-12-06 Signed: Karen Kubick

At: San Francisco, CA

DECLARATION OF
ANNE ENG

I, Anne Eng, declare as follows:

1. I am presently employed by City and County of San Francisco, Department of the Environment as the Environmental Justice program manager.

2. A copy of my professional qualifications and experience were previously provided in Appendix A of the Prehearing Conference Statement filed by the Applicant on March 17, 2006. I am attaching hereto an updated copy of my professional qualifications and experience, to replace the one submitted by Applicant as part of Appendix A of the Prehearing Conference Statement.

3. I am sponsoring the attached testimony on Environmental Justice, and Environmental Justice/ Air Quality: PM10 Mitigation/Community Benefits for the San Francisco Electric Reliability Project. Based on my independent analysis and my professional experience and knowledge I concur with the analysis provided in those sections.

4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.

5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: April 13, 2006 Signed: Anne Lee Eng

At: San Francisco, CA

DECLARATION OF
RANDALL SMITH

I, Randall Smith, declare as follows:

1. I am presently employed by City and County of San Francisco as a Utility Specialist.

2. A copy of my professional qualifications and experience were previously provided in Appendix A of the Prehearing Conference Statement filed by the Applicant on March 17, 2006.

3. I am sponsoring the attached testimony on Waste Management and Water Resources. Based on my independent analysis and my professional experience and knowledge I concur with the analysis provided in those sections.

4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.

5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: April 12, 2006 Signed: RD Smith

At: San Francisco, CA

APPENDIX B

List of Proposed Exhibits

Appendix B, List of Proposed Exhibits

Exhibit Name	Technical Area(s)
Application for Certification for San Francisco Electric Reliability Project, dated March 2004 (Docket No. 04-AFC-1), Volume 2, Appendices 5, 6, 8.2A, 8.2B, 8.3C, 8.3D, 8.8A.	Electric Transmission, Natural Gas Supply, Biological Resources, Cultural Resources, Socioeconomics
Supplement in Response to Data Adequacy Comments on the Application for Certification for the San Francisco Electric Reliability Project, dated April 16, 2004.	Air Quality, Cultural Resources, Reliability, Transmission System Engineering, Water Resources
Applicant's Response to CEC Staff Data Requests, Set 1A, dated July 6, 2004. Responses to Data Requests 1 through 11.	Air Quality (6-11), Alternatives (12-18), Cultural Resources (22, 23), Hazardous Materials (27-29), Land Use (30, 36-37, 39), Soil and Water (50, 53, 55), Traffic & Transportation (57-58, 62-68), Transmission Systems Engineering (70-79), Visual Resources (81-87), Waste Management (88-90), Public Health (42-46), Environmental Justice/Air Quality: PM10 Mitigation/Community Benefits (47)
Applicant's Response to CEC Staff Data Requests, Set 1B, dated July 12, 2004.	Soil & Water Resources (92-95, 97-106, 112)
Applicant's Response to CEC Staff Data Requests, Informal Set 1, Revised, dated August 2, 2004.	Worker Safety & Fire Protection (115-118), Visual Resources (119a-119c)
Applicant's Response to SF Power Data Requests, Set 1, dated August 18, 2004, Responses to Data Requests 2, 3, 8 and 9.	Project Description (2-3), Environmental Justice/Air Quality: PM10 Mitigation/Community Benefits (8), Alternatives (9)
Applicant's Response to CEC Staff Data Requests, Informal Set 2, dated August 20, 2004.	Public Health (120-123)
Applicant's Response to CEC Staff Data Requests, Informal Set 3, dated August 20, 2004.	Land Use (124-125, 127, 129), Noise (130), Soil & Water (131, 133-137, 139-144), Waste Management (145) Transmission System Engineering (146), Air Quality (148-149), Public Health (150), Hazardous Materials (151)
Applicant's Response to CEC Staff Data Requests, Informal Set 4, dated August 27, 2004.	Noise (152-153), Reliability/Purpose and Need (154), Project Description (155-156)
Applicant's Response to CEC Staff Data Requests, Informal Set 5, dated September 20, 2004.	Socioeconomics/Environmental Justice/Air Quality: PM10 Mitigation/Community Benefits (157-158), Socioeconomics/Purpose and Need (159), Socioeconomics/Alternatives (160)
Applicant's Response to CEC Staff Data Requests, Set 2A, dated October 12, 2004.	Biological Resources (157-159)
Application for Determination of Compliance and Authority to Construct, filed with the BAAQMD, dated March 15, 2005.	Air Quality

Appendix B, List of Proposed Exhibits

Exhibit Name	Technical Area(s)
Supplement A to the Application for Certification for the San Francisco Electric Reliability Project, Volumes 1 and 2, dated March 24, 2005.	All areas
Applicant's Response to CEC Staff Data Requests, Set 3A, dated June 3, 2005.	Cultural Resources, Efficiency, Noise, Transmission System Engineering, Waste Management, Soil and Water Resources, Visual Resources
Applicant's Response to CARE Data Requests, Set 3, dated June 9, 2005.	Reliability, Alternatives, Air Quality, Purpose and Need, Public Health, Noise, and Biological Resources
Applicant's Response to CARE Data Requests, Set 3B, dated June 22, 2005.	Alternatives; Purpose and Need
Applicant's Response to CEC Staff Data Requests, Set 3B, dated June 22, 2005.	Transmission System Engineering
Applicant's Comments and Objections to Sarvey Data Requests, dated July 5, 2005	Air Quality
Applicant's Response to CEC Staff's Informal Data Requests, Set 6, dated July 11, 2005.	Air Quality, Soil & Water Resources
Applicant's Response to CEC Staff Data Requests, Set 3C, dated July 19, 2005.	Cultural Resources, Transmission System Engineering, Soil and Water Resources
Applicant's Response to CEC Staff's Informal Data Requests, Set 7A, dated July 19, 2005.	Cultural Resources
Applicant's Response to Sarvey Data Requests, Set 1A, dated July 25, 2005.	Project Objectives, Air Quality, Hazardous Materials, Waste Management, Water Resources
Applicant's "Air Quality Mitigation and Community Benefits Plan", dated August 4, 2005.	Air Quality
Applicant's Response to CEC Staff's Informal Data Requests, Set 6B, dated August 10, 2005.	Soil & Water Resources
Applicant's Response to CEC Staff's Informal Data Requests, Set 6C, dated August 25, 2005.	Soil & Water Resources
Applicant's Response to CEC Staff Data Requests, Set 3D, dated September 13, 2005.	Cultural Resources
Applicant's Response to CEC Staff Data Requests, Set 3E, dated October 6, 2005.	Cultural Resources
Applicant's Response to Sarvey Data Requests, Set 1B, dated October 6, 2005.	Air Quality
Applicant's Response to CEC Staff's Informal Data Requests, Set 8, dated October 7, 2005.	Geological Resources

Appendix B, List of Proposed Exhibits

Exhibit Name	Technical Area(s)
Applicant's Comments on the Preliminary Staff Assessment, Set 1, dated October 12, 2005.	Environmental Justice, Project Description, Air Quality, Biological Resources, Cultural Resources, Hazardous Materials, Noise & Vibration, Public Health, Soil & Water, Traffic & Transportation, Visual Resources, Waste Management, Worker Safety & Fire Protection, Geological Resources, Paleontological Resources, Local System Effects, Alternatives, General Conditions
Applicant's Response to CEC Staff's Informal Data Requests, Set 6D, dated October 14, 2005.	Soil & Water Resources
Applicant's Response to CEC Staff's Informal Data Requests, Set 6D, Addendum, dated October 27, 2005.	Soil & Water Resources
Applicant's Comments on the Preliminary Staff Assessment, Set 2, dated October 31, 2005.	Air Quality, Hazardous Materials Handling, Land Use, Socioeconomics, Travel & Transportation, Waste Management, Soil & Water Resources, Worker Safety & Fire Protection.
Applicant's Comments on the Preliminary Staff Assessment, Set 3, dated November 11, 2005.	Soil & Water Resources, Waste Management
Amendment to the Project Description, Vegetated Swale, dated November 18, 2005.	Project Description, Soil and Water Resources
Amendment to the Project Description, Process and Cooling Water Supply, dated December 20, 2005.	Project Description, Soil and Water Resources
Applicant's Comments on the Preliminary Staff Assessment, Set 4, Revised, dated December 30, 2005.	Waste Management
Supplement B to the Application for Certification for the San Francisco Electric Reliability Project (Volumes 1 & 2) dated January 11, 2006.	Air Quality, Public Health, Hazardous Materials Management, Waste Management, Worker Safety and Fire Protection, Biological Resources, Cultural Resources, Geology and Paleontology, Soils and Water Resources, Land Use, Traffic and Transportation, Visual Resources, Noise and Vibration, Socioeconomics
Applicant's Response to CEC Staff Data Requests, Set 3F, dated January 11, 2006.	Soil and Water Resources
Applicant's Response to CEC Staff's Informal Data Requests, Set 9A, dated January 13, 2006.	Soil & Water Resources
Applicant's Response to CEC Staff's Informal Data Requests, Set 9B, dated January 19, 2006.	Soil & Water Resources
Applicant's Final Field Sampling Plan, dated February 14, 2006.	Waste Management

Appendix B, List of Proposed Exhibits

Exhibit Name	Technical Area(s)
Applicant's Comments on the Final Staff Assessment, Set 1, dated March 17, 2006.	Air Quality, Cultural Resources, Hazardous Materials Handling, Noise & Vibration, Soil & Water, Waste Management, Paleontological Resources
Applicant's Comments on the Final Staff Assessment, Set 2, dated March 24, 2006.	Soil and Water Resources,
Applicant's Draft Field Investigation Summary Report, dated March 30, 2006.	Soil and Water Resources, Waste Management
Correspondence and Other Materials	
Letter from Nancy Matthews, Sierra Research, to BAAQMD Public Records, seeking meteorological data from the Potrero Power Plant site, dated July 31, 2003.	Air Quality
Letter from Gary Rubenstein, Sierra Research, to Mike Ringer, CEC, submitting modeling protocol for SFERP, dated October 31, 2003.	Air Quality
Letter from Nancy Matthews, Sierra Research, to Rochelle Walker, BAAQMD, seeking data for a cumulative air quality impacts analysis, dated November 20, 2003.	Air Quality
Letter from Gary Rubenstein, Sierra Research, to Mike Ringer, CEC, submitting revised modeling protocol, dated November 25, 2003.	Air Quality
Letter from Nancy Matthews, Sierra Research, to Rochelle Walker, BAAQMD, seeking emissions data for the Hunters Point Power Plant, dated January 14, 2004.	Air Quality
Letter from Gene Willner, BAAQMD, to Nancy Matthews, Sierra Research, providing information regarding sources within a six mile radius of SFERP, dated January 16, 2004.	Air Quality
Letter from Nancy Matthews, Sierra Research, to BAAQMD Administrative Services Division, seeking emissions data for the Hunters Point Power Plant, dated January 30, 2004.	Air Quality
Letter from Nancy Matthews, Sierra Research, to BAAQMD Administrative Services Division, seeking emissions data for the Potrero Power Plant, dated January 30, 2004.	Air Quality
BAAQMD Public Records Request Forms providing information related to the Hunters Point and Potrero Power Plants sent to Nancy Matthews, Sierra Research, dated March 5, 2004.	Air Quality
Letter from Bob Nishimura, BAAQMD, to Bill Pfanner, CEC, confirming that the BAAQMD contains sufficient information for the district to undertake a Determination of Compliance Review, dated April 7, 2004.	Air Quality
Letter from Victor Morales-Laimon, BAAQMD, to Nancy Matthews, Sierra Research, confirming receipt of application for Authority to Construct, dated April 14, 2004.	Air Quality
Letter from Victor Morales-Laimon, BAAQMD, to Nancy Matthews, Sierra Research, confirming that the application for Authority to Construct has been accepted as complete, dated April 21, 2004.	Air Quality

Appendix B, List of Proposed Exhibits

Exhibit Name	Technical Area(s)
BAAQMD Public Records Request Forms providing information related to the Hunters Point and Potrero Power Plants sent to Nancy Matthews, Sierra Research, dated June 1, 2004.	Air Quality
Letter from Nancy Matthews, Sierra Research, to BAAQMD Administrative Services Division, seeking emissions data for the Hunters Point Power Plant, dated June 2, 2004.	Air Quality
Letter from Nancy Matthews, Sierra Research, to BAAQMD Administrative Services Division, seeking emissions data for the Potrero Power Plant, dated June 2, 2004.	Air Quality
Letter from Karen Kubick, SFPUC, to Bob Nishimura, BAAQMD, regarding emission reduction credits for SFERP, dated September 17, 2004.	Air Quality
Letter from Nancy Matthews, Sierra Research, to BAAQMD Administrative Services Division, seeking emissions data for the Hunters Point Power Plant, dated February 8, 2005.	Air Quality
Letter from Nancy Matthews, Sierra Research, to BAAQMD Administrative Services Division, seeking emission data for the Potrero Power Plant, dated February 8, 2005.	Air Quality
Letters from Nancy Matthews, Sierra Research, to Brian Bateman, BAAQMD, and Bill Pfanner, CEC, providing corrected pages and corrected modeling files (on CD), dated April 13, 2005.	Air Quality
Preliminary Determination of Compliance issued by the BAAQMD for SFERP, dated July 26, 2005.)	Air Quality
Letter from Victor Morales-Laimon, BAAQMD, to Nancy Matthews, Sierra Research, regarding BAAQMD preliminary decision to approved SFERP, dated August 3, 2005.	Air Quality
Letter from Gary Rubenstein, Sierra Research, to Clean Air Markets Division, USEPA, providing Certificates of Representation for SFERP, dated August 23, 2005.	Air Quality
Letter from Gary Rubenstein, Sierra Research, to Jack Broadbent, BAAQMD, submitting application for acid rain permit application, dated August 23, 2005.	Air Quality
Letter from Karen Kubick, SFPUC, to Jack Broadbent, BAAQMD, providing comments on the PDOC, dated August 24, 2005.	Air Quality
Letter from Victor Morales-Laimon, BAAQMD, to Karen Kubick, SFPUC, regarding receipt of acid rain permit application, dated September 27, 2005.	Air Quality
Letter from Jack Broadbent, BAAQMD, to Karen Kubick, SFPUC, responding to SFPUC's comments on the PDOC, dated December 13, 2005.	Air Quality
Final Determination of Compliance issued by the BAAQMD for SFERP, dated November 22, 2005 (issued December 13, 2005).	Air Quality
Letter from Gary Rubenstein, Sierra Research, to Jack Broadbent, BAAQMD, transmitting SFPUC's editorial comments on the FDOC, dated December 20, 2005.	Air Quality

Appendix B, List of Proposed Exhibits

Exhibit Name	Technical Area(s)
Letter from Nancy Matthews, Sierra Research, to William Pfanner, CEC, transmitting copy of SFPUC's editorial comments on the FDOC, dated December 21, 2005.	Air Quality
Letter from Nancy Matthews, Sierra Research, to William Pfanner, CEC, providing revisions to AFC tables and air quality conditions of certification to reflect BAAQMD's revised PM_{10} emission limit in FDOC, dated December 21, 2005.	Air Quality
Revised Final Determination of Compliance issued by BAAQMD for SFERP, dated January 19, 2006 (cover letter dated January 25, 2006).	Air Quality
Letter from Jack Broadbent, BAAQMD, to Michael Boyd and Lynn Brown, CARE, responding to comments on the PDOC, dated February 1, 2006.	Air Quality
Letter from Jack Broadbent, BAAQMD, to Robert Sarvey, responding to comments on the PDOC, undated.	Air Quality
Letter from Russell Stepp, SFPUC, to U.S. EPA Acid Rain Program, submitting the Phase II Annual Compliance Certification Report for the SFERP, dated February 10, 2006.	Air Quality

sierra research

1801 J Street
Sacramento, CA 95814
(916) 444-6666
Fax: (916) 444-8373

July 31, 2003

Memo to: BAAQMD Public Records

From: Nancy Matthews Nancy Matthews

Subject: Request for Public Record: Meteorological Data

Attached is a public records request form requesting electronic meteorological data files from the District's meteorological data archives. We are requesting copies of the meteorological data collected by PG&E at their Potrero power plant during 1982. We would like to receive the data in both raw and preprocessed formats. Subject to approval by the District staff, the met data will be used in an ambient air quality modeling analysis for a new stationary source. A modeling protocol will be submitted for approval before any application is made.

We would like to receive these data via email. Please email the files to nmatthews@sierraresearch.com with a copy to mvaldez@sierraresearch.com.

If there are any questions regarding this request, please do not hesitate to call.

attachment

cc: Jim Cordova, BAAQMD

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

939 ELLIS STREET
SAN FRANCISCO, CA. 94109
ATTENTION: ADMINISTRATIVE SERVICES DIVISION

Office Use Only
P.R.R. NUMBER

Direct Dial: (415) 749-4761
FAX: (415) 749-5111

PUBLIC RECORDS REQUEST FORM

ATTENTION REQUESTOR: To expedite your request for District records, please fill out this form completely: Specifically identify the type of records you are requesting from the list below. **NOTE**: There is a limit of one facility or one site address per request form.

REQUESTOR INFORMATION

NAME:	Nancy Matthews					DATE:	7/31/2003
COMPANY:	Sierra Research						
MAILING ADDRESS:	1801 J Street						
CITY:	Sacramento	STATE:	CA	ZIP CODE:	95814	PHONE NUMBER:	916-444-6666

REQUESTED FACILITY INFORMATION

FACILITY NAME:		
FACILITY ADDRESS:		
CITY:	STATE:	ZIP CODE:
TIME PERIOD OF DOCUMENTS REQUESTED:	From:	To:

REQUESTED RECORDS *(check **no more than three** applicable items)*

☐ **Complaint Information** ☐ Complaint Printout ☐ Specific Complaint #_____	☐ **Notice Of Violation Information** ☐ NOV Printout ☐ Specific NOV #_____	OTHER: ** 1982 meteorological data in both raw and processed forms, collected by PG&E at their Potrero Power Plant. If approved by the District staff, the data will be used in an ambient air quality modeling analysis for a new stationary source. Please email files to nmatthews@sierraresearch.com with a copy to mvaldez@sierraresearch.com
☐ **Episode Information** ☐ Episode Printout ☐ Specific Episode #_____	☐ AB2588 Inventory ☐ Source Test Reports ☐ Lab Report #_____	
☐ **Permit Application Information** ☐ Permit Application Printout ☐ Specific Application #_____ ☐ Permit Conditions	☐ Review Permit Files * ☐ Review Enforcement Files ** ☐ Review Rule Development Files ** ☐ Asbestos Notifications	

* Subject to facility review (i.e., trade secrets).
** You will be contacted to schedule an appointment date to review records.
*** If what you are seeking is not on this Form, you may attach a letter with additional information on the request.

Cost: Copies: $.10 per page ; Diskette $10.00; Audiotape $5.00; Microfiche sheet $8.00.
Note: After a preliminary estimate, **advance payment may be required.**

I hereby agree to reimburse the BAAQMD for the direct cost of duplicating the information requested in accordance with Gov't Code Section 6253(b).

Nancy Matthews
Signature of Requestor

[ ] Enclosed are the records you requested.

[ ] We are unable to provide the records you requested.
- [ ] A search was made but no records were found.
- [ ] We are unable to find the record you requested because the request did not include sufficient information to find it.
- [ ] Out of District's Jurisdiction.

sierra
research

1801 J Street
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October 31, 2003

Mr. Mike Ringer
Energy Facility Siting Office
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814

Subject: Modeling Protocol for the San Francisco Public Utilities Commission's Electric Reliability Power Project in San Francisco, California

Dear Mr. Ringer:

Please find attached the emissions modeling protocol for the San Francisco Public Utilities Commission's (SFPUC) proposed Electric Reliability Power Project to be located in San Francisco, California. SFPUC will be filing an Application for Certification with the Commission for this new 200-megawatt power generating facility configured using up to four natural gas-fired combustion turbines. The SFPUC facility will not be a major source of emissions under Bay Area Air Quality Management District (BAAQMD) and USEPA regulations. Although the project will be required to obtain a Determination of Compliance from the BAAQMD, it will not be subject to District requirements for air quality modeling analyses.

The attached protocol is a description of the analytical approach that will be used to prepare the ambient air quality analysis required for the project under CEQA. We intend to file an AFC with the Commission and a permit application with the BAAQMD in February 2004.

If you have any questions or comments, please do not hesitate to call me at (916) 444-6666.

Sincerely,

Gary Rubenstein

cc: Ralph Hollenbacher, SFPUC
Glen Long, BAAQMD
Steve De Young
John Carrier, CH2M Hill

San Francisco Public Utilities Commission
San Francisco Electrical Reliability Power Project
Modeling Protocol
October 2003

The San Francisco Public Utilities District (SFPUC) is planning to submit an Application for Certification and an Application for Determination of Compliance for a new peaking power plant project in San Francisco. The proposed project, called the San Francisco Electrical Reliability Power Project, will consist of installing up to four General Electric LM6000 Sprint gas turbines near the Mirant Potrero power plant. The project will also include small cooling towers for auxiliary cooling and minor auxiliary equipment and will have a total nominal net generating capacity of up to 200 MW. The proposed peaking plant will be a new minor source under Bay Area Air Quality Management District (BAAQMD) regulations.

The applicant will submit air quality impact analyses to both the BAAQMD and the California Energy Commission (CEC). The modeling analyses will include pollutants as required by the CEC requirements for evaluation of project air quality impacts. The purpose of this document is to establish the procedure for meeting the CEC air quality modeling requirements for the proposed project. The project will also trigger CEC modeling requirements for cumulative and construction-based impacts.

Emissions from each power plant will be below the BAAQMD major source threshold of 100 tons per year for all pollutants. Nevertheless, BAAQMD and corresponding EPA modeling guidance will be followed in preparing the ambient air quality impact analyses.

The project is also expected to be below the 100-ton per year major source threshold for federal Prevention of Significant Deterioration (PSD) requirements (40 CFR 52.21). However, as part of the CEC modeling requirements, the permit application will include a demonstration of compliance with many of the PSD requirements.

This modeling protocol outlines the proposed use of air dispersion modeling techniques that will be used to assess impacts from the proposed sources, and has been prepared by Sierra Research on behalf of the SFPUC. This protocol also follows modeling guidance provided by the U.S. Environmental Protection Agency (USEPA) in its "*Guideline on Air Quality Models*" (including supplements), the National Park Service's "*Permit Application Guidance for New Air Pollution Sources*" (Bunyak, 1993), the Federal Land Managers' "*Air Quality Related Values Workgroup (FLAG) Phase I Report*" (December 2000), the "*Interagency Workgroup on Air Quality Modeling (IWAQM) Phase II Recommendations*" (1998), and the National Park Service's *"Guidance on Nitrogen Deposition Thresholds"* (2001) .

Impacts from operation of the facility will be compared to the following:

Air Quality Criteria	NO_2	PM_{10}	CO	SO_2
PSD Significant Impact Levels	√	√	√	√
PSD Monitoring Exemption Levels	√	√	√	√
Ambient Air Quality Standards	√	√	√	√
Class I and Class II Visibility	√	√		√
Impacts to Soils and Vegetation	√	√		√
Class I Area Acid Deposition	√	√		√

PROJECT LOCATION

Up to four turbines will be located on the east side of the city of San Francisco, near the existing Mirant Potrero Power Plant. The final project location has not yet been selected; however, the SFPUC plans to locate these units near the Potrero substation.

PROPOSED EMISSION SOURCES

The primary emission sources at the SFPUC Potrero peaking facility will be the LM6000 gas turbine electric generators. The turbines will be fired with natural gas only. The turbines will utilize advanced combustion designs and emission controls to limit emissions of NOx to 2.5 ppmc at full load and emissions of CO to 4 ppmc. Emissions of PM_{10} and SO_2 will be kept to a minimum through the exclusive use of natural gas. The particulate emissions from the cooling towers will be minimized with the use of high-efficiency drift eliminators.

EXISTING METEOROLOGICAL DATA

Meteorological data was collected by PG&E at the existing Mirant Potrero power plant site during 1992. This is considered on-site data for the purposes of meeting EPA guidance, so only one year of meteorological data is required. The station measured and recorded surface data (e.g., wind speed, direction, cloud cover, ceiling height, and temperature) on a continual basis. In accordance with BAAQMD guidance, a mixing height of 600 meters will be used. A wind rose for the Potrero meteorological monitoring site is shown in Figure 1.

Terrain immediately surrounding the project and monitoring station is presented in Figure 2. The area in the immediate vicinity of the project site and monitoring station is relatively flat to the north, east and south, but rises sharply to the west.

Figure 1
Potrero Meteorological Station Wind Rose

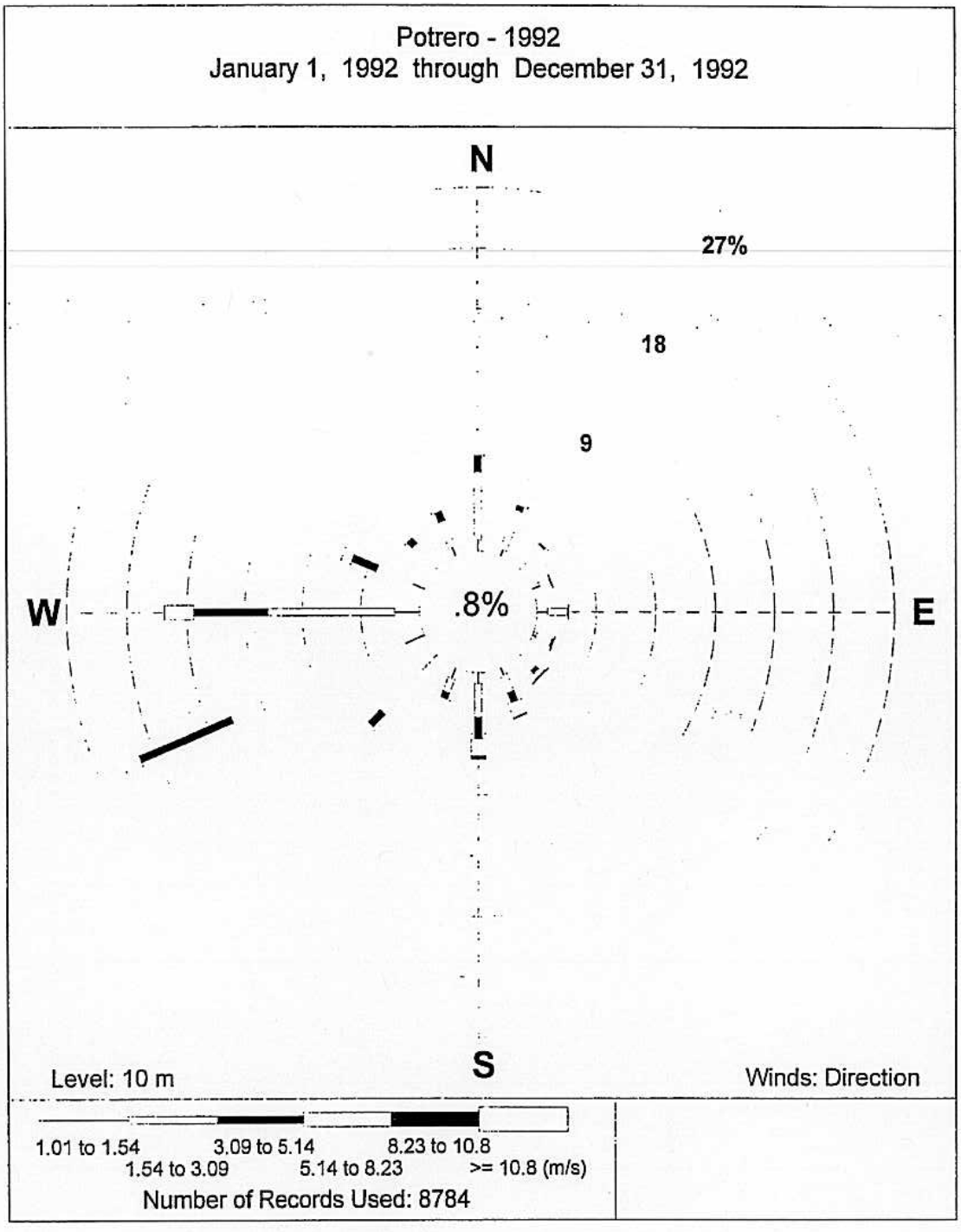
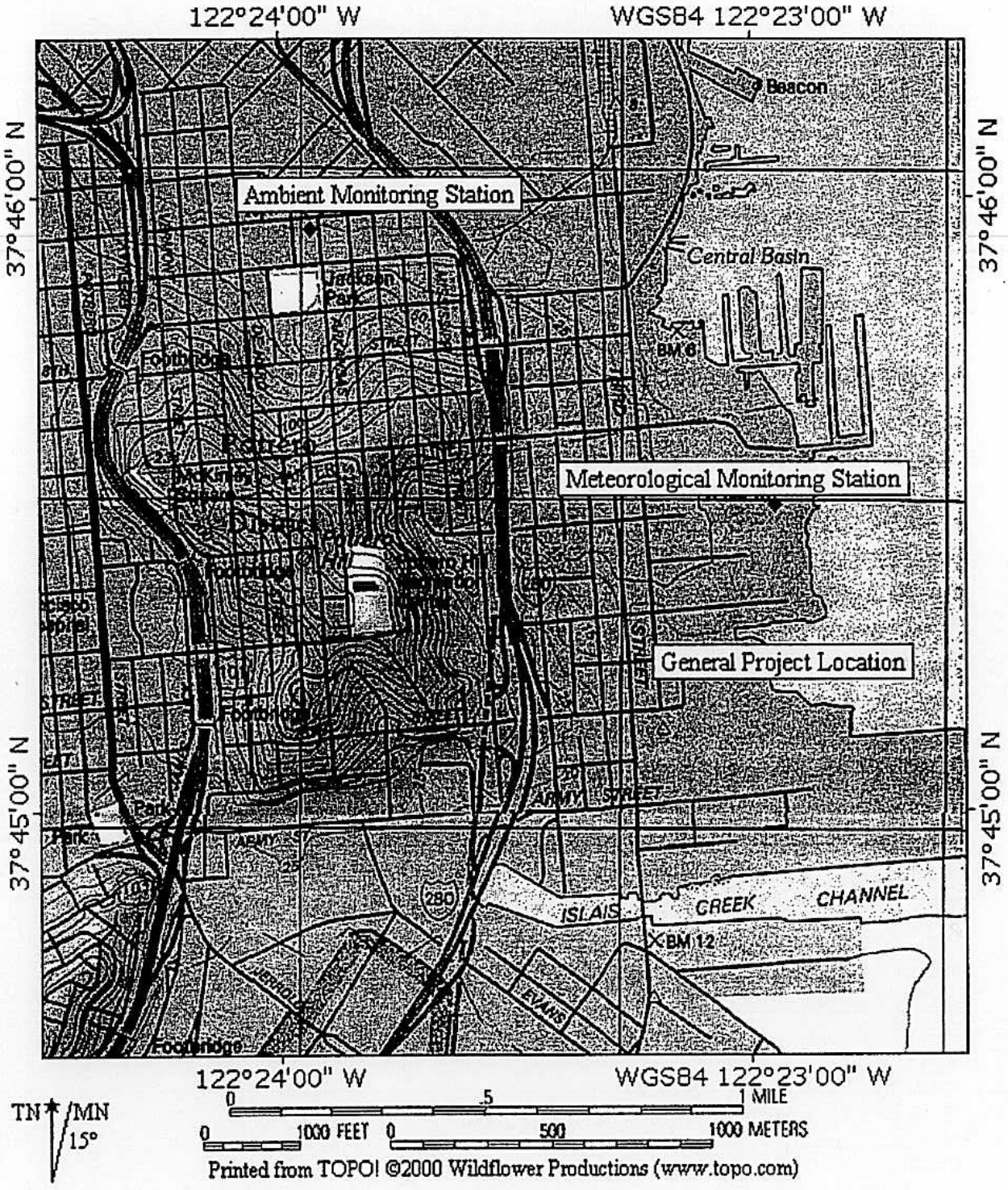


Figure 2
Potrero Site Location



SITE REPRESENTATION – METEOROLOGICAL DATA

USEPA defines the term "on-site data" to mean data that would be representative of atmospheric dispersion conditions at the source and at locations where the source may have a significant impact on air quality. Specifically, the meteorological data requirement originates in the Clean Air Act at Section 165(e)(1), which requires an analysis "of the ambient air quality at the proposed site and in areas which may be affected by emissions from such facility for each pollutant subject to regulation under [the Act] which will be emitted from such facility."

This requirement and USEPA's guidance on the use of on-site monitoring data are also outlined in the "*On-Site Meteorological Program Guidance for Regulatory Modeling Applications*" (1987). The representativeness of the data is dependent upon (a) the proximity of the meteorological monitoring site to the area under consideration, (b) the complexity of the topography of the area, (c) the exposure of the meteorological sensors, and (d) the period of time during which the data are collected. As discussed below, we believe the meteorological data from the Potrero power plant are representative of conditions at the SFPUC project site.

The wind rose for the Potrero power plant (Figure 2) indicates that on an annual basis, prevailing winds are from the west and west-southwest. The occurrence of high wind speeds (defined here as wind speeds greater than 5.14 m/s) is very low; when wind speeds are high, winds are generally from the south. Calm conditions are rare, occurring less than one percent of the time.

The area surrounding the project site will be characterized, for dispersion purposes, using the Auer land use classification methodology (USEPA's "*Guideline on Air Quality Models*"). Under this procedure, land use within the area circumscribed by a three km radius around the facility is used to determine whether the area is urban or rural. In the modeling analyses supporting the permitting of the facility, dispersion coefficients will be assigned depending upon the outcome of this analysis.

Representativeness has also been defined in the "*Workshop on the Representativeness of Meteorological Observations*" (Nappo et. al., 1982) as "the extent to which a set of measurements taken in a space-time domain reflects the actual conditions in the same or different space-time domain taken on a scale appropriate for a specific application." Judgments of representativeness should be made only when sites are climatologically similar, as the project site and the Potrero power plant site clearly are. Representativeness has also been defined in the PSD Monitoring Guideline as data that characterize the air quality for the general area in which the proposed project would be constructed and operate. Because if the close proximity of the Potrero power plant site to the proposed project site, the same large-scale topographic features that influence the Potrero power plant monitoring station also influence the proposed project site in the same manner.

Thus, it is our assessment that the wind direction and wind speed data collected at the Potrero power plant monitoring station are identical to the dispersion conditions at the Potrero project site and to the regional area. Thus, the Potrero power plant 1992 data set satisfies the definition of representative data.

EXISTING AMBIENT AIR QUALITY DATA

Background ambient air quality data for the project area are available from the San Francisco Arkansas Street monitoring site. Ambient O_3, NO_2, SO_2, PM_{10}, $PM_{2.5}$ and CO data are collected at this site, which is located about 1 mile from the project site.

SITE REPRESENTATION – AMBIENT AIR QUALITY DATA

As shown above in Figure 2, the Arkansas Street ambient monitoring station is the closest station to the project site. Consequently, this monitoring station was selected to represent the background ambient levels for the project site. Modeled concentrations will be added to these representative background concentrations to determine compliance with the CAAQS and NAAQS.

AIR QUALITY DISPERSION MODELS

Overview

Several USEPA dispersion models are proposed for use to quantify pollutant impacts on the surrounding environment based on the emission sources' operating parameters and their locations. The models proposed for use are Building Profile Input Program (BPIP, current version 95086), ISCST3 (current version 02035), and the VISCREEN visibility model (current version 88341). These models, along with options for their use and how they are used, are discussed below.

Simple, Complex, and Intermediate Terrain Impacts

For modeling the project in simple, complex, and intermediate terrain, the guideline ISCST3 model will be used with the hourly meteorological data from the Potrero monitoring station for the Potrero site. The ISCST3 model is a steady-state, multiple-source, Gaussian dispersion model designed for use with stack emission sources situated in terrain where ground elevations can exceed the stack heights of the emission sources. While the Industrial Source Complex Short Term Model (ISCST3) is a guideline model, it is expected to be replaced in the near future by the AERMOD model; AERMOD has not yet been adopted as a guideline model.[1]

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[1] AERMOD has recently been proposed by EPA as a replacement for ISCST3 and incorporates an improved downwash algorithm (Federal Register: September 8, 2003 (Volume 68, Number 173), Pages 52934-52935) but has not yet been adopted as a guideline model.

The ISCST3 model requires hourly meteorological data consisting of wind vector, wind speed, temperature, stability class, and mixing height. The model assumes that there is no variability in meteorological parameters over a 1-hour time period, hence the term steady-state. The ISCST3 model allows input of multiple sources and source groupings, eliminating the need for multiple model runs. Complex phenomena such as building-induced plume downwash are treated in this model.

The ISCST3 model is also capable of calculating pollutant concentrations in intermediate terrain. Intermediate terrain is defined as terrain between stack top and final plume height. In calculating pollutant concentrations in intermediate terrain, the model will select the higher of the simple and complex terrain calculations on an hour-by-hour, source-by-source, and receptor-by-receptor basis.

Technical options selected for the ISCST3 model are listed below. Use of these options follows the USEPA's (1986, 1987, 1990, and 1994) modeling guidance and/or sound scientific practice. An explanation of these options and the rationale for their selection is provided below.

- Default option (includes gradual plume rise, stack-tip downwash except for Schulman-Scire [SS] downwash, buoyancy-induced dispersion except for SS downwash, default wind profile exponents, default temperature gradients, and calm processing per EPA policy);
- Anemometer height = 10 meters;
- Dispersion parameters determined in accordance with the Auer land use procedure; and
- Elevated receptor terrain heights option.

Final plume rise option does not consider the possible effects of gradual plume rise on ambient concentrations during the rising phase of the plume downwind transport. Gradual plume rise is recommended by USEPA (1986, 1987, 1990, 1994) when there is significant terrain close to the stacks. Buoyancy-induced dispersion, which accounts for the buoyant growth of a plume caused by entrainment of ambient air, will be included because of the relatively warm exit temperature and subsequent buoyant nature of the exhaust plumes. Stack-tip downwash, which adjusts the effective stack height downward following the methods of Briggs (1972) for cases where the stack exit velocity is less than 1.5 times the wind speed at stack top, will be selected per USEPA guidance.

As previously mentioned, based on the land use classification procedure of Auer (1978), land use within the area circumscribed by a three-km radius around the modified facility will be evaluated to determine whether the land use is predominantly urban or rural. In the modeling analyses supporting the permitting of the facility, urban or rural coefficients will be assigned, depending upon the results of this evaluation.

The calm processing option allows the user to direct the program to exclude hours with persistent calm winds in the calculation of concentrations for each averaging period. This option is generally recommended by the USEPA (1986, 1987, 1990, 1994) for regulatory applications. The ISCST3 model recognizes a calm wind condition as a wind speed less than or equal to 1 meter per second and a wind direction equal to that of the previous hour (a wind speed of 0 m/sec is used in the ASCII meteorological data file). The calm processing option in the ISCST3 model will then exclude these hours from the calculation of concentrations.

Ambient Ratio Method and Ozone Limiting Method

Annual NO_2 concentrations will be calculated using the Ambient Ratio Method (ARM), adopted in Supplement C to the Guideline on Air Quality Models (USEPA, 1994). The Guideline allows a nationwide default conversion rate of 75% for annual NO_2/NOx ratios.

Should NO_2 concentrations need to be examined in a more rigorous manner, the Ozone Limiting Method (OLM) will be used. Contemporaneous hourly ozone data collected at the Arkansas Street monitoring station during 1992 are proposed for use in the Ozone Limiting Method to calculate hourly NO_2 concentrations from hourly NOx concentrations. The Ozone Limiting Method involves an initial comparison of the estimated maximum NOx concentration and the ambient O_3 concentration to determine which is the limiting factor to NO_2 formation. If the O_3 concentration is greater than the maximum NOx concentration, total conversion is assumed. If the NOx concentration is greater than the O_3 concentration, the formation of NO_2 is limited by the ambient O_3 concentration. In this case, the NO_2 concentration is set equal to the O_3 concentration plus a correction factor that accounts for in-stack and near-stack thermal conversion.

EPA's ISC-OLM model will be used to calculate the NO_2 concentration based upon the OLM method.

Fumigation

The SCREEN3 model will be used to evaluate inversion breakup and shoreline fumigation impacts for short-term averaging periods (24 hours or less), as appropriate. The methodology in EPA 454/R-92-019 (Screening Procedures for Estimating the Air Quality Impact of Stationary Sources, Revised) and in the BAAQMD modeling guidelines will be followed for these analyses. Combined impacts for all sources under fumigation conditions will be evaluated, based on USEPA and any applicable BAAQMD modeling guidelines.

GOOD ENGINEERING PRACTICE STACK HEIGHT AND DOWNWASH

ISCST3 can account for building downwash effects on dispersing plumes. Stack locations and heights and building locations and dimensions will be input to BPIP. The first part of BPIP determines and reports on whether a stack is being subjected to wake effects from a structure or structures. The second part calculates direction-specific building dimensions for each structure

that are used by ISCST3 to evaluate wake effects. The BPIP output is formatted for use in ISCST3 input files.

RECEPTOR SELECTION

Receptor and source base elevations will be determined from USGS Digital Elevation Model (DEM) data using the 7½-minute format (10- to 30-meter spacing between grid nodes). All coordinates will be referenced to UTM North American Datum 1927 (NAD27), zone 10. The ISCST3 receptor elevations will be interpolated among the DEM nodes.

Cartesian coordinate receptor grids will be used to provide adequate spatial coverage surrounding the project area for assessing ground-level pollution concentrations, to identify the extent of significant impacts, and to identify maximum impact locations. A 250-meter resolution coarse receptor grid will be developed and will extend outwards at least 10 km (or more as necessary to calculate the significant impact area).

For the full impact analyses, a nested grid will be developed to fully represent the maximum impact area(s). This grid will have 25-meter resolution along the facility fenceline, in three tiers of receptors along the fenceline, out to 75 meters from the fenceline, and 250-meter spacing out to as far as 10 km from the site. When maximum or maximum second-highest impacts occur in the 250 meter spaced area, additional refined receptor grids with 30-meter resolution will be placed around the maximum coarse grid impacts and extended out 900 meters in all directions. Concentrations within the facility fenceline will not be calculated.

MODELING SCENARIOS

Pollutant emissions to the atmosphere from the proposed facility will occur from combustion of natural gas in combustion turbines and from particulate emissions from the cooling towers. Emission rates will be provided by the project owner and will be based on vendor data and additional conservative assumptions of equipment performance. Turbine emissions and stack parameters, such as flow rate and exit temperature, exhibit some variation with ambient temperature and operating load. In order to calculate the worst-case air quality impacts, a screening analysis will be performed to evaluate each operating scenario (based on operating load and atmospheric conditions) to predict the worst-case facility configuration on a pollutant-specific basis.

In the modeling analysis, maximum impacts will be predicted for maximum (100%) and reduced load conditions. In addition, different ambient temperatures will be evaluated for each load condition. Each of these conditions has unique performance characteristics that affect plume dispersion and thus predicted impacts. This analysis is most relevant to analyses for short-term impacts. The temperatures selected for the short-term screening analyses will closely reflect the range of possible site conditions. The results of this screening analysis will be used to select the

worst-case operational scenarios for the modeling analyses in order to provide maximum operating flexibility. Refined modeling for the permit application will be based on these worst-case scenarios.

The screening modeling will use one complete year of meteorological data and the nested receptor grid described above to determine the worst-case source configuration (i.e., configuration that produces maximum facility impacts). This worst-case source configuration will then be executed with all available meteorological data (here, one complete year of 1992 Potrero power plant met data) and, if necessary, coarse grid impacts will be refined with fine grid receptors spaced 30 meters apart.

Ambient Air Quality Impact Analyses

In evaluating the impacts of the proposed project on ambient air quality, we will model the ambient impacts of the project, add those impacts to background concentrations, and compare the results to the state and federal ambient standards for SO_2, NO_2, PM_{10}, $PM_{2.5}$ and CO.

In accordance with EPA (40 CFR part 51, Appendix W, Sections 11.2.3.2 and 11.2.3.3) and BAAQMD guidance, the highest modeled concentration will be used to demonstrate compliance with annual and short-term standards.

Additional Analyses Required by the CEC

Additional analyses that may be required by the CEC are a cumulative air quality impacts analysis and an analysis of construction impacts. The procedures to be used in evaluating construction impacts are discussed below. A separate protocol will be prepared for the cumulative impacts analysis.

Construction Impacts Analysis - The potential ambient impacts from air pollutant emissions during the construction of the power plant at the Potrero site will be evaluated by air quality modeling that will account for the construction site location and the surrounding topography; the sources of emissions during construction, including vehicle and equipment exhaust emissions; and fugitive dust.

Site Description - The dispersion modeling analyses will include a description of the physical setting of the facility and surrounding terrain. A map showing the plant location, fence lines, and model receptors will be included, as well as a plot plan of the plant site indicating heights of nearby structures above a common reference point.

Types of Emission Sources - Construction of the proposed power plant will be divided into three main construction phases: (1) site preparation; (2) construction of foundations; and (3) installation and assembly of mechanical and electrical equipment. The construction impacts

analysis will include a schedule for construction operation activities. Site preparation is expected to include site excavation, excavation of footings and foundations, and backfilling operations. Depending upon the final project location, some demolition of existing structures may be required; if so, emissions from demolition activities will be included in the site preparation analysis. After site preparation is finished, the construction of the foundations will begin. Once the foundations are finished, the installation and assembly of the mechanical and electrical equipment will begin.

Fugitive dust emissions from the construction of the project result from (1) dust entrained during excavation and grading at the construction site; (2) dust entrained during onsite travel on paved and unpaved roads and across the unpaved construction site; (3) dust entrained during aggregate and soil loading and unloading operations; (4) dust entrained from raw material transfer to and from material stockpiles; and (5) wind erosion of areas disturbed during construction activities. Heavy equipment exhaust emissions result from (1) exhaust from the heavy equipment used for excavation, grading, and construction of onsite structures; (2) exhaust from a water truck used to control construction dust emissions; (3) exhaust from Diesel welding machines, gasoline-powered generators, air compressors, and water pumps; and (4) exhaust from gasoline-powered pickup trucks and Diesel flatbed trucks used onsite to transport workers and materials around the construction site. Diesel and gasoline truck exhaust emissions will result from transport of mechanical and electrical equipment to the project site and transport of rubble and debris from the site to an appropriate landfill. Diesel exhaust emissions may also result from transport of raw materials to and from stockpiles.

Emissions from a worst-case day will be calculated for each of the three main construction phases and only the phase with the highest emissions will be used to model short-term impacts (24 hours or less). The annual average equipment schedule (equipment mix and operating levels) will be used to calculate annual average emission levels during the construction phase of the project. These annual emission levels will be used to model annual average construction impacts.

Existing Ambient Levels - Ambient NO_2, SO_2, CO, and PM_{10} concentrations are monitored at Arkansas Street. Ambient concentrations at this monitoring station are believed to be representative of the project site and are being proposed for use in the analysis.

Model Type - The EPA-guideline ISCST3 model will be used to estimate ambient impacts from construction emissions. The modeling options and meteorological data described above will be used for the modeling analysis.

The construction site will be represented as volume sources in the modeling analysis. Emissions will be divided into two categories: exhaust emissions and dust emissions. For this analysis, we will follow the modeling procedures described in the revised construction impacts analysis prepared for the MID Electric Generation Station (MEGS) project in July 2003.

For the construction modeling analysis, the receptor grid will begin at the property boundary and will extend approximately one kilometer in all directions. Receptor spacing will be 60 meters, except for three tiers of receptors spaced along the project boundary at 25-meter spacing.

FINAL MODELING SUBMITTAL

In accordance with CEC guidance, the final modeling analyses will also include the following materials:

- US Geological Survey (USGS) 7½-minute (1:24,000) map(s) showing the facility;
- Modeling summaries of maximum impacts for each air quality model showing meteorological conditions and receptor location and elevation;
- All modeling outputs (including BPIP and meteorological files) in electronic format, together with a description of all filenames;
- Plot plan showing emission points, nearby buildings (including dimensions), cross-section lines, property lines, fencelines, roads, and UTM coordinates; and
- Table showing the building identifiers in the BPIP run(s) and plot plan.

REFERENCES

Bay Area Air Quality Management District, 2001. Permit Modeling Guidance, August 2001.

Briggs, G.A., 1972. Discussion on Chimney Plumes in Neutral and Stable Surroundings. Atmos. Environ. 6:507-510.

Bunyak, John. 1993. Permit Application Guidance for New Air Pollution Sources. Natural Resources Report NPS/NRAQD/NRR-93/09, US Dept. of the Interior, National Park Service.

National Climatic Data Center (NCDC), 2000. Local Climatological Data (LCD) - Annual Summary with Comparative Data for Salem [McNary Airport] for 1999.

U.S. Environmental Protection Agency (USEPA), 1972. Mixing Heights, Wind Speeds, and Potential for Urban Air Pollution Throughout the Contiguous United States, George C. Holzworth, January, 1972.

USEPA, 1985. Guideline for Determination of Good Engineering Practice Stack Height (Technical Support Document for the Stack Height Regulations) - Revised. EPA-450/4-80-023R.

USEPA, 1986. Guideline on Air Quality Models (Revised), U.S. EPA-45/2-78-027R, Office of Air Quality Planning and Standards, Research Triangle Park, NC.

USEPA, 1987. Supplement A to the Guideline on Air Quality Models (Revised). Office of Air Quality Planning and Standards, Research Triangle Park, NC.

USEPA, 1988. Workbook for Plume Visual Impact Screening and Analysis. Office of Air Quality Planning and Standards, Research Triangle Park, NC. EPA-450/4-88-015 (Including October 1992 Revisions).

USEPA, 1990. Supplement B to the Guideline on Air Quality Models (Revised). Office of Air Quality Planning and Standards, Research Triangle Park, NC.

USEPA, 1990. New Source Review Workshop Manual — Draft. Office of Air Quality Planning and Standards, Research Triangle Park, NC.

USEPA, 1992. Procedures for Substituting Values for Missing NWS Meteorological Data for Use in Regulatory Air Quality Models. Dennis Atkinson and Russell F. Lee, Office of Air Quality Planning and Standards, Research Triangle Park, NC. July 7, 1992.

USEPA, 1995. Supplement C to the Guideline on Air Quality Models (revised). Office of Air Quality Planning and Standards, Research Triangle Park, NC.

USEPA, 1998. Interagency Workgroup on Air Quality Modeling (IWAQM) Phase 2 Summary Report and Recommendations for Modeling Long-Range Transport Impacts. Air Quality Modeling Group (MD-14), Research Triangle Park. National Park Service - Air Resource Division, Denver, Colorado. USDA Forest Service - Air Quality Program, Fort Collins, Colorado. US Fish and Wildlife Service Air Quality Branch, Denver, Colorado.

USEPA, 2003. 40 CFR Part 51, Appendix W. Guideline on Air Quality Models. Last update 5/13/2003.

USDA Forest Service Air Quality Program, National Park Service Air Resource Division, US Fish and Wildlife Service — Air Quality Branch. 2000. Federal Land Managers' Air Quality Related Values Workgroup (FLAG) Phase I Report. December 2000.

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November 20, 2003

Rochelle Walker
Administrative Services Division
Bay Area Air Quality Management District
939 Ellis Street
San Francisco, CA 94109

Re: Cumulative Impacts Analysis
San Francisco Electric Reliability Project

Dear Ms. Walker:

The San Francisco Public Utilities Commission (SFPUC) will be submitting an application for a Determination of Compliance with the District and an Application for Certification for its new San Francisco Electric Reliability Project (SFERP) with the California Energy Commission in early February 2004. The SFERP will be a new simple cycle gas turbine electric generating facility to be constructed in the Potrero District of the City of San Francisco. The UTM coordinates of the approximate center of the site are 554324 E, 4178775 N. As part of the project review, the CEC requires us to prepare an analysis of the project's cumulative impacts. This is defined by the CEC as "a cumulative air quality modeling impacts analysis of the project's typical operating mode in combination with other stationary source emissions sources **within a six-mile radius** *which have received construction permits but are not yet operating, or are in the permitting process*." [emphasis added] The CEC staff considers facilities having emissions increases of less than five tons per year to be *de minimis*, so these small increases may be excluded.

We would like to get from the District a list of projects that meet these criteria, along with sufficient emissions information and stack parameters so that we can include these sources in our air quality modeling.

Thank you very much for your assistance. If you have any questions regarding the information we are requesting, feel free to call.

Sincerely,

Nancy Matthews

Nancy Matthews

cc: Ralph Hollenbacher, SFPUC
Steve DeYoung
John Carrier, CH2M Hill

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
939 ELLIS STREET
SAN FRANCISCO, CA. 94109
ATTENTION: ADMINISTRATIVE SERVICES DIVISION

Office Use Only
P.R.R. NUMBER

Direct Dial: (415) 749-4761
FAX: (415) 749-5111

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

PUBLIC RECORDS REQUEST FORM

ATTENTION REQUESTOR: To expedite your request for District records, please fill out this form completely: Specifically identify the type of records you are requesting from the list below. **NOTE**: There is a limit of one facility or one site address per request form.

REQUESTOR INFORMATION

NAME:	Nancy Matthews					DATE:	20-Nov-03
COMPANY:	Sierra Research						
MAILING ADDRESS:	1801 J Street						
CITY:	Sacramento	STATE:	CA	ZIP CODE:	95822	PHONE NUMBER:	916-444-6666

REQUESTED FACILITY INFORMATION

FACILITY NAME:		
FACILITY ADDRESS:		
CITY:	STATE:	ZIP CODE:
TIME PERIOD OF DOCUMENTS REQUESTED:	From:	To:

REQUESTED RECORDS *(check **no more than three** applicable items)*

☐ **Complaint Information** ☐ Complaint Printout ☐ Specific Complaint #_____	☐ **Notice Of Violation Information** ☐ NOV Printout ☐ Specific NOV #_____	OTHER: *** See attached information requests (two letters).
☐ **Episode Information** ☐ Episode Printout ☐ Specific Episode #_____	☐ AB2588 Inventory ☐ Source Test Reports ☐ Lab Report #_____	
☐ **Permit Application Information** ☐ Permit Application Printout ☐ Specific Application #_____ ☐ Permit Conditions	☐ Review Permit Files * ☐ Review Enforcement Files ** ☐ Review Rule Development Files ** ☐ Asbestos Notifications	

* Subject to facility review (i.e., trade secrets).
** You will be contacted to schedule an appointment date to review records.
*** If what you are seeking is not on this Form, you may attach a letter with additional information on the request.

Cost: Copies: $.10 per page ; Diskette $10.00; Audiotape $5.00; Microfiche sheet $8.00.
Note: After a preliminary estimate, **advance payment may be required.**

I hereby agree to reimburse the BAAQMD for the direct cost of duplicating the information requested in accordance with Gov't Code Section 6253(b).

_____
Signature of Requestor

[ ] Enclosed are the records you requested.

[ ] We are unable to provide the records you requested.
- [ ] A search was made but no records were found.
- [ ] We are unable to find the record you requested because the request did not include sufficient information to find it.
- [ ] Out of District's Jurisdiction.

sierra research

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November 25, 2003

Mr. Mike Ringer
Energy Facility Siting Office
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814

Subject: Revised Modeling Protocol for the San Francisco Public Utilities Commission's Electric Reliability Power Project in San Francisco, California

Dear Mr. Ringer:

Please find attached the final emissions modeling protocol for the San Francisco Public Utilities Commission's (SFPUC) proposed Electric Reliability Power Project to be located in San Francisco, California. This protocol has been revised based on comments received from the California Energy Commission (CEC) staff. SFPUC will be filing an Application for Certification with the Commission for this new 200-megawatt power generating facility configured using up to four natural gas-fired combustion turbines. The SFPUC facility will not be a major source of emissions under Bay Area Air Quality Management District (BAAQMD) and USEPA regulations. Although the project will be required to obtain a Determination of Compliance from the BAAQMD, it will not be subject to District requirements for air quality modeling analyses.

The attached protocol is a description of the analytical approach that will be used to prepare the ambient air quality analysis required for the project under CEQA. We intend to file an AFC with the Commission and a permit application with the BAAQMD in February 2004.

If you have any questions or comments, please do not hesitate to call me at (916) 444-6666.

Sincerely,

Gary Rubenstein

cc: Ralph Hollenbacher, SFPUC
Glen Long, BAAQMD
Steve De Young
John Carrier, CH2M Hill

San Francisco Public Utilities Commission
San Francisco Electrical Reliability Power Project
Final Modeling Protocol
November 2003

The San Francisco Public Utilities District (SFPUC) is planning to submit an Application for Certification and an Application for Determination of Compliance for a new peaking power plant project in San Francisco. The proposed project, called the San Francisco Electrical Reliability Power Project, will consist of installing up to four General Electric LM6000 Sprint gas turbines near the Mirant Potrero power plant. The project will also include small cooling towers for auxiliary cooling and minor auxiliary equipment and will have a total nominal net generating capacity of up to 200 MW. The proposed peaking plant will be a new minor source under Bay Area Air Quality Management District (BAAQMD) regulations.

The applicant will submit air quality impact analyses to both the BAAQMD and the California Energy Commission (CEC). The modeling analyses will include pollutants as required by the CEC requirements for evaluation of project air quality impacts. The purpose of this document is to establish the procedure for meeting the CEC air quality modeling requirements for the proposed project. The project will also trigger CEC modeling requirements for cumulative and construction-based impacts.

Emissions from each power plant will be below the BAAQMD major source threshold of 100 tons per year for all pollutants. Nevertheless, BAAQMD and corresponding EPA modeling guidance will be followed in preparing the ambient air quality impact analyses.

The project is also expected to be below the 100-ton per year major source threshold for federal Prevention of Significant Deterioration (PSD) requirements (40 CFR 52.21). However, as part of the CEC modeling requirements, the permit application will include a demonstration of compliance with many of the PSD requirements.

This modeling protocol outlines the proposed use of air dispersion modeling techniques that will be used to assess impacts from the proposed sources, and has been prepared by Sierra Research on behalf of the SFPUC. This protocol also follows modeling guidance provided by the U.S. Environmental Protection Agency (USEPA) in its "*Guideline on Air Quality Models*" (including supplements), the National Park Service's "*Permit Application Guidance for New Air Pollution Sources*" (Bunyak, 1993), the Federal Land Managers' "*Air Quality Related Values Workgroup (FLAG) Phase I Report*" (December 2000), the "*Interagency Workgroup on Air Quality Modeling (IWAQM) Phase II Recommendations*" (1998), and the National Park Service's "*Guidance on Nitrogen Deposition Thresholds*" (2001) .

Impacts from operation of the facility will be compared to the following:

Air Quality Criteria	NO_2	PM_{10}	CO	SO_2
PSD Significant Impact Levels	√	√	√	√
PSD Monitoring Exemption Levels	√	√	√	√
Ambient Air Quality Standards	√	√	√	√
Class I and Class II Visibility	√	√		√
Impacts to Soils and Vegetation	√	√		√
Class I Area Acid Deposition	√	√		√

PROJECT LOCATION

Up to four turbines will be located on the east side of the city of San Francisco, near the existing Mirant Potrero Power Plant. The final project location has not yet been selected; however, the SFPUC plans to locate these units near the Potrero substation.

PROPOSED EMISSION SOURCES

The primary emission sources at the SFPUC Potrero peaking facility will be the LM6000 gas turbine electric generators. The turbines will be fired with natural gas only. The turbines will utilize advanced combustion designs and emission controls to limit emissions of NOx to 2.5 ppmc at full load and emissions of CO to 4 ppmc. Emissions of PM_{10} and SO_2 will be kept to a minimum through the exclusive use of natural gas. The particulate emissions from the cooling towers will be minimized with the use of high-efficiency drift eliminators.

EXISTING METEOROLOGICAL DATA

Meteorological data was collected by PG&E at the existing Mirant Potrero power plant site during 1992. This is considered on-site data for the purposes of meeting EPA guidance, so only one year of meteorological data is required. The station measured and recorded surface data (e.g., wind speed, direction, cloud cover, ceiling height, and temperature) on a continual basis. In accordance with BAAQMD guidance, a mixing height of 600 meters will be used. A wind rose for the Potrero meteorological monitoring site is shown in Figure 1.

Terrain immediately surrounding the project and monitoring station is presented in Figure 2. The area in the immediate vicinity of the project site and monitoring station is relatively flat to the north, east and south, but rises sharply to the west.

Figure 1
Potrero Meteorological Station Wind Rose

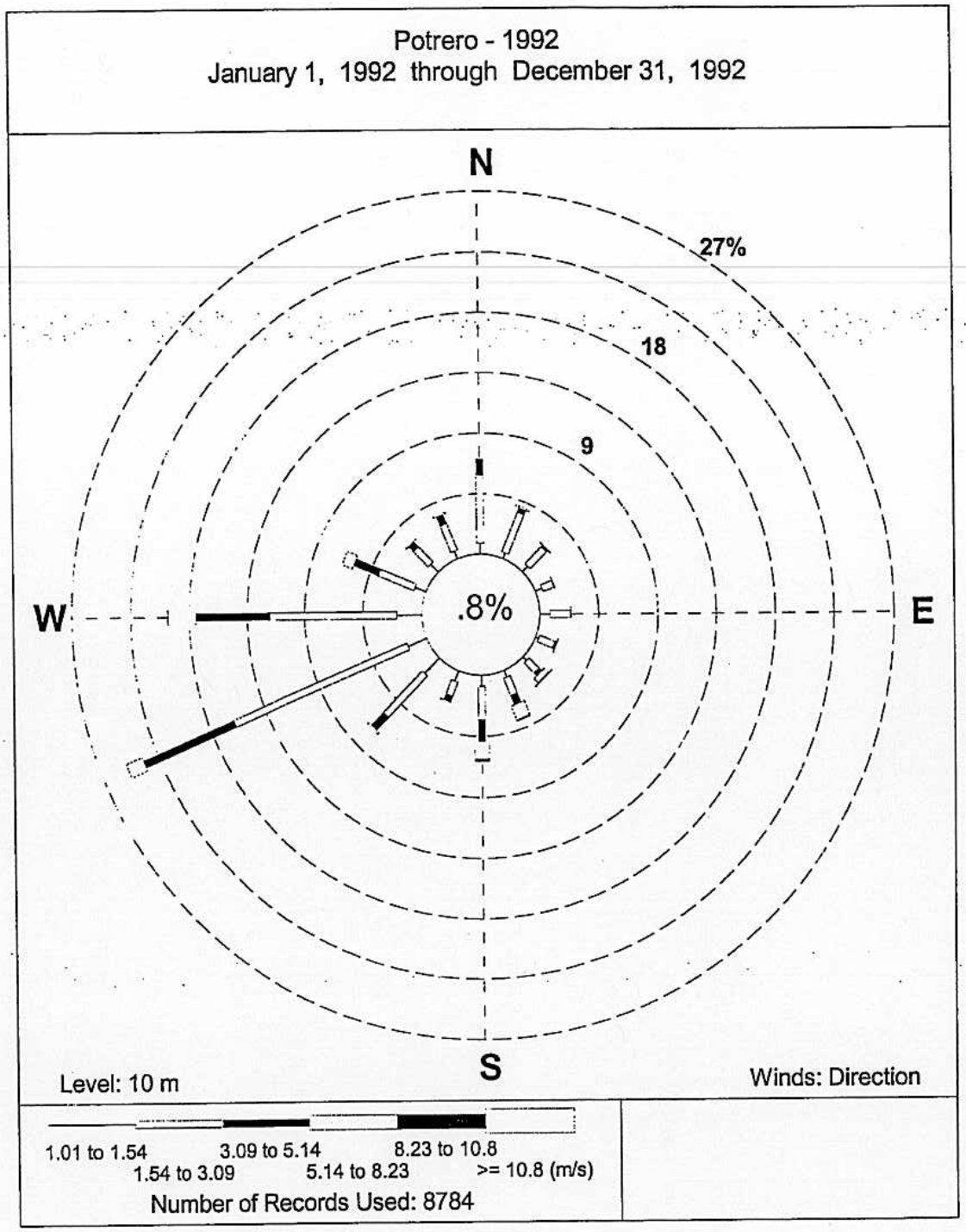
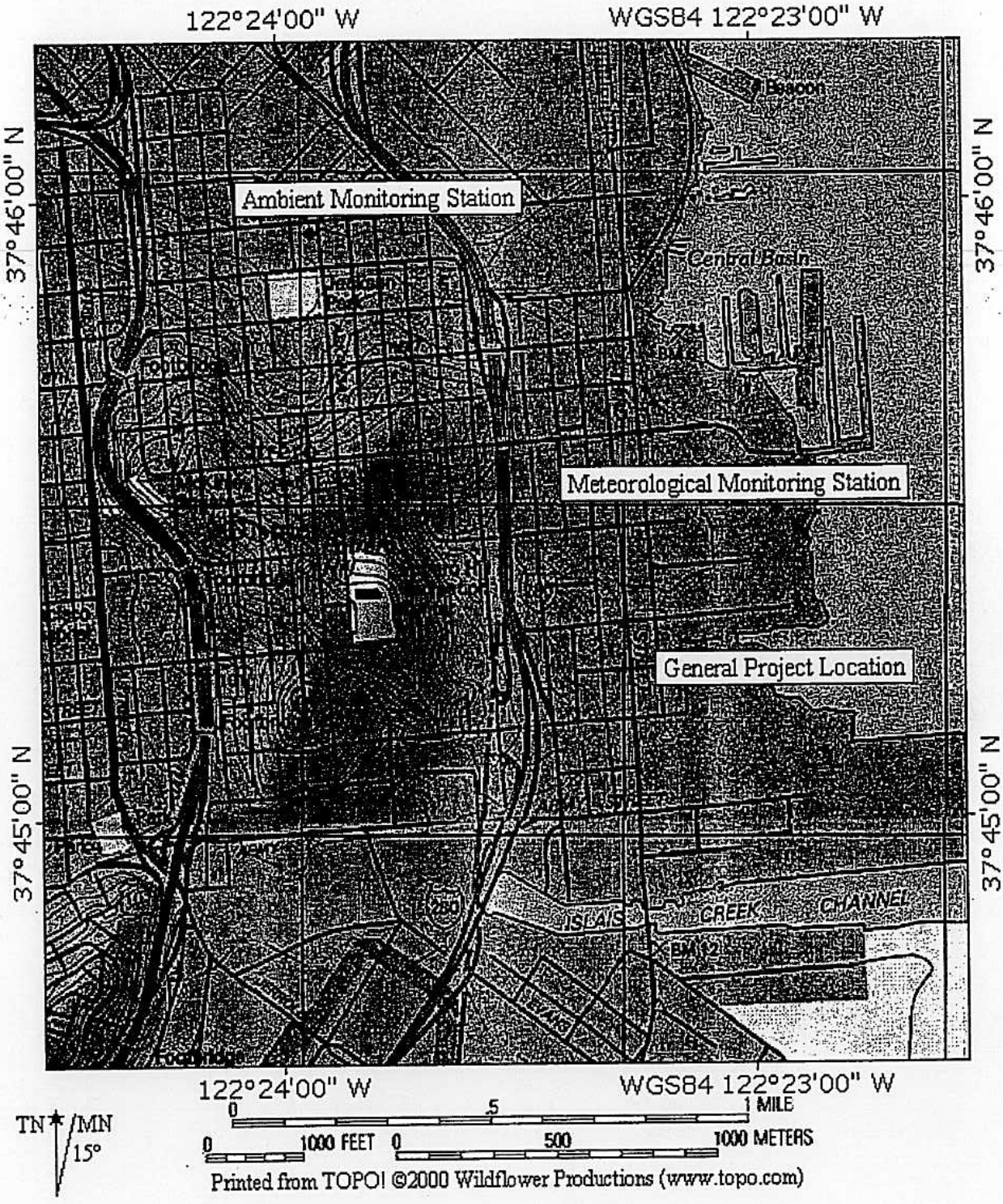


Figure 2
Potrero Site Location



SITE REPRESENTATION – METEOROLOGICAL DATA

USEPA defines the term "on-site data" to mean data that would be representative of atmospheric dispersion conditions at the source and at locations where the source may have a significant impact on air quality. Specifically, the meteorological data requirement originates in the Clean Air Act at Section 165(e)(1), which requires an analysis "of the ambient air quality at the proposed site and in areas which may be affected by emissions from such facility for each pollutant subject to regulation under [the Act] which will be emitted from such facility."

This requirement and USEPA's guidance on the use of on-site monitoring data are also outlined in the "*On-Site Meteorological Program Guidance for Regulatory Modeling Applications*" (1987). The representativeness of the data is dependent upon (a) the proximity of the meteorological monitoring site to the area under consideration, (b) the complexity of the topography of the area, (c) the exposure of the meteorological sensors, and (d) the period of time during which the data are collected. As discussed below, we believe the meteorological data from the Potrero power plant are representative of conditions at the SFPUC project site.

The wind rose for the Potrero power plant (Figure 2) indicates that on an annual basis, prevailing winds are from the west and west-southwest. The occurrence of high wind speeds (defined here as wind speeds greater than 5.14 m/s) is very low; when wind speeds are high, winds are generally from the south. Calm conditions are rare, occurring less than one percent of the time.

The area surrounding the project site will be characterized, for dispersion purposes, using the Auer land use classification methodology (USEPA's "*Guideline on Air Quality Models*"). Under this procedure, land use within the area circumscribed by a three km radius around the facility is used to determine whether the area is urban or rural. In the modeling analyses supporting the permitting of the facility, dispersion coefficients will be assigned depending upon the outcome of this analysis.

Representativeness has also been defined in the "*Workshop on the Representativeness of Meteorological Observations*" (Nappo et. al., 1982) as "the extent to which a set of measurements taken in a space-time domain reflects the actual conditions in the same or different space-time domain taken on a scale appropriate for a specific application." Judgments of representativeness should be made only when sites are climatologically similar, as the project site and the Potrero power plant site clearly are. Representativeness has also been defined in the PSD Monitoring Guideline as data that characterize the air quality for the general area in which the proposed project would be constructed and operate. Because of the close proximity of the Potrero power plant site to the proposed project site, the same large-scale topographic features that influence the Potrero power plant monitoring station also influence the proposed project site in the same manner.

Thus, it is our assessment that the wind direction and wind speed data collected at the Potrero power plant monitoring station are identical to the dispersion conditions at the Potrero project site and to the regional area. Thus, the Potrero power plant 1992 data set satisfies the definition of representative data.

EXISTING AMBIENT AIR QUALITY DATA

Background ambient air quality data for the project area are available from the San Francisco Arkansas Street monitoring site. Ambient O_3, NO_2, SO_2, PM_{10}, $PM_{2.5}$ and CO data are collected at this site, which is located about 1 mile from the project site.

SITE REPRESENTATION – AMBIENT AIR QUALITY DATA

As shown above in Figure 2, the Arkansas Street ambient monitoring station is the closest station to the project site. Consequently, this monitoring station was selected to represent the background ambient levels for the project site. Modeled concentrations will be added to these representative background concentrations to determine compliance with the CAAQS and NAAQS.

AIR QUALITY DISPERSION MODELS

Overview

Several USEPA dispersion models are proposed for use to quantify pollutant impacts on the surrounding environment based on the emission sources' operating parameters and their locations. The models proposed for use are Building Profile Input Program (BPIP, current version 95086), ISCST3 (current version 02035), and the VISCREEN visibility model (current version 88341). These models, along with options for their use and how they are used, are discussed below.

Simple, Complex, and Intermediate Terrain Impacts

For modeling the project in simple, complex, and intermediate terrain, the guideline ISCST3 model will be used with the hourly meteorological data from the Potrero monitoring station for the Potrero site. The ISCST3 model is a steady-state, multiple-source, Gaussian dispersion model designed for use with stack emission sources situated in terrain where ground elevations can exceed the stack heights of the emission sources. While the Industrial Source Complex Short Term Model (ISCST3) is a guideline model, it is expected to be replaced in the near future by the AERMOD model; AERMOD has not yet been adopted as a guideline model.[1]

[1] AERMOD has recently been proposed by EPA as a replacement for ISCST3 and incorporates an improved downwash algorithm (Federal Register: September 8, 2003 (Volume 68, Number 173), Pages 52934-52935) but has not yet been adopted as a guideline model.

The ISCST3 model requires hourly meteorological data consisting of wind vector, wind speed, temperature, stability class, and mixing height. The model assumes that there is no variability in meteorological parameters over a 1-hour time period, hence the term steady-state. The ISCST3 model allows input of multiple sources and source groupings, eliminating the need for multiple model runs. Complex phenomena such as building-induced plume downwash are treated in this model.

The ISCST3 model is also capable of calculating pollutant concentrations in intermediate terrain. Intermediate terrain is defined as terrain between stack top and final plume height. In calculating pollutant concentrations in intermediate terrain, the model will select the higher of the simple and complex terrain calculations on an hour-by-hour, source-by-source, and receptor-by-receptor basis.

Technical options selected for the ISCST3 model are listed below. Use of these options follows the USEPA's (1986, 1987, 1990, and 1994) modeling guidance and/or sound scientific practice. An explanation of these options and the rationale for their selection is provided below.

- Default option (includes gradual plume rise, stack-tip downwash except for Schulman-Scire [SS] downwash, buoyancy-induced dispersion except for SS downwash, default wind profile exponents, default temperature gradients, and calm processing per EPA policy);
- Anemometer height = 10 meters;
- Dispersion parameters determined in accordance with the Auer land use procedure; and
- Elevated receptor terrain heights option.

Final plume rise option does not consider the possible effects of gradual plume rise on ambient concentrations during the rising phase of the plume downwind transport. Gradual plume rise is recommended by USEPA (1986, 1987, 1990, 1994) when there is significant terrain close to the stacks. Buoyancy-induced dispersion, which accounts for the buoyant growth of a plume caused by entrainment of ambient air, will be included because of the relatively warm exit temperature and subsequent buoyant nature of the exhaust plumes. Stack-tip downwash, which adjusts the effective stack height downward following the methods of Briggs (1972) for cases where the stack exit velocity is less than 1.5 times the wind speed at stack top, will be selected per USEPA guidance.

As previously mentioned, based on the land use classification procedure of Auer (1978), land use within the area circumscribed by a three-km radius around the modified facility will be evaluated to determine whether the land use is predominantly urban or rural. In the modeling analyses supporting the permitting of the facility, urban or rural coefficients will be assigned, depending upon the results of this evaluation.

The calm processing option allows the user to direct the program to exclude hours with persistent calm winds in the calculation of concentrations for each averaging period. This option is generally recommended by the USEPA (1986, 1987, 1990, 1994) for regulatory applications. The ISCST3 model recognizes a calm wind condition as a wind speed less than or equal to 1 meter per second and a wind direction equal to that of the previous hour (a wind speed of 0 m/sec is used in the ASCII meteorological data file). The calm processing option in the ISCST3 model will then exclude these hours from the calculation of concentrations.

Ambient Ratio Method and Ozone Limiting Method

Annual NO_2 concentrations will be calculated using the Ambient Ratio Method (ARM), adopted in Supplement C to the Guideline on Air Quality Models (USEPA, 1994). The Guideline allows a nationwide default conversion rate of 75% for annual NO_2/NOx ratios.

Should NO_2 concentrations need to be examined in a more rigorous manner, the Ozone Limiting Method (OLM) will be used. In accordance with EPA modeling guidance and BAAQMD policy, contemporaneous hourly ozone data collected at the Arkansas Street monitoring station during 1992 will be used in the Ozone Limiting Method to calculate hourly NO_2 concentrations from hourly NOx concentrations. The Ozone Limiting Method involves an initial comparison of the estimated maximum NOx concentration and the ambient O_3 concentration to determine which is the limiting factor to NO_2 formation. If the O_3 concentration is greater than the maximum NOx concentration, total conversion is assumed. If the NOx concentration is greater than the O_3 concentration, the formation of NO_2 is limited by the ambient O_3 concentration. In this case, the NO_2 concentration is set equal to the O_3 concentration plus a correction factor that accounts for in-stack and near-stack thermal conversion.

EPA's ISC-OLM model will be used to calculate the NO_2 concentration based upon the OLM method.

In addition to the use of ISC-OLM, at the request of the CEC, the Tier 1 screening level analysis results will be reported for maximum hourly NO_2 concentrations. These results are based on the conservative assumption that all NOx is converted to NO_2.

Fumigation

The SCREEN3 model will be used to evaluate inversion breakup and shoreline fumigation impacts for short-term averaging periods (24 hours or less), as appropriate. The methodology in EPA 454/R-92-019 (Screening Procedures for Estimating the Air Quality Impact of Stationary Sources, Revised) and in the BAAQMD modeling guidelines will be followed for these analyses. Combined impacts for all sources under fumigation conditions will be evaluated, based on USEPA and any applicable BAAQMD modeling guidelines.

GOOD ENGINEERING PRACTICE STACK HEIGHT AND DOWNWASH

ISCST3 can account for building downwash effects on dispersing plumes. Stack locations and heights and building locations and dimensions will be input to BPIP. The first part of BPIP determines and reports on whether a stack is being subjected to wake effects from a structure or structures. The second part calculates direction-specific building dimensions for each structure that are used by ISCST3 to evaluate wake effects. The BPIP output is formatted for use in ISCST3 input files.

RECEPTOR SELECTION

Receptor and source base elevations will be determined from USGS Digital Elevation Model (DEM) data using the 7½-minute format (10- to 30-meter spacing between grid nodes). All coordinates will be referenced to UTM North American Datum 1927 (NAD27), zone 10. The ISCST3 receptor elevations will be interpolated among the DEM nodes.

Cartesian coordinate receptor grids will be used to provide adequate spatial coverage surrounding the project area for assessing ground-level pollution concentrations, to identify the extent of significant impacts, and to identify maximum impact locations. A 250-meter resolution coarse receptor grid will be developed and will extend outwards at least 10 km (or more as necessary to calculate the significant impact area).

For the full impact analyses, a nested grid will be developed to fully represent the maximum impact area(s). This grid will have 25-meter resolution along the facility fenceline, in four tiers of receptors along the fenceline, out to 100 meters from the fenceline, 100 meter resolution from 100 meters to 1,000 meters from the fenceline, and 250-meter spacing out to as far as 10 km from the site. When maximum or maximum second-highest impacts occur in the 250 meter spaced area, additional refined receptor grids with 25-meter resolution will be placed around the maximum coarse grid impacts and extended out 1000 meters in all directions. Concentrations within the facility fenceline will not be calculated.

Consistent with previous AFCs, we will identify and include in the modeling analysis all sensitive receptors within 5 kilometers of the project site. Residential areas near the project site will be identified as well.

MODELING SCENARIOS

Pollutant emissions to the atmosphere from the proposed facility will occur from combustion of natural gas in combustion turbines and from particulate emissions from the cooling towers. Emission rates will be provided by the project owner and will be based on vendor data and additional conservative assumptions of equipment performance. Turbine emissions and stack parameters, such as flow rate and exit temperature, exhibit some variation with ambient

temperature and operating load. In order to calculate the worst-case air quality impacts, a screening analysis will be performed to evaluate each operating scenario (based on operating load and atmospheric conditions) to predict the worst-case facility configuration on a pollutant-specific basis.

In the modeling analysis, maximum impacts will be predicted for maximum (100%) and reduced load conditions. In addition, different ambient temperatures will be evaluated for each load condition. Each of these conditions has unique performance characteristics that affect plume dispersion and thus predicted impacts. This analysis is most relevant to analyses for short-term impacts. The temperatures selected for the short-term screening analyses will closely reflect the range of possible site conditions. The results of this screening analysis will be used to select the worst-case operational scenarios for the modeling analyses in order to provide maximum operating flexibility. Refined modeling for the permit application will be based on these worst-case scenarios.

The screening modeling will use one complete year of meteorological data and the nested receptor grid described above to determine the worst-case source configuration (i.e., configuration that produces maximum facility impacts). This worst-case source configuration will then be executed with all available meteorological data (here, one complete year of 1992 Potrero power plant met data) and, if necessary, coarse grid impacts will be refined with fine grid receptors spaced 25 meters apart.

Ambient Air Quality Impact Analyses

In evaluating the impacts of the proposed project on ambient air quality, we will model the ambient impacts of the project, add those impacts to background concentrations, and compare the results to the state and federal ambient standards for SO_2, NO_2, PM_{10}, $PM_{2.5}$ and CO.

In accordance with EPA (40 CFR part 51, Appendix W, Sections 11.2.3.2 and 11.2.3.3) and BAAQMD guidance, the highest modeled concentration will be used to demonstrate compliance with annual and short-term standards.

Additional Analyses Required by the CEC

Additional analyses that may be required by the CEC are a cumulative air quality impacts analysis and an analysis of construction impacts. The procedures to be used in evaluating construction impacts are discussed below. A separate protocol will be prepared for the cumulative impacts analysis.

Construction Impacts Analysis - The potential ambient impacts from air pollutant emissions during the construction of the power plant at the Potrero site will be evaluated by air quality modeling that will account for the construction site location and the surrounding topography; the sources of emissions during construction, including vehicle and equipment exhaust emissions; and fugitive dust.

Site Description - The dispersion modeling analyses will include a description of the physical setting of the facility and surrounding terrain. A map showing the plant location, fence lines, and model receptors will be included, as well as a plot plan of the plant site indicating heights of nearby structures above a common reference point. Residential areas near to the project site, and all sensitive receptors within one kilometer of the project site, will be identified as well.

Types of Emission Sources - Construction of the proposed power plant will be divided into three main construction phases: (1) site preparation; (2) construction of foundations; and (3) installation and assembly of mechanical and electrical equipment. The construction impacts analysis will include a schedule for construction operation activities. Site preparation is expected to include site excavation, excavation of footings and foundations, and backfilling operations. Depending upon the final project location, some demolition of existing structures may be required; if so, emissions from demolition activities will be included in the site preparation analysis. After site preparation is finished, the construction of the foundations will begin. Once the foundations are finished, the installation and assembly of the mechanical and electrical equipment will begin.

Fugitive dust emissions from the construction of the project result from (1) dust entrained during excavation and grading at the construction site; (2) dust entrained during onsite travel on paved and unpaved roads and across the unpaved construction site; (3) dust entrained during aggregate and soil loading and unloading operations; (4) dust entrained from raw material transfer to and from material stockpiles; and (5) wind erosion of areas disturbed during construction activities. Heavy equipment exhaust emissions result from (1) exhaust from the heavy equipment used for excavation, grading, and construction of onsite structures; (2) exhaust from a water truck used to control construction dust emissions; (3) exhaust from Diesel welding machines, gasoline-powered generators, air compressors, and water pumps; and (4) exhaust from gasoline-powered pickup trucks and Diesel flatbed trucks used onsite to transport workers and materials around the construction site. Diesel and gasoline truck exhaust emissions will result from transport of mechanical and electrical equipment to the project site and transport of rubble and debris from the site to an appropriate landfill. Diesel exhaust emissions may also result from transport of raw materials to and from stockpiles.

Emissions from a worst-case day will be calculated for each of the three main construction phases and only the phase with the highest emissions will be used to model short-term impacts (24 hours or less). The annual average equipment schedule (equipment mix and operating levels) will be used to calculate annual average emission levels during the construction phase of the

project. These annual emission levels will be used to model annual average construction impacts.

Existing Ambient Levels - Ambient NO_2, SO_2, CO, and PM_{10} concentrations are monitored at Arkansas Street. Ambient concentrations at this monitoring station are believed to be representative of the project site and are being proposed for use in the analysis.

Model Type - The EPA-guideline ISCST3 model will be used to estimate ambient impacts from construction emissions. The modeling options and meteorological data described above will be used for the modeling analysis.

The construction site will be represented as volume sources in the modeling analysis. Emissions will be divided into two categories: exhaust emissions and dust emissions. For this analysis, we will follow the modeling procedures described in the revised construction impacts analysis prepared for the MID Electric Generation Station (MEGS) project in July 2003.

For the construction modeling analysis, the receptor grid will begin at the property boundary and will extend approximately one kilometer in all directions. Receptor spacing will be 60 meters, except for four tiers of receptors spaced along the project boundary at 25-meter spacing.

Residential areas and sensitive receptors within the construction modeling grid will be identified as well.

FINAL MODELING SUBMITTAL

In accordance with CEC guidance, the final modeling analyses will also include the following materials:

- US Geological Survey (USGS) 7½-minute (1:24,000) map(s) showing the facility;
- Modeling summaries of maximum impacts for each air quality model showing meteorological conditions and receptor location and elevation;
- All modeling outputs (including BPIP and meteorological files) in electronic format, together with a description of all filenames;
- Plot plan showing emission points, nearby buildings (including dimensions), cross-section lines, property lines, fencelines, roads, and UTM coordinates; and
- Table showing the building identifiers in the BPIP run(s) and plot plan.

REFERENCES

Bay Area Air Quality Management District, 2001. Permit Modeling Guidance, August 2001.

Briggs, G.A., 1972. Discussion on Chimney Plumes in Neutral and Stable Surroundings. Atmos. Environ. 6:507-510.

Bunyak, John. 1993. Permit Application Guidance for New Air Pollution Sources. Natural Resources Report NPS/NRAQD/NRR-93/09, US Dept. of the Interior, National Park Service.

National Climatic Data Center (NCDC), 2000: Local Climatological Data (LCD) - Annual Summary with Comparative Data for Salem [McNary Airport] for 1999.

Radian International, 2000. Application for Certification: Potrero Power Plant Unit 7 Project, Section 8.1, Air Quality.

U.S. Environmental Protection Agency (USEPA), 1972. Mixing Heights, Wind Speeds, and Potential for Urban Air Pollution Throughout the Contiguous United States, George C. Holzworth, January, 1972.

USEPA, 1985. Guideline for Determination of Good Engineering Practice Stack Height (Technical Support Document for the Stack Height Regulations) - Revised. EPA-450/4-80-023R.

USEPA, 1986. Guideline on Air Quality Models (Revised), U.S. EPA-45/2-78-027R, Office of Air Quality Planning and Standards, Research Triangle Park, NC.

USEPA, 1987. Supplement A to the Guideline on Air Quality Models (Revised). Office of Air Quality Planning and Standards, Research Triangle Park, NC.

USEPA, 1988. Workbook for Plume Visual Impact Screening and Analysis. Office of Air Quality Planning and Standards, Research Triangle Park, NC. EPA-450/4-88-015 (Including October 1992 Revisions).

USEPA, 1990. Supplement B to the Guideline on Air Quality Models (Revised). Office of Air Quality Planning and Standards, Research Triangle Park, NC.

USEPA, 1990. New Source Review Workshop Manual — Draft. Office of Air Quality Planning and Standards, Research Triangle Park, NC.

USEPA, 1992. Procedures for Substituting Values for Missing NWS Meteorological

Data for Use in Regulatory Air Quality Models. Dennis Atkinson and Russell F. Lee, Office of Air Quality Planning and Standards, Research Triangle Park, NC. July 7, 1992.

USEPA, 1995. Supplement C to the Guideline on Air Quality Models (revised). Office of Air Quality Planning and Standards, Research Triangle Park, NC.

USEPA, 1998. Interagency Workgroup on Air Quality Modeling (IWAQM) Phase 2 Summary Report and Recommendations for Modeling Long-Range Transport Impacts. Air Quality Modeling Group (MD-14), Research Triangle Park. National Park Service - Air Resource Division, Denver, Colorado. USDA Forest Service - Air Quality Program, Fort Collins, Colorado. US Fish and Wildlife Service Air Quality Branch, Denver, Colorado.

USEPA, 2003. 40 CFR Part 51, Appendix W. Guideline on Air Quality Models. Last update 5/13/2003.

USDA Forest Service Air Quality Program, National Park Service Air Resource Division, US Fish and Wildlife Service — Air Quality Branch. 2000. Federal Land Managers' Air Quality Related Values Workgroup (FLAG) Phase I Report. December 2000.

sierra
research

1801 J Street
Sacramento, CA 95814
(916) 444-6666
Fax: (916) 444-8373

January 14, 2004

Rochelle Walker
Administrative Services Division
Bay Area Air Quality Management District
939 Ellis Street
San Francisco, CA 94109

Re: Cumulative Impacts Analysis
San Francisco Electric Reliability Project

Dear Ms. Walker:

The San Francisco Public Utilities Commission (SFPUC) will be submitting an application for a Determination of Compliance with the District and an Application for Certification for its new San Francisco Electric Reliability Project (SFERP) with the California Energy Commission in early February 2004.

As part of the analysis of impacts of this project, we would like to obtain emissions data for the nearby PG&E Hunters Point power plant. Please provide reported or calculated NOx emissions for the power plant for calendar years 2002 and 2003.

Thank you very much for your assistance. If you have any questions regarding the information we are requesting, feel free to call.

Sincerely,

Nancy Matthews

Nancy Matthews

cc: Ralph Hollenbacher, SFPUC
Steve DeYoung
John Carrier, CH2M Hill

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
939 ELLIS STREET
SAN FRANCISCO, CA. 94109
ATTENTION: ADMINISTRATIVE SERVICES DIVISION

Office Use Only
P.R.R. NUMBER

Direct Dial: (415) 749-4761
FAX: (415) 749-5111

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

PUBLIC RECORDS REQUEST FORM

ATTENTION REQUESTOR: To expedite your request for District records, please fill out this form completely: Specifically identify the type of records you are requesting from the list below. **NOTE:** There is a limit of one facility or one site address per request form.

REQUESTOR INFORMATION

NAME:	Nancy Matthews					DATE:	Jan. 14, 2004
COMPANY:	Sierra Research						
MAILING ADDRESS:	1801 J Street						
CITY:	Sacramento	STATE:	CA	ZIP CODE	95814	PHONE NUMBER:	916-444-6666

REQUESTED FACILITY INFORMATION

FACILITY NAME:	PG&E Company, Hunters Point Power Plant				
FACILITY ADDRESS:	1000 Evans Avenue				
CITY:	San Francisco	STATE:	CA	ZIP CODE	94124
TIME PERIOD OF DOCUMENTS REQUESTED:		From:	2002	To:	2003

REQUESTED RECORDS *(check **no more than three** applicable items)*

☐ **Complaint Information** ☐ Complaint Printout ☐ Specific Complaint #_____	☐ **Notice Of Violation Information** ☐ NOV Printout ☐ Specific NOV #_____	OTHER: *** See attached for description of request.
☐ **Episode Information** ☐ Episode Printout ☐ Specific Episode #_____	☐ AB2588 Inventory ☐ Source Test Reports ☐ Lab Report #_____	
☐ **Permit Application Information** ☐ Permit Application Printout ☐ Specific Application #_____ ☐ Permit Conditions	☐ Review Permit Files * ☐ Review Enforcement Files ** ☐ Review Rule Development Files ** ☐ Asbestos Notifications	

* Subject to facility review (i.e., trade secrets).
** You will be contacted to schedule an appointment date to review records.
*** If what you are seeking is not on this Form, you may attach a letter with additional information on the request.

Cost: Copies: $.10 per page ; Diskette $10.00; Audiotape $5.00; Microfiche sheet $8.00.
Note: After a preliminary estimate, **advance payment may be required.**

I hereby agree to reimburse the BAAQMD for the direct cost of duplicating the information requested in accordance with Gov't Code Section 6253(b).

Nancy Matthews
Signature of Requestor

[ ] Enclosed are the records you requested.

[ ] We are unable to provide the records you requested.
- [ ] A search was made but no records were found.
- [ ] We are unable to find the record you requested because the request did not include sufficient information to find it
- [ ] Out of District's Jurisdiction.

BAY AREA
AIR QUALITY
MANAGEMENT
DISTRICT

ALAMEDA COUNTY
Roberta Cooper
Scott Haggerty
(Chairperson)
Nate Miley
Shelia Young

CONTRA COSTA COUNTY
Mark DeSaulnier
Mark Ross
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(Secretary)

MARIN COUNTY
Harold C. Brown, Jr.

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Willie Brown, Jr.
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Jake McGoldrick

SAN MATEO COUNTY
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Dena Mossar

SOLANO COUNTY
John F. Silva

SONOMA COUNTY
Tim Smith
Pamela Torliatt

Jack P. Broadbent
EXECUTIVE OFFICER/APCO

RECD JAN 2 2 2004
cc: GSR

January 16, 2004

Sierra Research
1801 J Street
Sacramento, CA 95814

Attention: Ms Nancy Matthews

Subject: San Francisco Reliability Project

Dear Ms. Matthews:

Enclosed is a printout of criteria emissions from twenty-five facilities located within a six-mile radius of the site specified (UTM km 554.324E, 4178.775N). Each of these facilities has an Authority to Construct, but has not commenced operation. The emissions listed are potential to emit and may not reflect the future actual operating emissions. Individual stack parameters are not available for these facilities.

If you have any further questions, please call me at **(415) 749-4683.**

Very truly yours,

Gene Willner
Air Quality Engineer II

esw
Enclosure

The following facilities with an active Authority to Construct are located within
6.00 miles from the point specified (UTM 554.324E, 4178.775N).

Date Printed: JAN 16, 2004

Plant No.: 138 [1.27 miles from the point spec] 553.554E 4176.875N

San Francisco, City & County
1801 Jerrold Avenue
San Francisco, CA 94124

	PART	ORG	NOX	SOX	CO
EMISSION TOTALS TONS/YEAR	.1	.8	.0	.0	.0

****

Plant No.: 1860 [4.12 miles from the point spec] 547.777E 4177.729N

Laguna Honda Hospital
375 Laguna Honda Boulevard
San Francisco, CA 94116

	PART	ORG	NOX	SOX	CO
EMISSION TOTALS TONS/YEAR	.0	.0	.8	.0	.1

****

Plant No.: 2478 [4.15 miles from the point spec] 547.582E 4179.519N

UCSF/Parnassus
3rd Avenue & Parnassus
San Francisco, CA 94122

	PART	ORG	NOX	SOX	CO
EMISSION TOTALS TONS/YEAR	.1	.1	2.6	.0	.3

****

Plant No.: 9313 [2.09 miles from the point spec] 551.109E 4177.810N

St Luke's Hospital
3555 Cesar Chavez Street
San Francisco, CA 94110

	PART	ORG	NOX	SOX	CO
EMISSION TOTALS TONS/YEAR	.0	.1	.7	.0	.1

****

Plant No.: 10672 [2.69 miles from the point spec] 553.432E 4183.021N

Equity Office Properties
One Market St, Ste 725 Spear Tower
San Francisco, CA 94105

	PART	ORG	NOX	SOX	CO
EMISSION TOTALS TONS/YEAR	.4	4.3	3.3	.0	13.0

****

Plant No.: 13120 [2.11 miles from the point spec] 552.861E 4175.718N

San Francisco Self Storage III
1828 Egbert Avenue
San Francisco, CA 94124

	PART	ORG	NOX	SOX	CO
EMISSION TOTALS TONS/YEAR	.1	3.5	16.2	.4	6.5

****

Plant No.: 13131 [2.33 miles from the point spec] 553.106E 4175.226N

San Francisco Wave Exchange
200 Paul Ave, &400 Bldg F, Mezz
San Francisco, CA 94124

	PART	ORG	NOX	SOX	CO
EMISSION TOTALS TONS/YEAR	.1	4.1	18.9	.4	7.5

****

Plant No.: 13160 [.96 miles from the point spec] 553.541E 4180.108N

University of California SF
800 16th Street
San Francisco, CA 94107

	PART	ORG	NOX	SOX	CO
EMISSION TOTALS TONS/YEAR	1.0	.8	7.1	.2	9.7

****

Plant No.: 13326 [5.11 miles from the point spec] 546.102E 4179.067N

Bridgepoint at San Francisco
1601 19th Avenue
San Francisco, CA 94122

	PART	ORG	NOX	SOX	CO
EMISSION TOTALS TONS/YEAR	.0	.0	.1	.0	.0

****

Plant No.: 13628 [1.84 miles from the point spec] 552.456E 4181.065N

Holguin Fahan & Associates Inc
1000 Harrison Street
San Francisco, CA 94103

	PART	ORG	NOX	SOX	CO
EMISSION TOTALS TONS/YEAR	.0	4.6	.0	.0	.0

****

Plant No.: 13659 [1.40 miles from the point spec] 553.975E 4178.556N

San Francisco Public Utilities Commission
1219 Lane Street
San Francisco, CA 94124

	PART	ORG	NOX	SOX	CO
EMISSION TOTALS TONS/YEAR	.0	.0	.1	.0	.0

****

Plant No.: 13841 [2.47 miles from the point spec] 553.264E 4182.601N

Foundry Square Associates II
405 Howard Street
San Francisco, CA 94105

	PART	ORG	NOX	SOX	CO
EMISSION TOTALS TONS/YEAR	.0	.0	1.1	.0	.3

****

Plant No.: 13946 [3.15 miles from the point spec] 551.071E 4182.664N

AT&T Broadband
1470 Pine Street
San Francisco, CA 94109

	PART	ORG	NOX	SOX	CO
EMISSION TOTALS TONS/YEAR	.0	.0	.2	.0	.1

****

Plant No.: 14051 [1.77 miles from the point spec] 551.536E 4179.388N

San Francisco Fire Dept
2300 Folsom Street
San Francisco, CA 94110

	PART	ORG	NOX	SOX	CO
EMISSION TOTALS TONS/YEAR	.0	.0	.2	.0	.0

****

Plant No.: 14405 [3.70 miles from the point spec] 548.836E 4181.094N

Albertsons #7137
1750 Fulton Street
San Francisco, CA 94117

	PART	ORG	NOX	SOX	CO
EMISSION TOTALS TONS/YEAR	.0	.0	.0	.0	.0

****

Plant No.: 14774 [1.96 miles from the point spec] 553.951E 4175.640N

John Gross Painting
1350 Van Dyke
San Francisco, CA 94124

	PART	ORG	NOX	SOX	CO
EMISSION TOTALS TONS/YEAR	.0	2.4	.0	.0	.0

****

Plant No.: 14902 [1.51 miles from the point spec] 553.341E 4181.002N

Channel Park Development Co LLC
255 Berry Street
San Francisco, CA 94107

	PART	ORG	NOX	SOX	CO
EMISSION TOTALS TONS/YEAR	.0	.0	.2	.0	.1

****

Plant No.: 15194 [2.47 miles from the point spec] 553.271E 4182.615N

RealEnergy Inc
199 Fremont Street
San Francisco, CA 94105

	PART	ORG	NOX	SOX	CO
EMISSION TOTALS TONS/YEAR	.4	6.5	3.3	.0	5.4

****

Plant No.: 15195 [2.65 miles from the point spec] 553.128E 4182.878N

RealEnergy Inc
50 Beale Street
San Francisco, CA 94105

	PART	ORG	NOX	SOX	CO
EMISSION TOTALS TONS/YEAR	.6	9.8	4.9	.0	8.2

****

Plant No.: 15247 [2.59 miles from the point spec] 552.723E 4182.618N

RealEnergy Inc
595 Market Street
San Francisco, CA 94105

	PART	ORG	NOX	SOX	CO
EMISSION TOTALS TONS/YEAR	.5	2.3	2.3	.0	9.3

****

Plant No.: 15389 [2.35 miles from the point spec] 552.678E 4175.362N

Exxon Company c/o ERI
2985 San Bruno Avenue
San Francisco, CA 94134

	PART	ORG	NOX	SOX	CO
EMISSION TOTALS TONS/YEAR	.0	.5	.0	.0	.0

****

Plant No.: 15521 [2.68 miles from the point spec] 552.179E 4182.514N

Williams-Sonoma Inc
340 Post Street
San Francisco, CA 94108

	PART	ORG	NOX	SOX	CO
EMISSION TOTALS TONS/YEAR	.0	.0	.2	.0	.0

****

Plant No.: 15533 [1.65 miles from the point spec] 553.466E 4181.282N

Third & King Investors LLC
250 King & 260 King St
San Francisco, CA 94107

	PART	ORG	NOX	SOX	CO
EMISSION TOTALS TONS/YEAR	.0	.1	1.8	.0	.2

****

Plant No.: 15570 [2.04 miles from the point spec] 551.212E 4179.818N

Hell's Auto Body
155 Capp Street
San Francisco, CA 94110

	PART	ORG	NOX	SOX	CO
EMISSION TOTALS TONS/YEAR	.0	1.8	.0	.0	.0

****

Plant No.: 15690 [4.80 miles from the point spec] 546.768E 4180.429N

Corporation of Fine Arts & Museums
75 Tea Garden Drive
San Francisco, CA 94118

	PART	ORG	NOX	SOX	CO
EMISSION TOTALS TONS/YEAR	.0	.0	.6	.0	.0

****

Total Number of Facilties Found 25

sierra research

1801 J Street
Sacramento, CA 95814
(916) 444-6666
Fax: (916) 444-8373

January 30, 2004

Administrative Services Division
Bay Area Air Quality Management District
939 Ellis Street
San Francisco, CA 94109

Re: Cumulative Impacts Analysis
San Francisco Electric Reliability Project

To the Administrative Services Division:

The San Francisco Public Utilities Commission (SFPUC) will be submitting an application for a Determination of Compliance with the District and an Application for Certification for its new San Francisco Electric Reliability Project (SFERP) with the California Energy Commission in early February 2004.

As part of the analysis of impacts of this project, we would like to obtain fuel use and emissions data for the generating units at the nearby PG&E Hunters Point power plant. Please provide reported or calculated annual emissions of NOx, SO_2, CO, POC and PM_{10} and annual fuel use for the generating units (Sources S-1, S-2, S-3, S-4, S-5, S-6 and S-7) during calendar years 2000, 2001 and 2002.

Thank you very much for your assistance. If you have any questions regarding the information we are requesting, feel free to call.

Sincerely,

Nancy Matthews

Nancy Matthews

cc: Ralph Hollenbacher, SFPUC
Steve DeYoung
John Carrier, CH2M Hill

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
939 ELLIS STREET
SAN FRANCISCO, CA. 94109
ATTENTION: ADMINISTRATIVE SERVICES DIVISION

Office Use Only
P.R.R. NUMBER

Direct Dial: (415) 749-4761
FAX: (415) 749-5111

PUBLIC RECORDS REQUEST FORM

ATTENTION REQUESTOR: To expedite your request for District records, please fill out this form completely: Specifically identify the type of records you are requesting from the list below. **NOTE**: There is a limit of one facility or one site address per request form.

REQUESTOR INFORMATION

NAME:	Nancy Matthews					DATE:	Jan. 30, 2004
COMPANY:	Sierra Research						
MAILING ADDRESS:	1801 J Street						
CITY:	Sacramento	STATE:	CA	ZIP CODE	95814	PHONE NUMBER:	916-444-6666

REQUESTED FACILITY INFORMATION

FACILITY NAME:	PG&E Company, Hunters Point Power Plant				
FACILITY ADDRESS:	1000 Evans Avenue				
CITY:	San Francisco	STATE:	CA	ZIP CODE	94124
TIME PERIOD OF DOCUMENTS REQUESTED:		From:	2000	To:	2002

REQUESTED RECORDS *(check **no more than three** applicable items)*

☐ **Complaint Information** ☐ Complaint Printout ☐ Specific Complaint #_____	☐ **Notice Of Violation Information** ☐ NOV Printout ☐ Specific NOV #_____	OTHER: *** See attached for description of request.
☐ **Episode Information** ☐ Episode Printout ☐ Specific Episode #_____	☐ AB2588 Inventory ☐ Source Test Reports ☐ Lab Report #_____	
☐ **Permit Application Information** ☐ Permit Application Printout ☐ Specific Application #_____ ☐ Permit Conditions	☐ Review Permit Files * ☐ Review Enforcement Files ** ☐ Review Rule Development Files ** ☐ Asbestos Notifications	

* Subject to facility review (i.e., trade secrets).
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Cost: Copies: $.10 per page ; Diskette $10.00; Audiotape $5.00; Microfiche sheet $8.00.
Note: After a preliminary estimate, **advance payment may be required.**

I hereby agree to reimburse the BAAQMD for the direct cost of duplicating the information requested in accordance with Gov't Code Section 6253(b).

Nancy Matthews
Signature of Requestor

[ ] Enclosed are the records you requested.

[ ] We are unable to provide the records you requested.
  [ ] A search was made but no records were found.
  [ ] We are unable to find the record you requested because the request did not include sufficient information to find it.
  [ ] Out of District's Jurisdiction.

sierra research

1801 J Street
Sacramento, CA 95814
(916) 444-6666
Fax: (916) 444-8373

January 30, 2004

Administrative Services Division
Bay Area Air Quality Management District
939 Ellis Street
San Francisco, CA 94109

Re: Cumulative Impacts Analysis
San Francisco Electric Reliability Project

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As part of the analysis of impacts of this project, we would like to obtain fuel use and emissions data for the generating units at the nearby Mirant Delta LLC, Potrero power plant. Please provide reported or calculated annual emissions of NOx, SO_2, CO, POC and PM_{10} and annual fuel use for the generating units (Sources S-1, S-10, S-11, S-12, S-13, S-14 and S-15) during calendar years 2000, 2001 and 2002.

Thank you very much for your assistance. If you have any questions regarding the information we are requesting, feel free to call.

Sincerely,

Nancy Matthews

Nancy Matthews

cc: Ralph Hollenbacher, SFPUC
Steve DeYoung
John Carrier, CH2M Hill

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
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SAN FRANCISCO, CA. 94109
ATTENTION: ADMINISTRATIVE SERVICES DIVISION

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

Office Use Only
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PUBLIC RECORDS REQUEST FORM

ATTENTION REQUESTOR: To expedite your request for District records, please fill out this form completely: Specifically identify the type of records you are requesting from the list below. **NOTE**: There is a limit of one facility or one site address per request form.

REQUESTOR INFORMATION

NAME:	Nancy Matthews					DATE:	Jan. 30, 2004
COMPANY:	Sierra Research						
MAILING ADDRESS:	1801 J Street						
CITY:	Sacramento	STATE:	CA	ZIP CODE	95814	PHONE NUMBER:	916-444-6666

REQUESTED FACILITY INFORMATION

FACILITY NAME:	Mirant Delta LLC, Potrero Plant				
FACILITY ADDRESS:	1201 Illinois Street				
CITY:	San Francisco	STATE:	CA	ZIP CODE	94107
TIME PERIOD OF DOCUMENTS REQUESTED:		From:	2000	To:	2002

REQUESTED RECORDS *(check **no more than three** applicable items)*

☐ **Complaint Information** ☐ Complaint Printout ☐ Specific Complaint #_____	☐ **Notice Of Violation Information** ☐ NOV Printout ☐ Specific NOV #_____	OTHER: *** See attached for description of request.
☐ **Episode Information** ☐ Episode Printout ☐ Specific Episode #_____	☐ AB2588 Inventory ☐ Source Test Reports ☐ Lab Report #_____	
☐ **Permit Application Information** ☐ Permit Application Printout ☐ Specific Application #_____ ☐ Permit Conditions	☐ Review Permit Files * ☐ Review Enforcement Files ** ☐ Review Rule Development Files ** ☐ Asbestos Notifications	

* Subject to facility review (i.e., trade secrets).
** You will be contacted to schedule an appointment date to review records.
*** If what you are seeking is not on this Form, you may attach a letter with additional information on the request.

Cost: Copies: $.10 per page ; Diskette $10.00; Audiotape $5.00; Microfiche sheet $8.00.
Note: After a preliminary estimate, **advance payment may be required.**

I hereby agree to reimburse the BAAQMD for the direct cost of duplicating the information requested in accordance with Gov't Code Section 6253(b).

Nancy Matthews
Signature of Requestor

[ ] Enclosed are the records you requested.

[ ] We are unable to provide the records you requested.
- [ ] A search was made but no records were found.
- [ ] We are unable to find the record you requested because the request did not include sufficient information to find it.
- [ ] Out of District's Jurisdiction.

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
939 ELLIS STREET
SAN FRANCISCO, CA. 94109
ATTENTION: ADMINISTRATIVE SERVICES DIVISION

Office Use Only
P.R.R. NUMBER
04-03-21

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

Direct Dial: (415) 749-4761
FAX: (415) 749-5111

PUBLIC RECORDS REQUEST FORM

ATTENTION REQUESTOR: To expedite your request for District records, please fill out this form completely: Specifically identify the type of records you are requesting from the list below. **NOTE**: There is a limit of one facility or one site address per request form.

REQUESTOR INFORMATION

NAME:	Nancy Matthews					DATE:	3/5/2004
COMPANY:	Sierra Research						
MAILING ADDRESS:	1801 J Street						
CITY:	Sacramento	STATE:	CA	ZIP CODE	95814	PHONE NUMBER:	916-444-6666

X 124

REQUESTED FACILITY INFORMATION

FACILITY NAME:	Mirant Delta LLC, Potrero Plant				
FACILITY ADDRESS:	1201 Illinois Street				
CITY:	San Francisco	STATE:	CA	ZIP CODE	94107
TIME PERIOD OF DOCUMENTS REQUESTED:		From:	2000	To:	2003

REQUESTED RECORDS *(check **no more than three** applicable items)*

☐ **Complaint Information** ☐ Complaint Printout ☐ Specific Complaint #_____	☐ **Notice Of Violation Information** ☐ NOV Printout ☐ Specific NOV #_____	OTHER: *** Copies of any AB2588 reports, screening health risk assessments and/or inventories of toxic air contaminants for the Mirant Potrero Power Plant
☐ **Episode Information** ☐ Episode Printout ☐ Specific Episode #_____	☐ AB2588 Inventory ☐ Source Test Reports ☐ Lab Report #_____	
☐ **Permit Application Information** ☐ Permit Application Printout ☐ Specific Application #_____ ☐ Permit Conditions	☐ Review Permit Files * ☐ Review Enforcement Files ** ☐ Review Rule Development Files ** ☐ Asbestos Notifications	

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_____
Signature of Requestor

[X] Enclosed are the records you requested.

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BAY AREA AIR QUALITY MANAGEMENT DISTRICT
939 ELLIS STREET
SAN FRANCISCO, CA. 94109
ATTENTION: ADMINISTRATIVE SERVICES DIVISION

Office Use Only
P.R.R. NUMBER
04-03-22

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

Direct Dial: (415) 749-4761
FAX: (415) 749-5111

PUBLIC RECORDS REQUEST FORM

ATTENTION REQUESTOR: To expedite your request for District records, please fill out this form completely: Specifically identify the type of records you are requesting from the list below. **NOTE:** There is a limit of one facility or one site address per request form.

REQUESTOR INFORMATION

NAME:	Nancy Matthews					DATE:	3/5/2004
COMPANY:	Sierra Research						
MAILING ADDRESS:	1801 J Street						
CITY:	Sacramento	STATE:	CA	ZIP CODE	95814	PHONE NUMBER:	916-444-6666

REQUESTED FACILITY INFORMATION

FACILITY NAME:	PG&E Company, Hunters Point Power Plant				
FACILITY ADDRESS:	1000 Evans Avenue				
CITY:	San Francisco	STATE:	CA	ZIP CODE	94124
TIME PERIOD OF DOCUMENTS REQUESTED:		From:	2000	To:	2003

REQUESTED RECORDS *(check **no more than three** applicable items)*

☐ **Complaint Information** ☐ Complaint Printout ☐ Specific Complaint #_____	☐ **Notice Of Violation Information** ☐ NOV Printout ☐ Specific NOV #_____	OTHER: *** Copies of any AB2588 reports, screening health risk assessments and/or inventories of toxic air contaminants for the Hunters Point Power Plant.
☐ **Episode Information** ☐ Episode Printout ☐ Specific Episode #_____	☐ AB2588 Inventory ☐ Source Test Reports ☐ Lab Report #_____	
☐ **Permit Application Information** ☐ Permit Application Printout ☐ Specific Application #_____ ☐ Permit Conditions	☐ Review Permit Files * ☐ Review Enforcement Files ** ☐ Review Rule Development Files ** ☐ Asbestos Notifications	

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Signature of Requestor

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  [ ] Out of District's Jurisdiction.

Bay Area Air Quality Management District
Toxic Air Contaminants
2000 Annual Report
Dec 2001

COUNTY: SAN FRANCISCO
CITY: San Francisco

Company Name	Pollutant	Estimated Emissions (lbs/yr)
Michael's Cleaners (P# 12703) 2235 Polk Street San Francisco, CA 94109	Perchloroethylene	1100
Miracle Cleaners (P# 4423) 1708 Ocean Avenue San Francisco, CA 94112	Perchloroethylene	670
Miraloma Cleaners (P# 6956) 667 Portola Drive San Francisco, CA 94127	Perchloroethylene	1100
Mirant Potrero, LLC (P# 26) 1201 Illinois Street San Francisco, CA 94107	Benzene Formaldehyde	79.0 1100
Mission Quick Cleaners (P# 3498) 3270 24th Street San Francisco, CA 94110	Perchloroethylene	690
New Union Quality Cleaners (P# 9179) 2070 Mission Street San Francisco, CA 94110	Perchloroethylene	1100
Norman Cleaners (P# 4223) 2255 Chestnut Street San Francisco, CA 94123	Perchloroethylene	1000
North Point Cleaner (P# 7204) 350 Bay Street San Francisco, CA 94133	Perchloroethylene	130
Ocean Beach 1 Hour Dry Cleaners (P# 4323) 716 La Playa San Francisco, CA 94121	Perchloroethylene	320
Olson's Cleaners #2 (P# 8004) 3140 Vicente Street San Francisco, CA 94116	Perchloroethylene	1500
On Time Cleaners (P# 8908) 3801 3rd Street, #305 San Francisco, CA 94124	Perchloroethylene	810
One Hour Cleaners (P# 4248) 2233 Market Street San Francisco, CA 94114	Perchloroethylene	1400

Bay Area Air Quality Management District
Toxic Air Contaminants
2000 Annual Report
Dec 2001

COUNTY: SAN FRANCISCO
CITY: San Francisco

Company Name	Pollutant	Estimated Emissions (lbs/yr)
One Hour Martinizing (P# 2952) 757 Lombard Street San Francisco, CA 94133	Perchloroethylene	340
One Hour Martinizing (P# 10473) 4130 3rd Street San Francisco, CA 94124	Perchloroethylene	270
One Hour Martinizing (P# 11120) 1665 Bryant Street San Francisco, CA 94103	Perchloroethylene	550
PG & E Co, Hunters Point Power Plant (P# 24) 1000 Evans Avenue San Francisco, CA 94124	Benzene	22.0
	Formaldehyde	770
Parc Fifty-Five (P# 4402) 55 Cyril Magnin Street San Francisco, CA 94102	Perchloroethylene	630
Perfect Cleaners (P# 7987) 1909 Fillmore Street San Francisco, CA 94115	Perchloroethylene	1000
Pinecrest Cleaners (P# 800) 1176 Pine Street San Francisco, CA 94109	Perchloroethylene	920
Portal Cleaners (P# 4925) 181 W Portal San Francisco, CA 94127	Perchloroethylene	1500
Portola One Hour Cleaner (P# 5378) 725 Portola Drive San Francisco, CA 94127	Perchloroethylene	190
Proclean One (P# 6512) 1116 Taraval Street San Francisco, CA 94116	Perchloroethylene	1000
Progress Cleaners (P# 11439) 1555 Fillmore Street San Francisco, CA 94115	Perchloroethylene	590
Prosperity Cleaners (P# 4668) 912 Cole Street San Francisco, CA 94117	Perchloroethylene	230

Bay Area Air Quality Management District
Toxic Air Contaminants
2003 Annual Report
July 2003

COUNTY: SAN FRANCISCO
CITY: San Francisco

Company Name	Pollutant	Estimated Emissions (lbs/yr)
Miraloma Cleaners (P# 6956) 667 Portola Drive San Francisco, CA 94127	Perchloroethylene	380
Mirant Potrero, LLC (P# 26) 1201 Illinois Street San Francisco, CA 94107	Benzene	170.0
	Formaldehyde	1700
Mission Quick Cleaners (P# 3498) 3270 24th Street San Francisco, CA 94110	Perchloroethylene	54
Monaco Film Labs &Video Services (P# 3370) 234 9th Street San Francisco, CA 94103	Perchloroethylene	740
National Park Service (P# 12596) Alcatraz Island San Francisco, CA	Benzene	21.0
	Formaldehyde	130
	Nickel pollutant	.73
New Golden Hanger Cleaners (P# 12912) 1611 Lombard Street San Francisco, CA 94123	Perchloroethylene	1700
New Union Quality Cleaners (P# 9179) 2070 Mission Street San Francisco, CA 94110	Perchloroethylene	940
Norman Cleaners (P# 4223) 2255 Chestnut Street San Francisco, CA 94123	Perchloroethylene	780
Ocean Beach 1 Hour Dry Cleaners (P# 4323) 716 La Playa San Francisco, CA 94121	Perchloroethylene	980
Olson's Cleaners #2 (P# 12961) 3140 Vicente Street San Francisco, CA 94116	Perchloroethylene	1400
On Time Cleaners (P# 8908) 3801 3rd Street, #305 San Francisco, CA 94124	Perchloroethylene	880
One Hour Cleaners (P# 4248) 2233 Market Street San Francisco, CA 94114	Perchloroethylene	1500

Bay Area Air Quality Management District
Toxic Air Contaminants
2000 Annual Report
July 2003

COUNTY: SAN FRANCISCO
CITY: San Francisco

Company Name	Pollutant	Estimated Emissions (lbs/yr)
One Hour Cleaners (P# 12642) 757 Lombard Street San Francisco, CA 94133	Perchloroethylene	240
One Hour Martinizing (P# 10473) 4130 3rd Street San Francisco, CA 94124	Perchloroethylene	270
One Hour Martinizing (P# 11120) 1665 Bryant Street San Francisco, CA 94103	Perchloroethylene	430
PG & E Co, Hunters Point Power Plant (P# 24) 1000 Evans Avenue San Francisco, CA 94124	Benzene	50.0
	Formaldehyde	620
Parc Fifty-Five (P# 4402) 55 Cyril Magnin Street San Francisco, CA 94102	Perchloroethylene	490
Perfect Cleaners (P# 7987) 1909 Fillmore Street San Francisco, CA 94115	Perchloroethylene	320
Pinecrest Cleaners (P# 800) 1176 Pine Street San Francisco, CA 94109	Perchloroethylene	950
Portal Cleaners (P# 4925) 181 W Portal San Francisco, CA 94127	Perchloroethylene	1000
Proclean One (P# 6512) 1116 Taraval Street San Francisco, CA 94116	Perchloroethylene	510
Progress Cleaners (P# 11439) 1555 Fillmore Street San Francisco, CA 94115	Perchloroethylene	340
Prosperity Cleaners (P# 4668) 912 Cole Street San Francisco, CA 94117	Perchloroethylene	1000
Rainbow Cleaners (P# 8653) 3001B Geary Boulevard San Francisco, CA 94118	Perchloroethylene	1600

Bay Area Air Quality Management District
Toxic Air Contaminants
2002 Annual Report
February 2004

COUNTY: SAN FRANCISCO
CITY: San Francisco

Company Name	Pollutant	Estimated Emissions (lbs/yr)
Michael's Cleaners (P# 12703) 2235 Polk Street San Francisco, CA 94109	Perchloroethylene	277
Miracle Cleaners (P# 4423) 1708 Ocean Avenue San Francisco, CA 94112	Perchloroethylene	978
Miraloma Cleaners (P# 6956) 667 Portola Drive San Francisco, CA 94127	Perchloroethylene	998
Mirant Potrero, LLC (P# 26) 1201 Illinois Street San Francisco, CA 94107	Benzene Formaldehyde	171.0 1650
Monaco Film Labs &Video Services (P# 3370) 234 9th Street San Francisco, CA 94103	Perchloroethylene	739
National Park Service (P# 12596) Alcatraz Island San Francisco, CA 94123	Formaldehyde	38
New Golden Hanger Cleaners (P# 12912) 1611 Lombard Street San Francisco, CA 94123	Perchloroethylene	2130
New Union Quality Cleaners (P# 9179) 2070 Mission Street San Francisco, CA 94110	Perchloroethylene	958
Norman Cleaners (P# 4223) 2255 Chestnut Street San Francisco, CA 94123	Perchloroethylene	776
Ocean Beach 1 Hour Dry Cleaners (P# 4323) 716 La Playa San Francisco, CA 94121	Perchloroethylene	1030
Olson's Cleaners #2 (P# 12961) 3140 Vicente Street San Francisco, CA 94116	Perchloroethylene	1350
One Hour Cleaners (P# 4248) 2233 Market Street San Francisco, CA 94114	Perchloroethylene	1050

Bay Area Air Quality Management District
Toxic Air Contaminants
2002 Annual Report
February 2004

COUNTY: SAN FRANCISCO
CITY: San Francisco

Company Name	Pollutant	Estimated Emissions (lbs/yr)
One Hour Cleaners (P# 12642) 757 Lombard Street San Francisco, CA 94133	Perchloroethylene	438
One Hour Martinizing (P# 10473) 4130 3rd Street San Francisco, CA 94124	Perchloroethylene	270
One Hour Martinizing (P# 13652) 1665 Bryant Street San Francisco, CA 94103	Perchloroethylene	392
PG & E Co, Hunters Point Power Plant (P# 24) 1000 Evans Avenue San Francisco, CA 94124	Benzene	47.2
	Formaldehyde	578
Parc Fifty-Five (P# 4402) 55 Cyril Magnin Street San Francisco, CA 94102	Perchloroethylene	853
Perfect Cleaners (P# 7987) 1909 Fillmore Street San Francisco, CA 94115	Perchloroethylene	425
Pinecrest Cleaners (P# 800) 1176 Pine Street San Francisco, CA 94109	Perchloroethylene	920
Portal Cleaners (P# 4925) 181 W Portal San Francisco, CA 94127	Perchloroethylene	877
Proclean One (P# 6512) 1116 Taraval Street San Francisco, CA 94116	Perchloroethylene	506
Progress Cleaners (P# 11439) 1555 Fillmore Street San Francisco, CA 94115	Perchloroethylene	331
Prosperity Cleaners (P# 4668) 912 Cole Street San Francisco, CA 94117	Perchloroethylene	438
Rainbow Cleaners (P# 8653) 3001B Geary Boulevard San Francisco, CA 94118	Perchloroethylene	1620

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
DETAIL POLLUTANTS - ABATED
P/O APPROVED (2003).

Printed: MAR 12, 2004

Mirant Potrero, LLC (P# 26)

PLANT TOTAL:

lbs/day	Pollutant
0.00E+00	1,1,1-Trichloroethane (565)
0.00E+00	1,4-dioxane (359)
3.50E-06	Arsenic (all) (1030)
9.62E-02	Benzene (41)
2.05E-06	Beryllium (all) pollutant (1040)
0.00E+00	Bunker C fuel oil (242)
8.74E-06	Cadmium (1070)
7.19E+02	Carbon Monoxide (CO) pollutant (4990)
1.81E-07	Chromium (hexavalent) (1095)
8.67E+00	Diesel oil (98)
5.02E-02	Distillate oil (315)
0.00E+00	Ethyl alcohol (105)
2.90E-02	Ethyl-3-ethoxy propionate (555)
3.18E-01	Formaldehyde (124)
0.00E+00	Fuel - jet 'A' (158)
7.41E-06	Lead (all) pollutant (1140)
1.16E-05	Manganese (1160)
2.47E-06	Mercury (all) pollutant (1190)
5.99E+00	Methane (970)
0.00E+00	Methyl isobutyl ketone (MIBK) (170)
0.00E+00	Mineral spirits (184)
1.41E-04	Nickel pollutant (1180)
1.03E+03	Nitrogen Oxides (part not spec elsewhere) (2990)
1.55E-01	Oil - non-fuel, other/not spec (352)
2.99E-01	Organic liquid - other/not spec (201)
2.60E+01	Organics (part not spec elsewhere) -- including Methane (990)
1.84E-05	PAH's (non-speciated) (1840)
6.11E+01	Particulates (portion of total not spec elsewhere) (1990)
2.02E-01	Petroleum products - other/not spec (321)
6.26E+01	Sulfur Dioxide (SO2) (3990)
0.00E+00	Xylene (307)

print this search?: [L]ocal or s[Y]stem printer (6th flr), [N]o, [E]xit:

— BENZENE & FORMALDEHYDE ARE ABOVE TRIGGER LEVELS.

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
DETAIL POLLUTANTS - ABATED
P/O APPROVED (2003)

Printed: MAR 12, 2004

PG & E Co, Hunters Point Power Plant (P# 24)

PLANT TOTAL:

lbs/day	Pollutant
0.00E+00	1,1,1-Trichloroethane (565)
0.00E+00	1,4-dioxane (359)
— 4.39E-02	Benzene (41)
5.73E+02	Carbon Monoxide (CO) pollutant (4990)
1.76E+00	Distillate oil (315)
4.68E-02	Ethylene glycol (561)
— 1.37E+00	Formaldehyde (124)
0.00E+00	Fuel - jet 'A' (158)
3.04E-01	Hydrocarbon - mixtures, other/not spec (318)
1.92E-02	Lube oil (419)
4.43E+00	Methane (970)
1.17E-01	Methyl alcohol (179)
0.00E+00	Mineral spirits (184)
1.06E+03	Nitrogen Oxides (part not spec elsewhere) (2990)
7.02E-02	Organic liquid - other/not spec (201)
2.69E+01	Organics (part not spec elsewhere) -- including Methane (990)
5.06E+01	Particulates (portion of total not spec elsewhere) (1990)
5.51E+01	Sulfur Dioxide (SO2) (3990)

print this search?: [L]ocal or s[Y]stem printer (6th flr), [N]o, [E]xit:

— Benzene & Formaldehyde are above trigger levels.

cc. 65R

BAY AREA
AIR QUALITY
MANAGEMENT
DISTRICT

ALAMEDA COUNTY
Roberta Cooper
Scott Haggerty
(Chairperson)
Nate Miley
Shelia Young

CONTRA COSTA COUNTY
Mark DeSaulnier
Mark Ross
Gayle Uilkema
(Secretary)

MARIN COUNTY
Harold C. Brown, Jr.

NAPA COUNTY
Brad Wagenknecht

SAN FRANCISCO COUNTY
Willie Brown, Jr.
Chris Daly
Jake McGoldrick

SAN MATEO COUNTY
Jerry Hill
Marland Townsend
(Vice-Chairperson)

SANTA CLARA COUNTY
Liz Kniss
Patrick Kwok
Julia Miller
Dena Mossar

SOLANO COUNTY
John F. Silva

SONOMA COUNTY
Tim Smith
Pamela Torliatt

Jack P. Broadbent
EXECUTIVE
OFFICER/APCO

April 7, 2004

Mr. Bill Pfanner
Project Manager
California Energy Commission
1516 Ninth Street, MS-15
Sacramento CA 95814

Dear Mr. Pfanner

This is to inform you that we have completed our initial review of the Application for Certification (AFC) for the San Francisco Electric Reliability project (Docket Number 04-AFC-1). In accordance with the requirements of Bay Area Air Quality Management District Regulation 2-3-402, we have determined that the AFC contains sufficient information for the District to undertake a Determination of Compliance review. Pursuant to BAAQMD Regulation 2-3-403, the District will issue a Preliminary Determination of Compliance (PDOC) within 180 days of the date of this letter.

If you have any questions, please contact me at (415) 749-4679 or bnishimura@baaqmd.gov.

Very truly yours,

Bob Nishimura
Supervising Air Quality Engineer
Engineering Division

cc: Julie Labonte, Program Manager, Infrastructure Development
Nancy Matthews, Sierra Research

cc: GSR

BAY AREA
AIR QUALITY
MANAGEMENT
DISTRICT

April 14, 2004

Sierra Research
1801 J Street
Sacramento, Ca 95814

Attention: **Nancy Matthews**

Application Number :**9475**
Plant No. :**16027**
Equipment Location :
San Francisco Electric Reliability Project
23rd St & Corner of Illino St
San Francisco, CA 94158

Dear Applicant:

Subject: New Facility/Combustion Turbine Power Generation

This letter is to inform you that your application was received by the District on 03/22/04. You will be notified if your application is complete or if additional information is needed as soon as possible.

Please include your application number with any correspondence with the District. If you have any questions on this matter, please call **Bob Nishimura at (415) 749-4679.**

Sincerely,

Victor Morales-Laimon
Manager, Permit Systems

CC: BNN

BAY AREA
AIR QUALITY
MANAGEMENT
DISTRICT

April 21, 2004

Sierra Research
1801 J Street
Sacramento, Ca 95814

Attention: **Nancy Matthews**

Application Number :**9475**
Plant No. :**16027**
Equipment Location :
San Francisco Electric Reliability Project
23rd St & Corner of Illino St
San Francisco, CA 94158

Dear Applicant:

Subject: New Facility/Combustion Turbine Power Generation

We are pleased to inform you that your application is now complete. Every effort will be made to expedite the processing of your permit application. A final decision will be made as soon as possible, but no later than 05/10/04 .

This completeness determination and final decision date may be revised if you submit new information indicating a significant change in the project design, use rate or other factors which will influence emissions.

Please include your application number with any correspondence with the District. If you have any questions on this matter, please call **Bob Nishimura at (415) 749-4679.**

Sincerely,

Victor Morales-Laimon
Manager, Permit Systems

CC: BNN

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

...Y AREA AIR QUALITY MANAGEMENT DIST...CT
939 ELLIS STREET
SAN FRANCISCO, CA. 94109
ATTENTION: ADMINISTRATIVE SERVICES DIVISION

Office Use Only
P.R.R. NUMBER
04-06-05

RECD JUN 16 2004

Direct Dial: (415) 749-4761
FAX: (415) 749-5111

PUBLIC RECORDS REQUEST FORM

ATTENTION REQUESTOR: To expedite your request for District records, please fill out this form completely: Specifically identify the type of records you are requesting from the list below. **NOTE:** There is a limit of one facility or one site address per request form.

REQUESTOR INFORMATION

NAME:	Nancy Matthews					DATE:	1-Jun-04
COMPANY:	Sierra Research						
MAILING ADDRESS:	1801 J Street						
CITY:	Sacramento	STATE:	CA	ZIP CODE	95814	PHONE NUMBER:	916-444-6666

REQUESTED FACILITY INFORMATION

FACILITY NAME:	PG&E Company, Hunters Point Power Plant				
FACILITY ADDRESS:	1000 Evans Avenue				
CITY:	San Francisco	STATE:	CA	ZIP CODE	94124
TIME PERIOD OF DOCUMENTS REQUESTED:		From:	1/1/2003	To:	12/31/2003

REQUESTED RECORDS *(check **no more than three** applicable items)*

☐ **Complaint Information** ☐ Complaint Printout ☐ Specific Complaint #_____	☐ **Notice Of Violation Information** ☐ NOV Printout ☐ Specific NOV #_____	OTHER: *** Annual data update forms and "emissions in pounds per calendar day" data dump for calendar year 2003.
☐ **Episode Information** ☐ Episode Printout ☐ Specific Episode #_____	☐ AB2588 Inventory ☐ Source Test Reports ☐ Lab Report #_____	
☐ **Permit Application Information** ☐ Permit Application Printout ☐ Specific Application #_____ ☐ Permit Conditions	☐ Review Permit Files * ☐ Review Enforcement Files ** ☐ Review Rule Development Files ** ☐ Asbestos Notifications	

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Note: After a preliminary estimate, **advance payment may be required.**

I hereby agree to reimburse the BAAQMD for the direct cost of duplicating the information requested in accordance with Gov't Code Section 6253(b).

_____
Signature of Requestor

☒ Enclosed are the records you requested.

[ ] We are unable to provide the records you requested.
- [ ] A search was made but no records were found.
- [ ] We are unable to find the record you requested because the request did not include sufficient information to find it
- [ ] Out of District's Jurisdiction.

BAY AREA AIR QUALITY MANAGEMENT DISTRICT Printed: JUN 8, 2004
CRITERIA POLLUTANTS - ABATED
CURRENT CALCULATION

PG & E Co, Hunters Point Power Plant (P# 24)

S# SOURCE NAME / MATERIAL / THOURGHPUT	SOURCE CODE / DATE	EMISSIONS IN LBS/DAY PM	ORG	NOx	SO2	CO
1 No. 1 Unit Gas Turbine - "A" Engine with Water Injection						
Distillate oil	C1800315					
239.8 thou gal/yr	12/31/03	3.4	.4	25.8	2.2	1.8
2 No. 1 Unit Gas Turbine - "B" Engine with Water Injection						
Distillate oil	C1800315					
239.8 thou gal/yr	12/31/03	3.4	.4	25.8	2.2	1.8
7 No. 7 Boiler						
Natural gas	C1010189					
3.15E+07 therms/yr	12/31/03	25.5	14.7	591.2	5.1	336.7
Bunker C fuel oil	C1020242					
.0 thou gal/yr	12/31/03	.0	.0	.0	.0	.0
16 No. 9 Jet Fuel Tank						
Fuel - jet 'A'	T6412158					
.0 thou gal/yr	12/31/03	.0	.0	.0	.0	.0
Distillate oil	T6412315					
479.6 thou gal/yr	12/31/03	.0	.3	.0	.0	.0
17 Jet Fuel Loading/Unloading Facility						
Fuel - jet 'A'	TE512158					
.0 thou gal/yr	12/31/03	.0	.0	.0	.0	.0
Distillate oil	TE512315					
225.5 thou gal/yr	12/31/03	.0	.6	.0	.0	.0
19 Oil-Water Separator						
Waste water - refin,	G5017300					
272.9 thou barre/yr	12/31/03	.0	6.3	.0	.0	.0
20 No. 1 Lubricating Oil Storage Tank (No. 2 & 3 Unit)						
Lube oil	T431?419					
.0 thou gal/yr	12/31/97	.0	.0	.0	.0	.0
21 No. 2 Lubricating Oil Storage Tank (No. 2 & 3 Unit)						
Lube oil	T431?419					
.0 thou gal/yr	12/31/97	.0	.0	.0	.0	.0
22 No. 3 Lubricating Oil Storage Tank (No. 2 & 3 Unit)						
Lube oil	T431?419					
.0 thou gal/yr	12/31/97	.0	.0	.0	.0	.0
23 No. 4 Lubricating Oil Storage Tank (No. 2 & 3 Unit)						
Lube oil	T431?419					
2.0 thou gal/yr	12/31/97	.0	.0	.0	.0	.0
24 No. 5 Lubricating Oil Storage Tank (No. 2 & 3 Unit)						
Lube oil	T431?419					
2.5 thou gal/yr	12/31/95	.0	.0	.0	.0	.0
25 No. 6 Lubricating Oil Storage Tank (No. 2 & 3 Unit)						
Lube oil	T431?419					
3.5 thou gal/yr	12/31/96	.0	.0	.0	.0	.0
26 No. 1 Lubricating Oil Storage Tank (No. 4 Unit)						
Lube oil	T431?419					
16.1 thou gal/yr	12/31/96	.0	.0	.0	.0	.0
27 No. 2 Lubricating Oil Storage Tank (No. 4 Unit)						
Lube oil	T431?419					
10.0 thou gal/yr	12/31/95	.0	.0	.0	.0	.0

30 Maintenance Coating Operation						
Paint - other/not sp	SG54B179					
114.0 gal/yr	12/31/02	.0	.2	.0	.0	.0
Hydrocarbon - mixtur	SG700318					
15.0 gal/yr	12/31/02	.0	.3	.0	.0	.0
Latex paint	SG94A561					
.0 gal/yr	12/31/02	.0	.0	.0	.0	.0
SOURCE TOTAL:	lbs/day	.0	.5	.0	.0	.0
31 Maintenance Wipe Cleaning						
1,1,1-trichloroethan	SF03A294					
.0 gal/yr	12/31/02	.0	.0	.0	.0	.0
Hydrocarbon - mixtur	SF03A318					
2.0 gal/yr	12/31/02	.0	.0	.0	.0	.0
32100 "Fugitive and Miscellaneous" Emissions						
* Unknown Material *	G9000000					
		.0	.0	.0	.0	.0
PLANT TOTAL:	lbs/day	32.3	23.4	642.9	9.5	340.2
	tons/day	.0	.0	.3	.0	.2
	tons/year	5.9	4.3	117.3	1.7	62.1

print this search?: [L]ocal or s[Y]stem printer (6th flr), [N]o, [E]xit:

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
939 ELLIS STREET
SAN FRANCISCO, CA. 94109
ATTENTION: ADMINISTRATIVE SERVICES DIVISION

Office Use Only
P.R.R. NUMBER
04-06-06

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Bob Nishimura

Direct Dial: (415) 749-4761
FAX: (415) 749-5111

PUBLIC RECORDS REQUEST FORM

ATTENTION REQUESTOR: To expedite your request for District records, please fill out this form completely: Specifically identify the type of records you are requesting from the list below. **NOTE:** There is a limit of one facility or one site address per request form.

REQUESTOR INFORMATION

NAME:	Nancy Matthews					DATE:	1-Jun-04
COMPANY:	Sierra Research						
MAILING ADDRESS:	1801 J Street						
CITY:	Sacramento	STATE:	CA	ZIP CODE	95814	PHONE NUMBER:	916-444-6666

REQUESTED FACILITY INFORMATION

FACILITY NAME:	Mirant Delta LLC, Potrero Plant				
FACILITY ADDRESS:	1201 Illinois Street				
CITY:	San Francisco	STATE:	CA	ZIP CODE	94107
TIME PERIOD OF DOCUMENTS REQUESTED:		From:	1/1/2003	To:	12/31/2003

REQUESTED RECORDS *(check **no more than three** applicable items)*

☐ **Complaint Information** ☐ Complaint Printout ☐ Specific Complaint #_____	☐ **Notice Of Violation Information** ☐ NOV Printout ☐ Specific NOV #_____	OTHER: *** Annual data update form and "emissions in pounds per calendar day" emissions data dump for calendar year 2003.
☐ **Episode Information** ☐ Episode Printout ☐ Specific Episode #_____	☐ AB2588 Inventory ☐ Source Test Reports ☐ Lab Report #_____	
☐ **Permit Application Information** ☐ Permit Application Printout ☐ Specific Application #_____ ☐ Permit Conditions	☐ Review Permit Files * ☐ Review Enforcement Files ** ☐ Review Rule Development Files ** ☐ Asbestos Notifications	

* Subject to facility review (i.e., trade secrets).
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Cost: Copies: $.10 per page ; Diskette $10.00; Audiotape $5.00; Microfiche sheet $8.00.
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I hereby agree to reimburse the BAAQMD for the direct cost of duplicating the information requested in accordance with Gov't Code Section 6253(b).

_____
Signature of Requestor

[X] Enclosed are the records you requested.

[ ] We are unable to provide the records you requested.
[ ] A search was made but no records were found.
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[ ] Out of District's Jurisdiction.

BAY AREA AIR QUALITY MANAGEMENT DISTRICT Printed: JUN 8, 2004
CRITERIA POLLUTANTS - ABATED
CURRENT CALCULATION

Mirant Potrero, LLC (P# 26)

S# SOURCE NAME / MATERIAL / THOURGHPUT	SOURCE CODE / DATE	EMISSIONS IN LBS/DAY PM	ORG	NOx	SO2	CO
1 BOILER NO. 3-1						
Natural gas	C1010189					
8.59E+07 therms/yr	12/31/03	69.5	38.2	1092.1	13.9	919.4
Bunker C fuel oil	C1010242					
.0 thou gal/yr	12/31/03	.0	.0	.0	.0	.0
3 Aqueous Ammonia Unloading and Storage Facility						
Ammonia	G7013022					
1371.0 tons/yr	03/15/04	.0	.0	.0	.0	.0
10 Gas Turbine Twin Pac Unit 4 Engine A with Water Injection						
Distillate oil	C1820315					
897.0 thou gal/yr	12/31/03	4.3	1.6	89.2	17.3	27.8
11 Gas Turbine Twin Pac Unit 4 Engine B with Water Injection						
Distillate oil	C1820315					
899.0 thou gal/yr	12/31/03	4.3	1.6	89.4	17.4	27.8
12 Gas Turbine Twin Pac Unit 5 Engine A with Water Injection						
Distillate oil	C1820315					
573.0 thou gal/yr	12/31/03	2.7	1.0	57.0	11.1	17.7
13 Gas Turbine Twin Pac Unit 5 Engine B with Water Injection						
Distillate oil	C1820315					
548.0 thou gal/yr	12/31/03	2.6	1.0	54.5	10.6	17.0
14 Gas Turbine Twin Pac Unit 6 Engine A with Water Injection						
Distillate oil	C1820315					
506.0 thou gal/yr	12/31/03	2.4	.9	50.3	9.8	15.7
15 Gas Turbine Twin Pac Unit 6 Engine B with Water Injection						
Distillate oil	C1820315					
504.0 thou gal/yr	12/31/03	2.4	.9	50.1	9.7	15.6
18 FUEL OIL TANK NO. 3						
Bunker C fuel oil	T4417242					
.0 thou gal/yr	12/31/97	.0	.0	.0	.0	.0
19 FUEL OIL TANK NO. 4						
Bunker C fuel oil	T4417242					
.0 thou gal/yr	12/31/97	.0	.0	.0	.0	.0
20 FUEL OIL TANK NO. 5, JET FUEL						
Diesel fuel	T5412098					
7274.0 thou gal/yr	12/31/03	.0	8.7	.0	.0	.0
21 JET FUEL TRANSFER FACILITY (TRUCK)						
Diesel fuel	TE712098					
.0 thou gal/yr	12/31/03	.0	.0	.0	.0	.0
Fuel - jet 'A'	TE712158					
.0 thou gal/yr	12/31/03	.0	.0	.0	.0	.0
Distillate oil	TE712315					
3346.0 thou gal/yr	12/31/03	.0	.0	.0	.0	.0
SOURCE TOTAL:	lbs/day	.0	.0	.0	.0	.0
25 FOAM HOUSE NO. 1 DIESEL FIRE PUMP (EAST)						
Diesel fuel	C2300098					
.0 thou gal/yr	12/31/03	.0	.0	.1	.0	.0
27 Oily Water Separator						
Oil/water mixture	G7103503					
3987.0 thou gallo/yr	12/31/01	.0	1.1	.0	.0	.0

30 FOAM HOUSE NO. 2 DIESEL FIRE PUMP (WEST)						
Diesel fuel	C2300098					
.1 thou gal/yr	12/31/03	.0	.0	.2	.0	.0
33 No. 3 Unit Dirty Lubricating Oil Tank						
Distillate oil	T431?315					
6000.0 thou gal/yr	12/31/97	.0	.0	.0	.0	.0
34 NO. 3 UNIT CLEAN LUBRICATING OIL TANK						
Distillate oil	T431?315					
6000.0 thou gal/yr	12/31/97	.0	.0	.0	.0	.0
36 EAST FOAM HOUSE DIESEL FUEL TANK						
Diesel fuel	T821?098					
.1 thou gal/yr	12/31/96	.0	.0	.0	.0	.0
43 WEST FOAM HOUSE DIESEL FUEL TANK						
Diesel fuel	T821?098					
.1 thou gal/yr	12/31/96	.0	.0	.0	.0	.0
50 Paint Spraying - Facility Wide						
Paint - other/not sp	SG52A352					
63.0 gal/yr	12/31/02	.0	.5	.0	.0	.0
Primer - general	SG62B307					
.0 gal/yr	12/31/02	.0	.0	.0	.0	.0
Mineral spirits	SG700184					
.0 gal/yr	12/31/02	.0	.0	.0	.0	.0
SOURCE TOTAL:	lbs/day	.0	.5	.0	.0	.0
51 Wipe Cleaning - Facility Wide						
Ethyl alcohol	SF01A105					
.0 gal/yr	12/31/02	.0	.0	.0	.0	.0
1,1,1-trichloroethan	SF01A294					
.0 gal/yr	12/31/02	.0	.0	.0	.0	.0
Petroleum products -	SF01A321					
11.0 gal/yr	12/31/02	.0	.2	.0	.0	.0
1,1,1-trichloroethan	SF01B294					
.0 gal/yr	12/31/02	.0	.0	.0	.0	.0
SOURCE TOTAL:	lbs/day	.0	.2	.0	.0	.0
52 Abrassive Blasting Facility						
Aluminum oxide abras	G7109475					
.0 tons/yr	12/31/03	.0	.0	.0	.0	.0
53 Hopper & Cleaners						
Aluminum oxide abras	G7013475					
.0 tons/yr	12/31/01	.0	.0	.0	.0	.0
54 Conveyor System						
Aluminum oxide abras	G7013475					
.0 tons/yr	12/31/01	.0	.0	.0	.0	.0
32100 FUGITIVE EMISSIONS						
* Unknown Material *	G9000000					
		.0	.0	.0	.0	.0
PLANT TOTAL:	lbs/day	88.1	55.7	1482.9	89.7	1041.1
	tons/day	.0	.0	.7	.0	.5
	tons/year	16.1	10.2	270.6	16.4	190.0

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1801 J Street
Sacramento, CA 95814
(916) 444-6666
Fax: (916) 444-8373

June 2, 2004

Administrative Services Division
Bay Area Air Quality Management District
939 Ellis Street
San Francisco, CA 94109

Re: Cumulative Impacts Analysis
San Francisco Electric Reliability Project

To the Administrative Services Division:

The City and County of San Francisco has submitted an application for a Determination of Compliance with the District and an Application for Certification for its new San Francisco Electric Reliability Project (SFERP) with the California Energy Commission.

As part of the analysis of impacts of this project, we would like to obtain fuel use and emissions data for the generating units at the nearby PG&E Hunters Point power plant. Please provide reported or calculated annual emissions of NOx, SO_2, CO, POC and PM_{10} and annual fuel use for the generating units (Sources S-1, S-2 and S-7) during calendar year 2003.

Thank you very much for your assistance. If you have any questions regarding the information we are requesting, feel free to call.

Sincerely,

for Nancy Matthews

cc: Ralph Hollenbacher, SFPUC
Steve DeYoung
John Carrier, CH2M Hill

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
939 ELLIS STREET
SAN FRANCISCO, CA. 94109
ATTENTION: ADMINISTRATIVE SERVICES DIVISION

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

Office Use Only
P.R.R. NUMBER

Direct Dial: (415) 749-4761
FAX: (415) 749-5111

PUBLIC RECORDS REQUEST FORM

ATTENTION REQUESTOR: To expedite your request for District records, please fill out this form completely: Specifically identify the type of records you are requesting from the list below. **NOTE**: There is a limit of one facility or one site address per request form.

REQUESTOR INFORMATION

NAME:	Nancy Matthews					DATE:	1-Jun-04
COMPANY:	Sierra Research						
MAILING ADDRESS:	1801 J Street						
CITY:	Sacramento	STATE:	CA	ZIP CODE	95814	PHONE NUMBER:	916-444-6666

REQUESTED FACILITY INFORMATION

FACILITY NAME:	PG&E Company, Hunters Point Power Plant				
FACILITY ADDRESS:	1000 Evans Avenue				
CITY:	San Francisco	STATE:	CA	ZIP CODE	94124
TIME PERIOD OF DOCUMENTS REQUESTED:		From:	1/1/2003	To:	12/31/2003

REQUESTED RECORDS *(check **no more than three** applicable items)*

☐ **Complaint Information** ☐ Complaint Printout ☐ Specific Complaint #_____	☐ **Notice Of Violation Information** ☐ NOV Printout ☐ Specific NOV #_____	OTHER: *** Annual data update forms and "emissions in pounds per calendar day" data dump for calendar year 2003.
☐ **Episode Information** ☐ Episode Printout ☐ Specific Episode #_____	☐ AB2588 Inventory ☐ Source Test Reports ☐ Lab Report #_____	
☐ **Permit Application Information** ☐ Permit Application Printout ☐ Specific Application #_____ ☐ Permit Conditions	☐ Review Permit Files * ☐ Review Enforcement Files ** ☐ Review Rule Development Files ** ☐ Asbestos Notifications	

* Subject to facility review (i.e., trade secrets).
** You will be contacted to schedule an appointment date to review records.
*** If what you are seeking is not on this Form, you may attach a letter with additional information on the request.

Cost: Copies: $.10 per page ; Diskette $10.00; Audiotape $5.00; Microfiche sheet $8.00.
Note: After a preliminary estimate, **advance payment may be required.**

I hereby agree to reimburse the BAAQMD for the direct cost of duplicating the information requested in accordance with Gov't Code Section 6253(b).

_____
Signature of Requestor

[ ] Enclosed are the records you requested.

[ ] We are unable to provide the records you requested.
- [ ] A search was made but no records were found.
- [ ] We are unable to find the record you requested because the request did not include sufficient information to find it
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1801 J Street
Sacramento, CA 95814
(916) 444-6666
Fax: (916) 444-8373

June 2, 2004

Administrative Services Division
Bay Area Air Quality Management District
939 Ellis Street
San Francisco, CA 94109

Re: Cumulative Impacts Analysis
San Francisco Electric Reliability Project

To the Administrative Services Division:

The City and County of San Francisco has submitted an application for a Determination of Compliance with the District and an Application for Certification for its new San Francisco Electric Reliability Project (SFERP) with the California Energy Commission.

As part of the analysis of impacts of this project, we would like to obtain fuel use and emissions data for the generating units at the nearby Mirant Delta LLC, Potrero power plant. Please provide reported or calculated annual emissions of NOx, SO_2, CO, POC and PM_{10} and annual fuel use for the generating units (Sources S-1, S-10, S-11, S-12, S-13, S-14 and S-15) during calendar year 2003.

Thank you very much for your assistance. If you have any questions regarding the information we are requesting, feel free to call.

Sincerely,

for Nancy Matthews

cc: Ralph Hollenbacher, SFPUC
Steve DeYoung
John Carrier, CH2M Hill

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
939 ELLIS STREET
SAN FRANCISCO, CA. 94109
ATTENTION: ADMINISTRATIVE SERVICES DIVISION

Office Use Only
P.R.R. NUMBER

Direct Dial: (415) 749-4761
FAX: (415) 749-5111

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

PUBLIC RECORDS REQUEST FORM

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REQUESTOR INFORMATION

NAME:	Nancy Matthews					DATE:	1-Jun-04
COMPANY:	Sierra Research						
MAILING ADDRESS:	1801 J Street						
CITY:	Sacramento	STATE:	CA	ZIP CODE	95814	PHONE NUMBER:	916-444-6666

REQUESTED FACILITY INFORMATION

FACILITY NAME:	Mirant Delta LLC, Potrero Plant				
FACILITY ADDRESS:	1201 Illinois Street				
CITY:	San Francisco	STATE:	CA	ZIP CODE	94107
TIME PERIOD OF DOCUMENTS REQUESTED:		From:	1/1/2003	To:	12/31/2003

REQUESTED RECORDS *(check **no more than three** applicable items)*

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☐ **Permit Application Information** ☐ Permit Application Printout ☐ Specific Application #_____ ☐ Permit Conditions	☐ Review Permit Files * ☐ Review Enforcement Files ** ☐ Review Rule Development Files ** ☐ Asbestos Notifications	

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_____
Signature of Requestor

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SAN FRANCISCO PUBLIC UTILITIES COMMISSION
1155 MARKET ST., 11TH FLOOR, SAN FRANCISCO, CA 94103 • TEL. (415) 554-3155 • FAX (415) 554-3161

WATER
HETCH HETCHY
WATER & POWER
CLEAN WATER

GAVIN NEWSOM
MAYOR

E. DENNIS NORMANDY
PRESIDENT

ANN MOLLER CAEN
ADAM WERBACH
RYAN L. BROOKS
RICHARD SKLAR

SUSAN LEAL
GENERAL MANAGER

September 17, 2004

Bob Nishimura
Permit Services
Bay Area Air Quality Management District
939 Ellis Street
San Francisco, CA 94109

Re: Emission Reduction Credits for San Francisco Electricity Reliability Project
Application No. 9475 (04-AFC-1)

Dear Mr. Nishimura:

In the permit application filed in March 2004, the City of San Francisco indicated that a request for proposals to Emission Reduction Credit (ERC) holders had been issued to obtain the offsets that the applicant intends to provide for its San Francisco Electric Reliability Project (SFERP). We are pleased to inform the District that the City has secured an option for 47.5 tons of NOx ERCs from Calpine's Certificate #896 for the project. As these NOx reductions were originally created at the PG&E Potrero power plant that is adjacent to the SFERP plant site, these offsets are local to the project. We note that Bay Area Air Quality Management District (BAAQMD) regulations require us to provide only 39.8 tons of NOx ERCs for the project; however, we now have the ability to surrender an additional 7.7 tons of NOx ERCs on a voluntary basis.

If you have any questions regarding the ERCs proposed for use in this project, please do not hesitate to call me or Gary Rubenstein of Sierra Research at (916) 444-6666.

Sincerely,

Karen Kubick

Karen Kubick
Project Manager

cc: Jeanne M. Solé, Office of the City Attorney
Russell Stepp, SFPUC
Ralph Hollenbacher, SFPUC
Steve DeYoung
John Carrier, CH2M Hill
Gene Varanini
Gary Rubenstein, Sierra Research

sierra research

1801 J Street
Sacramento, CA 95814
(916) 444-6666
Fax: (916) 444-8373

February 8, 2005

Administrative Services Division
Bay Area Air Quality Management District
939 Ellis Street
San Francisco, CA 94109

Re: Cumulative Impacts Analysis
San Francisco Electric Reliability Project

To the Administrative Services Division:

The City and County of San Francisco has submitted an application for a Determination of Compliance with the District and an Application for Certification for its new San Francisco Electric Reliability Project (SFERP) with the California Energy Commission.

As part of the analysis of impacts of this project, we would like to obtain fuel use and emissions data for the generating units at the nearby PG&E Hunters Point power plant. Please provide reported or calculated annual emissions of NOx, SO_2, CO, POC and PM_{10} and annual fuel use for the generating units (Sources S-1, S-2 and S-7) during calendar year 2004.

Thank you very much for your assistance. If you have any questions regarding the information we are requesting, feel free to call.

Sincerely,

Nancy Matthews

Nancy Matthews

cc: Ralph Hollenbacher, SFPUC
Steve DeYoung
John Carrier, CH2M Hill

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
939 ELLIS STREET
SAN FRANCISCO, CA. 94109
ATTENTION: ADMINISTRATIVE SERVICES DIVISION

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

Office Use Only
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Direct Dial: (415) 749-4761
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PUBLIC RECORDS REQUEST FORM

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REQUESTOR INFORMATION

NAME:	Nancy Matthews					DATE:	8-Feb-05
COMPANY:	Sierra Research						
MAILING ADDRESS:	1801 J Street						
CITY:	Sacramento	STATE:	CA	ZIP CODE	95814	PHONE NUMBER:	916-444-6666

REQUESTED FACILITY INFORMATION

FACILITY NAME:	PG&E Company, Hunters Point Power Plant				
FACILITY ADDRESS:	1000 Evans Avenue				
CITY:	San Francisco	STATE:	CA	ZIP CODE	94124
TIME PERIOD OF DOCUMENTS REQUESTED:		From:	1/1/2004	To:	12/31/2004

REQUESTED RECORDS *(check **no more than three** applicable items)*

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Nancy Matthews
Signature of Requestor

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February 8, 2005

Administrative Services Division
Bay Area Air Quality Management District
939 Ellis Street
San Francisco, CA 94109

Re: Cumulative Impacts Analysis
San Francisco Electric Reliability Project

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Thank you very much for your assistance. If you have any questions regarding the information we are requesting, feel free to call.

Sincerely,

Nancy Matthews

Nancy Matthews

cc: Ralph Hollenbacher, SFPUC
Steve DeYoung
John Carrier, CH2M Hill

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

939 ELLIS STREET
SAN FRANCISCO, CA. 94109
ATTENTION: ADMINISTRATIVE SERVICES DIVISION

Office Use Only
P.R.R. NUMBER

Direct Dial: (415) 749-4761
FAX: (415) 749-5111

PUBLIC RECORDS REQUEST FORM

ATTENTION REQUESTOR: To expedite your request for District records, please fill out this form completely: Specifically identify the type of records you are requesting from the list below. **NOTE**: There is a limit of one facility or one site address per request form.

REQUESTOR INFORMATION

NAME:	Nancy Matthews					DATE:	Feb. 8. 2005
COMPANY:	Sierra Research						
MAILING ADDRESS:	1801 J Street						
CITY:	Sacramento	STATE:	CA	ZIP CODE	95814	PHONE NUMBER:	916-444-6666

REQUESTED FACILITY INFORMATION

FACILITY NAME:	Mirant Delta LLC, Potrero Plant				
FACILITY ADDRESS:	1201 Illinois Street				
CITY:	San Francisco	STATE:	CA	ZIP CODE	94107
TIME PERIOD OF DOCUMENTS REQUESTED:		From:	1/1/2004	To:	12/31/2004

REQUESTED RECORDS *(check **no more than three** applicable items)*

☐ **Complaint Information** ☐ Complaint Printout ☐ Specific Complaint #_____	☐ **Notice Of Violation Information** ☐ NOV Printout ☐ Specific NOV #_____	OTHER: *** Annual data update form and "emissions in pounds per calendar day" emissions data dump for calendar year 2004.
☐ **Episode Information** ☐ Episode Printout ☐ Specific Episode #_____	☐ AB2588 Inventory ☐ Source Test Reports ☐ Lab Report #_____	
☐ **Permit Application Information** ☐ Permit Application Printout ☐ Specific Application #_____ ☐ Permit Conditions	☐ Review Permit Files * ☐ Review Enforcement Files ** ☐ Review Rule Development Files ** ☐ Asbestos Notifications	

* Subject to facility review (i.e., trade secrets).
** You will be contacted to schedule an appointment date to review records.
*** If what you are seeking is not on this Form, you may attach a letter with additional information on the request.

Cost: Copies: $.10 per page ; Diskette $10.00; Audiotape $5.00; Microfiche sheet $8.00.
Note: After a preliminary estimate, **advance payment may be required.**

I hereby agree to reimburse the BAAQMD for the direct cost of duplicating the information requested in accordance with Gov't Code Section 6253(b).

Nancy Matthews
Signature of Requestor

[ ] Enclosed are the records you requested.

[ ] We are unable to provide the records you requested.
- [ ] A search was made but no records were found.
- [ ] We are unable to find the record you requested because the request did not include sufficient information to find it.
- [ ] Out of District's Jurisdiction.

sierra research

1801 J Street
Sacramento, CA 95814
(916) 444-6666
Fax: (916) 444-8373

April 13, 2005

William Pfanner
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814

Re: San Francisco Electric Reliability Project, Supplement A, 04-AFC-1

To the Dockets Office:

It has come to our attention that the annual average PM_{10} impacts shown in Section 8.1 of Supplement A to the Application for Certification for the SFERP project were overstated in the documents filed on March 24, 2005. The original modeling erroneously reflected operations of three CTGs for 8760 hours per year each, rather than the proposed permit limitation of 12,000 hours per year total or an average of 4,000 hours per year per CTG. As a result, the annual average PM_{10} impacts were over-stated by roughly a factor of two. The result of correcting this error is a reduction in the annual average PM_{10} impacts from 0.2 ug/m^3 to 0.08ug/m^3. Replacement pages containing the revised versions of the tables and figures that reflect the correct, lower annual average PM_{10} impacts are provided in the attached document. For those receiving CD-ROM copies of the Supplement A, please destroy your prior copy. The replacement CD-ROM contains the corrected data.

The modeling files provided on CD with the AFC on March 24 included the erroneous modeling results. With this filing, we are also providing a new set of 5 modeling CDs containing a complete set of corrected modeling files. Please discard the CDs filed with the AFC and place these CDs in the project docket instead.

If you have any questions regarding this filing, please do not hesitate to call.

Sincerely,

Nancy Matthews

Nancy Matthews

enclosures

cc: (w/o CDs)
Karen Kubick, SFPUC
John Carrier, CH2M Hill
Steve DeYoung
Service List

years of ambient monitoring data may be used if they are representative of the area's air quality where the maximum impacts occur due to the proposed source.

The background data need not be collected on site, as long as the data are representative of the air quality in the subject area (40 CFR 51, Appendix W, Section 9.2). Three criteria are applied in determining whether the background data are representative: (1) location, (2) data quality, and (3) data currentness (USEPA, 1987). These criteria are defined as follows:

- **Location:** The measured data must be representative of the areas where the maximum concentration occurs for the proposed stationary source, existing sources, and a combination of the proposed and existing sources.
- **Data quality:** Data must be collected and equipment must be operated in accordance with the requirements of 40 CFR Part 58, Appendices A and B, and PSD monitoring guidance.
- **Currentness:** The data are current if they have been collected within the preceding three years and they are representative of existing conditions.

Although the SFERP is not subject to PSD review and thus not required to follow this guidance, all of the data used in this analysis meet the requirements of Appendices A and B of 40 CFR Part 58, and thus all meet the criterion for data quality. All of the data have been collected within the preceding three years, and thus all meet the criterion for currentness.

Ambient NO_2, CO, SO_2, PM_{10} and $PM_{2.5}$ data are collected at the Arkansas Street monitoring station. This monitoring station is located less than 2 miles northwest of the project site. Ambient NO_2, CO, SO_2 and $PM_{2.5}$ data are also being collected at a monitoring station in Hunters Point, a little over 1 mile south of the project site. The ambient pollution levels monitored at the Arkansas Street and Hunters Point monitoring stations reflect concentrations in the vicinity of the project, and thus meet the criterion for location. CO levels are affected mainly by vehicle traffic, so CO concentrations monitored at both urbanized locations are expected to conservatively represent CO levels in the project area. There are no local sources of SO_2 in the vicinity of either monitoring station or the project site that would be expected to affect monitored concentrations. Therefore, both stations provide representative background data for assessing the SO_2 impacts of the project, and thus meet the location criterion.

Results of the Ambient Air Quality Modeling Analyses. The maximum facility impacts calculated from the ISCST3/CTSCREEN and fumigation modeling analyses described previously are summarized in Table 8.1-22R. The highest modeled impacts are expected to occur under startup and shoreline fumigation conditions.

Even if the project were subject to PSD review, preconstruction monitoring would not be required because the maximum ambient impacts do not exceed de minimis levels, as shown in Table 8.1-23.

TABLE 8.1-22R
Results of the Ambient Air Quality Modeling Analysis

Pollutant	Averaging Time	Modeled Concentration (µg/m3)			
		Normal Operation	Startup	Inversion Breakup Fumigation	Shoreline Fumigation
NO_2	1-hour	8.3	111.3 [a]	1.6	11.0
	Annual	0.1		–[c]	–[c]
SO_2	1-hour	0.8	[b]	0.2	1.1
	3-hour	0.6	[b]	0.2	1.0
	24-hour	0.1	[b]	0.05	0.1
	Annual	0.01	[b]	–[c]	–[c]
CO	1-hour	8.1	27.8 [a]	1.6	10.7
	8-hour	6.3		0.9	3.3
$PM_{2.5}/PM_{10}$ (including cooling tower)[d]	24-hour	1.2	[b]	0.5	0.9
	Annual	~~0.2~~0.08	[b]	–[c]	–[c]

Notes:

[a] Not applicable, because startup emissions are included in the 8-hour and longer-term ("Normal Operation") modeling.

[b] Not applicable, because emissions are not elevated above normal levels during startup.

[c] Not applicable, because inversion breakup and shoreline fumigation are short-term phenomena and as such are evaluated only for short-term averaging periods.

[d] Cooling tower not included in fumigation modeling.

TABLE 8.1-23
Evaluation of Preconstruction Monitoring Requirements

Pollutant	Averaging Time	Exemption Concentration ($\mu g/m^3$)	Maximum Modeled Concentration ($\mu g/m^3$)	Exceed Monitoring Threshold?
NO_x	annual	14	0.1	No
SO_2	24-hr	13	0.1	No
CO	8-hr	575	6.3	No
PM_{10}	24-hr	10	1.2	No

Impacts During Turbine Commissioning. As discussed previously, NO_2 and CO impacts could be higher during commissioning than under other operating conditions already evaluated. The commissioning period for the project is comprised of several equipment tests. These tests and the associated NO_x and CO emissions are briefly summarized below. The emissions calculations are shown in more detail in Appendix 8.1B, Table 8.1B-7.

- **Full Speed No Load Tests (FSNL)**—The tests include a test of the combustion turbine ignition system, a test to ensure that the CTG is synchronized with its electric generator, and a test of the CTG's overspeed system. During the tests, the heat input to the CTG will be approximately 100 MMBtu/hr or 20 percent of the maximum heat input rating. Worst-case NO_x emission concentrations are expected to be 100 ppm at 15-percent

Maximum ground-level impacts due to operation of the SFERP are shown together with the ambient air quality standards in Table 8.1-25R. Using the conservative assumptions described earlier, the results indicate that the SFERP will not cause or contribute to violations of any state or federal air quality standards, with the exception of the state PM_{10} and state and federal $PM_{2.5}$ standards. For these pollutants, existing concentrations already exceed the state standards.

TABLE 8.1-25R
Modeled Maximum Impacts from Facility

Pollutant	Averaging Time	Maximum Facility Impact ($\mu g/m^3$)	Background ($\mu g/m^3$)	Total Impact ($\mu g/m^3$)	State Standard ($\mu g/m^3$)	Federal Standard ($\mu g/m^3$)
NO_2	1-hour	111.3[a]	141	252	470	–
	Annual	0.1	36	36	–	100
SO_2	1-hour	1.1	138	139	655	–
	3-hour	1.0	70	71	–	1,300
	24-hour	0.1	29	29	105	365
	Annual	0.01	5.3	5.3	–	80
CO	1-hour	27.8	5,000	5,028	23,000	40,000
	8-hour	6.3	3,644	3,650	10,000	10,000
PM_{10}	24-hour	1.2	74	75	50	150
	Annual	~~0.2~~0.08	26.3	~~26.5~~26.4	20	50
$PM_{2.5}$	24-Hour	1.2	58	59	–	65
	Annual	~~0.2~~0.08	13.1	~~13.3~~13.2	12	15

[a] Maximum 1-hour NO_2 impact shown occurs only during simultaneous startup of three turbines. Maximum impact during routine turbine operation will be approximately 8.3 $\mu g/m^3$.

PSD Increment Consumption. The Prevention of Significant Deterioration (PSD) program was established to allow emission increases (increments of consumption) that do not result in significant deterioration of ambient air quality in areas where criteria pollutants have not exceeded the National Ambient Air Quality Standards (NAAQS). For the purposes of determining applicability of the PSD program requirements, the following regulatory procedure is used:

- SFERP facility-wide emissions are compared with regulatory significance thresholds to determine whether the facility is major and thus may be subject to PSD. If the facility emissions exceed these thresholds, it is a major facility. The comparison in Table 8.1-26 indicates that the SFERP will not be a major facility and thus is not subject to PSD.
- If an ambient impact analysis is required, the analysis is first used to determine if the impact levels are significant. The determination of significance is based on whether the impacts exceed established significance levels (BAAQMD Rule 2.2-233) shown in Table 8.1-27. If the significance levels are not exceeded, no further analysis is required.
- If the significance levels are exceeded, an analysis is required to demonstrate that the allowable increments will not be exceeded, on a pollutant-specific basis. Increments are the maximum increases in concentration that are allowed to occur above the baseline concentration. These PSD increments are also shown in Table 8.1-27.

Table 8.1-26 shows that the proposed project will not be a major stationary source and will not be subject to PSD review because facility emissions of all pollutants are below the 100-tpy major facility and the PSD significance thresholds.

TABLE 8.1-26
PSD Significant Emissions Levels

Pollutant	Facility Emissions (tpy)	PSD Threshold (tpy)	Significant?
NO_X	39.8	250	No
SO_2	2.7	250	No
POC	7.7	250	No
CO	27.9	250	No
PM_{10}[a]	18.2	250	No

[a] PM_{10} emissions shown include cooling tower.

TABLE 8.1-27
BAAQMD PSD Levels of Significance

Pollutant	Averaging Time	Significant Impact Levels	Maximum Allowable Increments
NO_2	1-Hour	19 $\mu g/m^3$	N/A[a]
	Annual	1 $\mu g/m^3$	25 $\mu g/m^3$
SO_2	3-hour	25 $\mu g/m^3$	512 $\mu g/m^3$
	24-Hour	5$\mu g/m^3$	91 $\mu g/m^3$
	Annual	1 $\mu g/m^3$	20 $\mu g/m^3$
CO	1-Hour	2,000 $\mu g/m^3$	N/A
	8-Hour	500 $\mu g/m^3$	N/A
PM_{10}	24-Hour	5 $\mu g/m^3$	30 $\mu g/m^3$
	Annual	1 $\mu g/m^3$	17 $\mu g/m^3$

[a] The significance level for 1-hour average NO_2 is a BAAQMD level only; there is no corresponding federal significance level.

The maximum modeled impacts from the SFERP facility are compared with the significance levels in Table 8.1-28R. These comparisons show that the proposed project exceeds only the BAAQMD 1-hour average NO_2 significance level, and only during startup of three turbines simultaneously. During routine plant operations, maximum one-hour NO_2 concentrations will be below the BAAQMD significance threshold. As discussed previously, however, the project emissions are below levels that would trigger PSD review either by USEPA or by the BAAQMD, so no further analysis of modeled impacts is required.

TABLE 8.1-28R
Comparison of Maximum Modeled Impacts and PSD Significance Thresholds

Pollutant	Averaging Time	Maximum Modeled Impacts (µg/m3)	Significance Threshold (µg/m3)	Significant?
NO_2	1-Hour	111.3	19	yes
	Annual	0.1	1	no
SO_2	3-Hour	1.0	25	no
	24-Hour	0.1	5	no
	Annual	0.01	1	no

TABLE 8.1-28R
Comparison of Maximum Modeled Impacts and PSD Significance Thresholds

Pollutant	Averaging Time	Maximum Modeled Impacts (µg/m3)	Significance Threshold (µg/m3)	Significant?
CO	1-Hour	27.8	2,000	no
	8-Hour	6.3	500	no
PM_{10}	24-Hour	1.2	5	no
	Annual	~~0.2~~0.08	1	no

[a] NO_2 impact shown occurs only during the startup of three turbines simultaneously. Under typical operating conditions, 1-hour average NO_2 concentration will be 8.3 µg/m^3.

8.1.5.5 Screening Health Risk Assessment

The screening health risk assessment (SHRA) was conducted to determine expected impacts on public health of the noncriteria pollutant emissions from the facility. The SHRA was conducted in accordance with the California Office of Environmental Health Hazard Assessment (OEHHA) Air Toxics "Hot Spots" Program Risk Assessment Guidelines (June 2002) and the BAAQMD "Risk Management Procedure" Policy (May 1991). The SHRA estimated the offsite cancer risk to the maximally exposed individual (MEI), as well as indicated any adverse effects of non-carcinogenic compound emissions. The CARB/OEHHA HARP computer program was used to evaluate multipathway exposure to toxic substances. Because of the conservatism (overprediction) built into the established risk analysis methodology, the actual risks will be lower than those estimated.

A health risk assessment requires the following information:

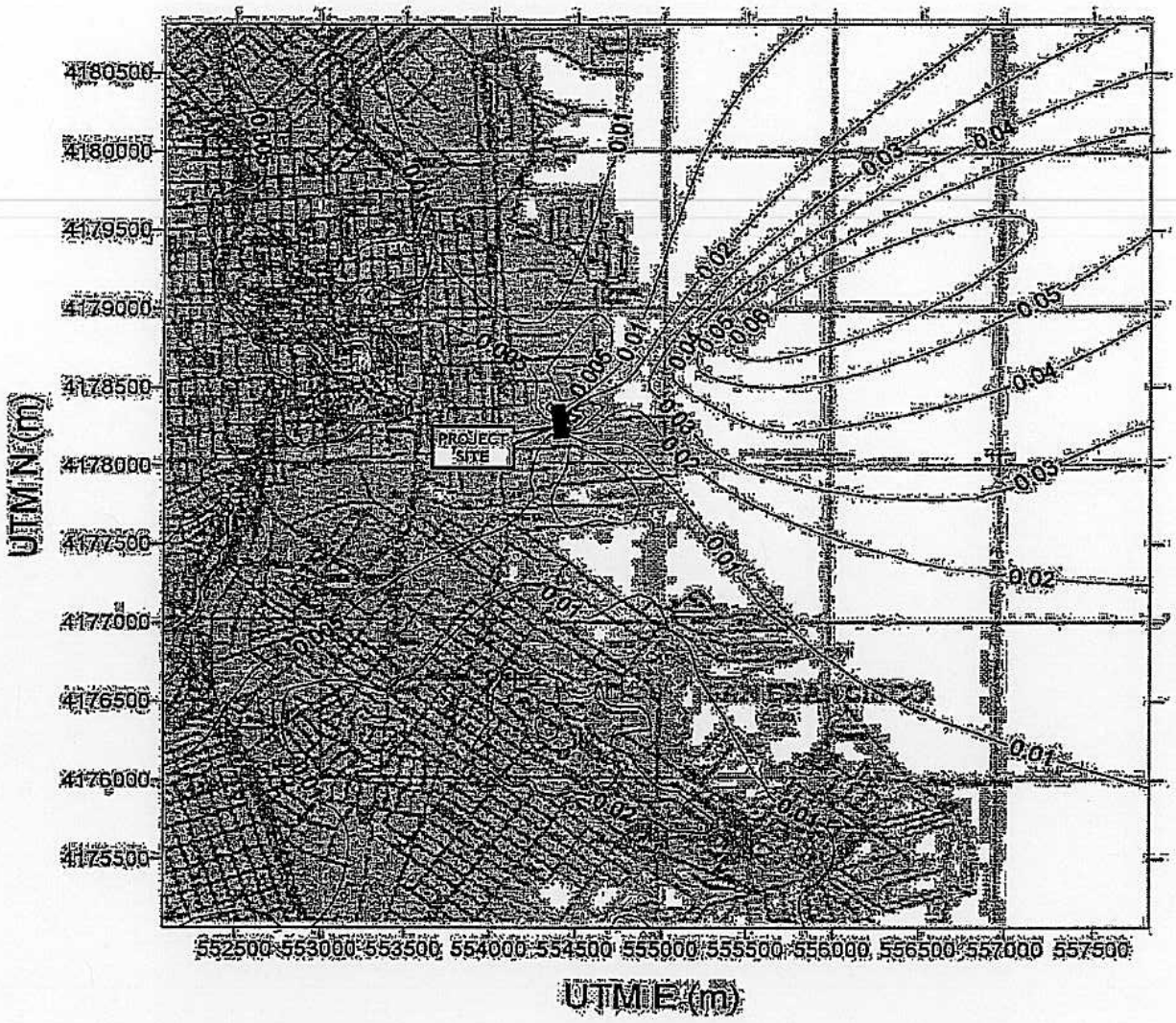
- Carcinogenic potency values for any carcinogenic substances that may be emitted
- Noncancer Reference Exposure levels (RELs) for determining non-carcinogenic health impacts
- One-hour and annual average emission rates for each substance of concern
- The modeled maximum offsite concentration of each of the pollutants emitted

The SHRA uses carcinogenic potency factors specified by the California OEHHA. All of the pollutant cancer risks are assumed to be additive.

An evaluation of the potential noncancer health effects from long-term (chronic) and short-term (acute) exposures has also been included in the SHRA. Many of the carcinogenic compounds are also associated with noncancer health effects and are therefore included in the determination of both cancer and noncancer effects. RELs are used as indicators of potential adverse health effects. RELs are generally based on the most sensitive adverse health effect reported and are designed to protect the most sensitive individuals. However, exceeding the REL does not automatically indicate a health impact. The OEHHA reference exposure levels were used to determine any adverse health effects from noncarcinogenic compounds. A hazard index for each noncancer pollutant is then determined by the ratio of the pollutant annual average concentration to its respective REL for a chronic evaluation. The individual indices are summed to determine the overall hazard index for the project.

Figure 8.1B-4 ***Revised 4/05***

Annual Average PM_{10} Impact During Project Operation



Note: Units are $\mu g/m^3$.

The highest concentration of PM_{10} under any conditions will be ~~0.2~~ *0.08* $\mu g/m^3$. The concentration considered by the US EPA to be significant is 1 $\mu g/m^3$. Therefore, the highest concentration of PM_{10} from this project is less than ~~one fifth~~ *one-tenth* of the level considered by EPA to be significant.

Table 8.1F-2

Comparison of SFERP Emissions to Regional Precursor Emissions in 2005: Annual Basis*

	San Francisco County		BAAQMD
Ozone Precursors – Annual Basis			
Total Ozone Precursors, tons/year	36,208		342,735
Total SFERP Ozone Precursor Emissions, tons/year		47.5	
SFERP Ozone Precursor Emissions as Percent of Regional Total	0.13%		0.01%
SFERP Offsets, tons/year		47.5	
SFERP Ozone Precursor Emissions after offsets, tons/year		0	
PM_{10} Precursors – Annual Basis			
Total PM_{10} Precursors, tons/year	43,362		444,570
Total SFERP PM_{10} Precursor Emissions, tons/year		68.4	
SFERP PM_{10} Precursor Emissions as Percent of Regional Total	0.16%		0.02%
SFERP Offsets, tons/year		47.5	
SFERP PM_{10} Precursor Emissions after offsets, tons/year	0.05%		<0.01%

Note: * County and BAAQMD emissions calculated as 365 times daily emissions.

Table 8.1F-3 ***Revised 4/05***

Maximum Modeled Project Impacts and PSD Significance Thresholds

Pollutant	Averaging Prd	Max Facility Impact, ug/m^3	PSD Significance Threshold, ug/m^3
NOx	1-hour	8.3	19[a]
	annual	0.1	1.0
SO_2	3-hour	1.0	25
	24-hour	0.1	5
	annual	0.006	1.0
CO	1-hour	27.8	2000
	8-hour	6.3	500
PM_{10}[b]	24-hour	1.2	5
	annual	~~0.2~~ ***0.08***	1.0

Notes:
a. BAAQMD significance threshold only.
b. Includes cooling tower.

As shown in the table, SFERP impacts are well below the significance thresholds. As project impacts are not significant as that term is defined in federal air quality modeling guidelines, no significant cumulative impacts are expected to occur. At present, there are no PSD significance thresholds for $PM_{2.5}$.

The only pollutants for which SFERP could be considered to have the potential for significant impacts are NOx and PM_{10}, because the BAAQMD is currently classified as a

Table 8.1F-4 *Revised 4/05*
Cumulative Air Quality Impacts: Scenario A (Potrero and Hunters Point at Historical Generating Levels with Required NOx Retrofits)

Pollutant/ Avg. Prd.	Maximum Modeled Concentration, ug/m^3 At Location of SFERP Max Impact				Maximum Modeled Concentration, ug/m^3 At Location of Maximum Combined Impact				Current Background[c]	Total Cumulative Impact, All Sources, ug/m^3
	SFERP	Other Cumulative Sources[a]	POT/HP[b]	Total	SFERP	Other Cumulative Sources[a]	POT/HP[b]	Total		
NOx: 1-hr avg	8.3	0	-1.1	7.2	0	172	0	172	141	313
NOx: annual avg[e]	0.1	0.1	-0.4	-0.2	0.02	11.4	-0.1	11.3	36	47
PM_{10}: 24-hr avg	1.2	0.01	0	1.2	0	8.7	0	8.7	74	82.7
PM_{10}: annual avg	~~0.2~~ ***0.080***	~~0.01~~ ***0.005***	0	~~0.2~~ ***0.085***	~~0.02~~ ***0.01***	0.6	0	0.6	26.3	26.9

Notes:
a. SF Self Storage, SF Wave Exchange and UCSF.
b. Potrero and Hunters Point future emissions based on historical generating levels; compliance with future regulations.
c. Maximum monitored ambient concentrations at Arkansas Street, 2001-2003.
d. 1-hr avg NOx ozone-limited using concurrent ozone data for hour of maximum modeled impact.
e. Annual average NOx ozone-limited using ARM and national default factor of 0.75.

Table 8.1F-5 *Revised 4/05*
Cumulative Air Quality Impacts: Scenario B (Potrero and Hunters Point Maximum Future Emissions)

Pollutant/ Avg. Prd.	Maximum Modeled Concentration, ug/m^3 At Location of SFERP Max Impact				Maximum Modeled Concentration, ug/m^3 At Location of Maximum Combined Impact				Current Background[c]	Total Cumulative Impact, All Sources, ug/m^3
	SFERP	Other Cumulative Sources[a]	POT/HP[b]	Total	SFERP	Other Cumulative Sources[a]	POT/HP[b]	Total		
NOx: 1-hr avg	8.3	0	34.4	42.7	0	172	0	172	141	313
NOx: annual avg[e]	0.1	0.1	0.3	0.5	0.02	11.4	0.1	11.5	36	48
PM_{10}: 24-hr avg	1.2	0.01	1.2	2.4	0	8.7	0	8.7	74	82.7
PM_{10}: annual avg	~~0.2~~ ***0.080***	~~0.01~~ ***0.005***	~~0.2~~ ***0.01***	~~0.4~~ ***0.10***	~~0.02~~ ***0.01***	0.6	0.03	~~0.7~~ ***0.6***	26.3	~~27.0~~ ***26.9***

Notes:
a. SF Self Storage, SF Wave Exchange and UCSF.
b. Potrero and Hunters Point future emissions based on maximum allowable generating levels; compliance with future regulations.
c. Maximum monitored ambient concentrations at Arkansas Street, 2001-2003.
d. 1-hr avg NOx ozone-limited using concurrent ozone data for hour of maximum modeled impact.
e. Annual average NOx ozone-limited using ARM and national default factor of 0.75.

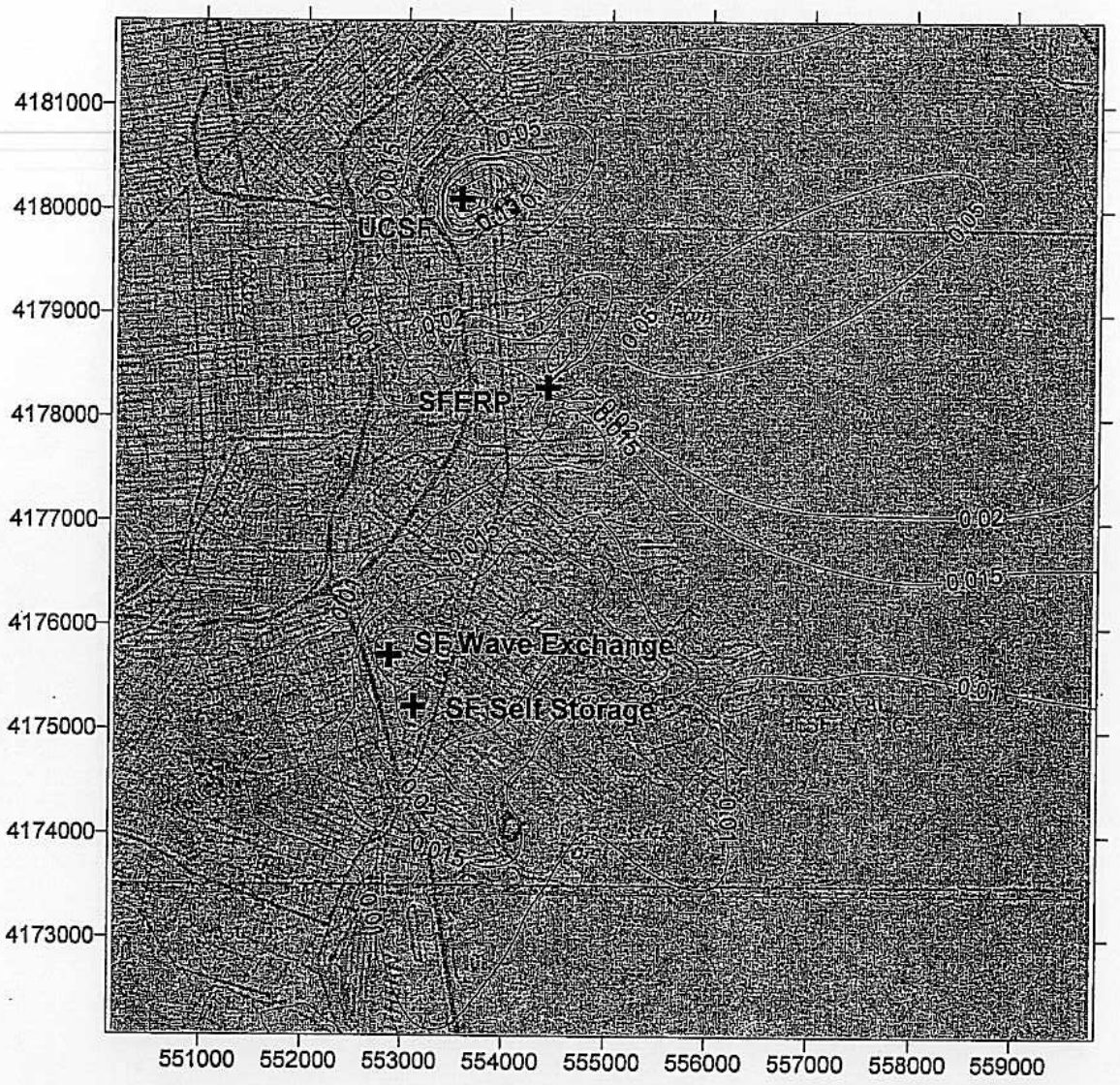
Table 8.1F-6 *Revised 4/05*
Cumulative Air Quality Impacts: Scenario C (Potrero and Hunters Point Shut Down)

Pollutant/ Avg. Prd.	Maximum Modeled Concentration, ug/m³ At Location of SFERP Max Impact				Maximum Modeled Concentration, ug/m³ At Location of Maximum Combined Impact				Current Background[c]	Total Cumulative Impact, All Sources, ug/m³
	SFERP	Other Cumulative Sources[a]	POT/HP[b]	Total	SFERP	Other Cumulative Sources[a]	POT/HP[b]	Total		
NOx: 1-hr avg	8.3	0	-1.7	6.6	0	172	0	172	141	313
NOx: annual avg[e]	0.1	0.1	-0.9	-0.7	0.02	11.4	-0.2	11.2	36	47
PM_{10}: 24-hr avg	1.2	0.01	-0.9	0.3	0	8.7	0	8.7	74	82.7
PM_{10}: annual avg	~~0.2~~ ***0.080***	0.01 ***0.005***	~~-0.15~~ ***-0.008***	~~0.05~~ ***0.077***	~~0.02~~ ***0.01***	0.6	-0.02	0.6	26.3	26.9

Notes:
a. SF Self Storage, SF Wave Exchange and UCSF.
b. Potrero and Hunters Point shut down.
c. Maximum monitored ambient concentrations at Arkansas Street, 2001-2003.
d. 1-hr avg NOx ozone-limited using concurrent ozone data for hour of maximum modeled impact.
e. Annual average NOx ozone-limited using ARM and national default factor of 0.75.

Figure F-2 ***Revised 4/05***

San Francisco Electric Reliability Project
Cumulative Impacts for Annual Average PM_{10} (µg/m³)



This figure shows the highest modeled annual average NO_2 impact from new sources in the project area that are not already in operation and therefore are not included in monitored background concentrations. The + symbols indicate the location of each modeled source.

sierra
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Sacramento, CA 95814
(916) 444-6666
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April 13, 2005

Brian Bateman
Engineering Division
Bay Area Air Quality Management District
939 Ellis Street
San Francisco, CA 94109

Re: Application for Determination of Compliance
San Francisco Energy Reliability Project

Dear Brian:

It has come to our attention that the annual average PM_{10} impacts shown in the Application for Determination of Compliance for the SFERP project were overstated in the documents filed on March 29, 2005. The original modeling erroneously reflected operations of three CTGs for 8760 hours per year each, rather than the proposed permit limitation of 12,000 hours per year total or an average of 4,000 hours per year per CTG. As a result, the annual average PM_{10} impacts were over-stated by roughly a factor of two. The result of correcting this error is a reduction in the annual average PM_{10} impacts from 0.2 ug/m^3 to 0.08ug/m^3. Replacement pages containing the revised versions of the tables and figures that reflect the correct, lower annual average PM_{10} impacts are provided in the attached document.

The modeling files provided on CD with the application on March 29 included the erroneous modeling results. With this filing, we are also providing two modeling CDs containing a complete set of corrected modeling files. Please discard the CDs filed with the application and place these CDs in the project file instead.

If you have any questions regarding this filing or regarding the proposed project in general, please do not hesitate to call.

Sincerely,

Nancy Matthews

Nancy Matthews

enclosures

cc: (w/o CDs)
Karen Kubick, SFPUC
Ralph Hollenbacher, SFPUC
Russell Stepp, SFPUC
Steve DeYoung
John Carrier, CH2M Hill
Jeanne M. Solé, Office of the City Attorney
Bill Pfanner, CEC Project Manager

years of ambient monitoring data may be used if they are representative of the area's air quality where the maximum impacts occur due to the proposed source.

The background data need not be collected on site, as long as the data are representative of the air quality in the subject area (40 CFR 51, Appendix W, Section 9.2). Three criteria are applied in determining whether the background data are representative: (1) location, (2) data quality, and (3) data currentness (USEPA, 1987). These criteria are defined as follows:

- **Location:** The measured data must be representative of the areas where the maximum concentration occurs for the proposed stationary source, existing sources, and a combination of the proposed and existing sources.
- **Data quality:** Data must be collected and equipment must be operated in accordance with the requirements of 40 CFR Part 58, Appendices A and B, and PSD monitoring guidance.
- **Currentness:** The data are current if they have been collected within the preceding three years and they are representative of existing conditions.

Although the SFERP is not subject to PSD review and thus not required to follow this guidance, all of the data used in this analysis meet the requirements of Appendices A and B of 40 CFR Part 58, and thus all meet the criterion for data quality. All of the data have been collected within the preceding three years, and thus all meet the criterion for currentness.

Ambient NO_2, CO, SO_2, PM_{10} and $PM_{2.5}$ data are collected at the Arkansas Street monitoring station. This monitoring station is located less than 2 miles northwest of the project site. Ambient NO_2, CO, SO_2 and $PM_{2.5}$ data are also being collected at a monitoring station in Hunters Point, a little over 1 mile south of the project site. The ambient pollution levels monitored at the Arkansas Street and Hunters Point monitoring stations reflect concentrations in the vicinity of the project, and thus meet the criterion for location. CO levels are affected mainly by vehicle traffic, so CO concentrations monitored at both urbanized locations are expected to conservatively represent CO levels in the project area. There are no local sources of SO_2 in the vicinity of either monitoring station or the project site that would be expected to affect monitored concentrations. Therefore, both stations provide representative background data for assessing the SO_2 impacts of the project, and thus meet the location criterion.

Results of the Ambient Air Quality Modeling Analyses. The maximum facility impacts calculated from the ISCST3/CTSCREEN and fumigation modeling analyses described previously are summarized in Table 8.1-22R. The highest modeled impacts are expected to occur under startup and shoreline fumigation conditions.

Even if the project were subject to PSD review, preconstruction monitoring would not be required because the maximum ambient impacts do not exceed de minimis levels, as shown in Table 8.1-23.

TABLE 8.1-22R
Results of the Ambient Air Quality Modeling Analysis

Pollutant	Averaging Time	Modeled Concentration (µg/m3)			
		Normal Operation	Startup	Inversion Breakup Fumigation	Shoreline Fumigation
NO_2	1-hour	8.3	111.3 [a]	1.6	11.0
	Annual	0.1		–[c]	–[c]
SO_2	1-hour	0.8	[b]	0.2	1.1
	3-hour	0.6	[b]	0.2	1.0
	24-hour	0.1	[b]	0.05	0.1
	Annual	0.01		–[c]	–[c]
CO	1-hour	8.1	27.8 [a]	1.6	10.7
	8-hour	6.3		0.9	3.3
$PM_{2.5}/PM_{10}$ (including cooling tower)[d]	24-hour	1.2	[b]	0.5	0.9
	Annual	~~0.2~~0.08	[b]	–[c]	–[c]

Notes:

[a] Not applicable, because startup emissions are included in the 8-hour and longer-term ("Normal Operation") modeling.

[b] Not applicable, because emissions are not elevated above normal levels during startup.

[c] Not applicable, because inversion breakup and shoreline fumigation are short-term phenomena and as such are evaluated only for short-term averaging periods.

[d] Cooling tower not included in fumigation modeling.

TABLE 8.1-23
Evaluation of Preconstruction Monitoring Requirements

Pollutant	Averaging Time	Exemption Concentration ($\mu g/m^3$)	Maximum Modeled Concentration ($\mu g/m^3$)	Exceed Monitoring Threshold?
NO_x	annual	14	0.1	No
SO_2	24-hr	13	0.1	No
CO	8-hr	575	6.3	No
PM_{10}	24-hr	10	1.2	No

Impacts During Turbine Commissioning. As discussed previously, NO_2 and CO impacts could be higher during commissioning than under other operating conditions already evaluated. The commissioning period for the project is comprised of several equipment tests. These tests and the associated NO_x and CO emissions are briefly summarized below. The emissions calculations are shown in more detail in Appendix 8.1B, Table 8.1B-7.

- **Full Speed No Load Tests (FSNL)**—The tests include a test of the combustion turbine ignition system, a test to ensure that the CTG is synchronized with its electric generator, and a test of the CTG's overspeed system. During the tests, the heat input to the CTG will be approximately 100 MMBtu/hr or 20 percent of the maximum heat input rating. Worst-case NO_x emission concentrations are expected to be 100 ppm at 15-percent

Maximum ground-level impacts due to operation of the SFERP are shown together with the ambient air quality standards in Table 8.1-25R. Using the conservative assumptions described earlier, the results indicate that the SFERP will not cause or contribute to violations of any state or federal air quality standards, with the exception of the state PM_{10} and state and federal $PM_{2.5}$ standards. For these pollutants, existing concentrations already exceed the state standards.

TABLE 8.1-25R
Modeled Maximum Impacts from Facility

Pollutant	Averaging Time	Maximum Facility Impact ($\mu g/m^3$)	Background ($\mu g/m^3$)	Total Impact ($\mu g/m^3$)	State Standard ($\mu g/m^3$)	Federal Standard ($\mu g/m^3$)
NO_2	1-hour	111.3[a]	141	252	470	–
	Annual	0.1	36	36	–	100
SO_2	1-hour	1.1	138	139	655	–
	3-hour	1.0	70	71	–	1,300
	24-hour	0.1	29	29	105	365
	Annual	0.01	5.3	5.3	–	80
CO	1-hour	27.8	5,000	5,028	23,000	40,000
	8-hour	6.3	3,644	3,650	10,000	10,000
PM_{10}	24-hour	1.2	74	75	50	150
	Annual	~~0.2~~0.08	26.3	~~26.5~~26.4	20	50
$PM_{2.5}$	24-Hour	1.2	58	59	–	65
	Annual	~~0.2~~0.08	13.1	~~13.3~~13.2	12	15

[a] Maximum 1-hour NO_2 impact shown occurs only during simultaneous startup of three turbines. Maximum impact during routine turbine operation will be approximately 8.3 $\mu g/m^3$.

PSD Increment Consumption. The Prevention of Significant Deterioration (PSD) program was established to allow emission increases (increments of consumption) that do not result in significant deterioration of ambient air quality in areas where criteria pollutants have not exceeded the National Ambient Air Quality Standards (NAAQS). For the purposes of determining applicability of the PSD program requirements, the following regulatory procedure is used:

- SFERP facility-wide emissions are compared with regulatory significance thresholds to determine whether the facility is major and thus may be subject to PSD. If the facility emissions exceed these thresholds, it is a major facility. The comparison in Table 8.1-26 indicates that the SFERP will not be a major facility and thus is not subject to PSD.
- If an ambient impact analysis is required, the analysis is first used to determine if the impact levels are significant. The determination of significance is based on whether the impacts exceed established significance levels (BAAQMD Rule 2.2-233) shown in Table 8.1-27. If the significance levels are not exceeded, no further analysis is required.
- If the significance levels are exceeded, an analysis is required to demonstrate that the allowable increments will not be exceeded, on a pollutant-specific basis. Increments are the maximum increases in concentration that are allowed to occur above the baseline concentration. These PSD increments are also shown in Table 8.1-27.

Table 8.1-26 shows that the proposed project will not be a major stationary source and will not be subject to PSD review because facility emissions of all pollutants are below the 100-tpy major facility and the PSD significance thresholds.

TABLE 8.1-26
PSD Significant Emissions Levels

Pollutant	Facility Emissions (tpy)	PSD Threshold (tpy)	Significant?
NO_X	39.8	250	No
SO_2	2.7	250	No
POC	7.7	250	No
CO	27.9	250	No
PM_{10}[a]	18.2	250	No

[a] PM_{10} emissions shown include cooling tower.

TABLE 8.1-27
BAAQMD PSD Levels of Significance

Pollutant	Averaging Time	Significant Impact Levels	Maximum Allowable Increments
NO_2	1-Hour	19 µg/m^3	N/A[a]
	Annual	1 µg/m^3	25 µg/m^3
SO_2	3-hour	25 µg/m^3	512 µg/m^3
	24-Hour	5µg/m^3	91 µg/m^3
	Annual	1 µg/m^3	20 µg/m^3
CO	1-Hour	2,000 µg/m^3	N/A
	8-Hour	500 µg/m^3	N/A
PM_{10}	24-Hour	5 µg/m^3	30 µg/m^3
	Annual	1 µg/m^3	17 µg/m^3

[a] The significance level for 1-hour average NO_2 is a BAAQMD level only; there is no corresponding federal significance level.

The maximum modeled impacts from the SFERP facility are compared with the significance levels in Table 8.1-28R. These comparisons show that the proposed project exceeds only the BAAQMD 1-hour average NO_2 significance level, and only during startup of three turbines simultaneously. During routine plant operations, maximum one-hour NO_2 concentrations will be below the BAAQMD significance threshold. As discussed previously, however, the project emissions are below levels that would trigger PSD review either by USEPA or by the BAAQMD, so no further analysis of modeled impacts is required.

TABLE 8.1-28R
Comparison of Maximum Modeled Impacts and PSD Significance Thresholds

Pollutant	Averaging Time	Maximum Modeled Impacts (µg/m3)	Significance Threshold (µg/m3)	Significant?
NO_2	1-Hour	111.3	19	yes
	Annual	0.1	1	no
SO_2	3-Hour	1.0	25	no
	24-Hour	0.1	5	no
	Annual	0.01	1	no

TABLE 8.1-28R
Comparison of Maximum Modeled Impacts and PSD Significance Thresholds

Pollutant	Averaging Time	Maximum Modeled Impacts (µg/m3)	Significance Threshold (µg/m3)	Significant?
CO	1-Hour	27.8	2,000	no
	8-Hour	6.3	500	no
PM_{10}	24-Hour	1.2	5	no
	Annual	~~0.2~~0.08	1	no

[a] NO_2 impact shown occurs only during the startup of three turbines simultaneously. Under typical operating conditions, 1-hour average NO_2 concentration will be 8.3 $\mu g/m^3$.

8.1.5.5 Screening Health Risk Assessment

The screening health risk assessment (SHRA) was conducted to determine expected impacts on public health of the noncriteria pollutant emissions from the facility. The SHRA was conducted in accordance with the California Office of Environmental Health Hazard Assessment (OEHHA) Air Toxics "Hot Spots" Program Risk Assessment Guidelines (June 2002) and the BAAQMD "Risk Management Procedure" Policy (May 1991). The SHRA estimated the offsite cancer risk to the maximally exposed individual (MEI), as well as indicated any adverse effects of non-carcinogenic compound emissions. The CARB/OEHHA HARP computer program was used to evaluate multipathway exposure to toxic substances. Because of the conservatism (overprediction) built into the established risk analysis methodology, the actual risks will be lower than those estimated.

A health risk assessment requires the following information:

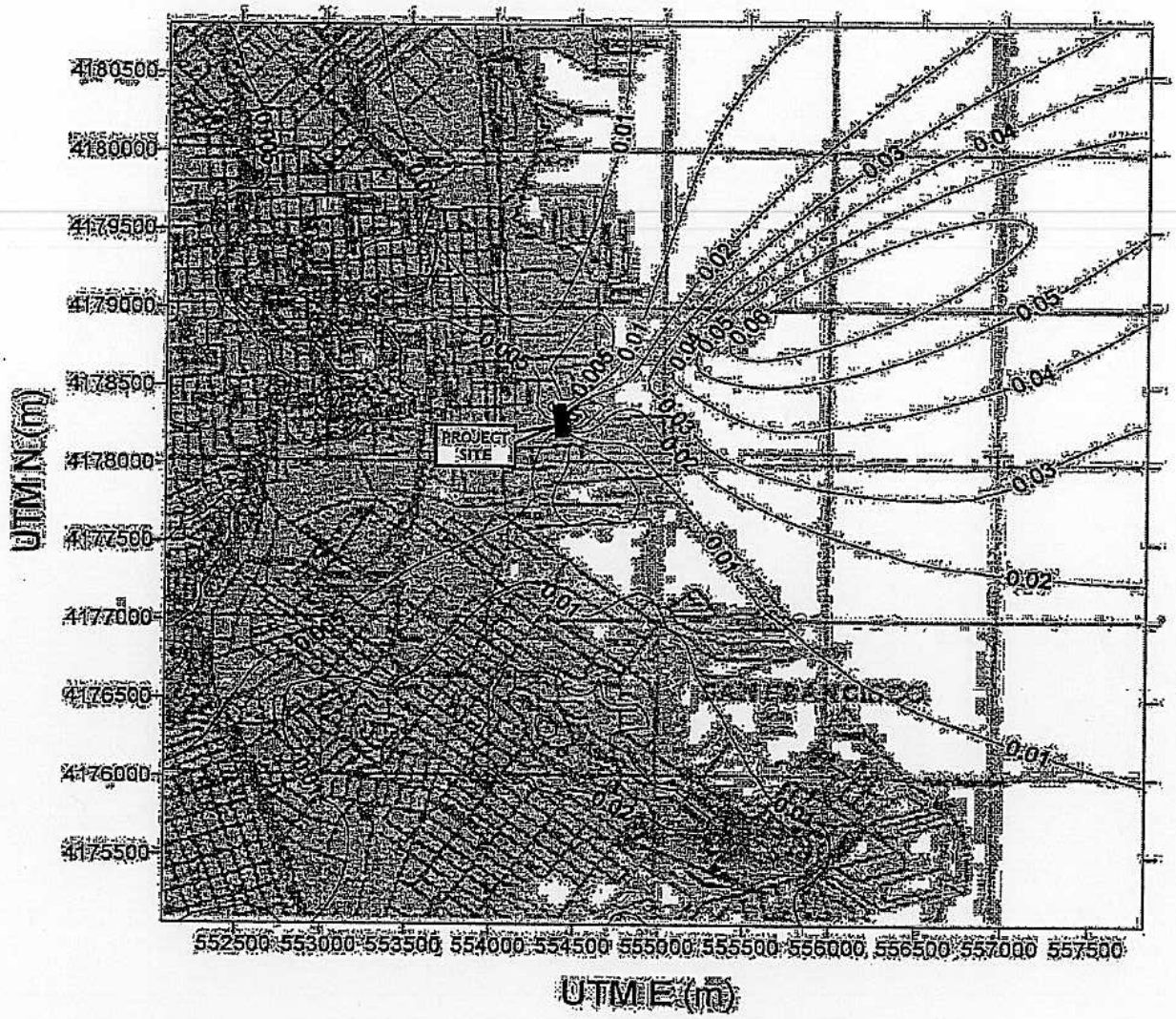
- Carcinogenic potency values for any carcinogenic substances that may be emitted
- Noncancer Reference Exposure levels (RELs) for determining non-carcinogenic health impacts
- One-hour and annual average emission rates for each substance of concern
- The modeled maximum offsite concentration of each of the pollutants emitted

The SHRA uses carcinogenic potency factors specified by the California OEHHA. All of the pollutant cancer risks are assumed to be additive.

An evaluation of the potential noncancer health effects from long-term (chronic) and short-term (acute) exposures has also been included in the SHRA. Many of the carcinogenic compounds are also associated with noncancer health effects and are therefore included in the determination of both cancer and noncancer effects. RELs are used as indicators of potential adverse health effects. RELs are generally based on the most sensitive adverse health effect reported and are designed to protect the most sensitive individuals. However, exceeding the REL does not automatically indicate a health impact. The OEHHA reference exposure levels were used to determine any adverse health effects from noncarcinogenic compounds. A hazard index for each noncancer pollutant is then determined by the ratio of the pollutant annual average concentration to its respective REL for a chronic evaluation. The individual indices are summed to determine the overall hazard index for the project.

Figure 8.1B-4 ***Revised 4/05***

Annual Average PM_{10} Impact During Project Operation



Note: Units are $\mu g/m^3$.

The highest concentration of PM_{10} under any conditions will be ~~0.2~~ *0.08* $\mu g/m^3$. The concentration considered by the US EPA to be significant is 1 $\mu g/m^3$. Therefore, the highest concentration of PM_{10} from this project is less than ~~one-fifth~~ *one-tenth* of the level considered by EPA to be significant.

BAY AREA
AIR QUALITY
MANAGEMENT
DISTRICT

July 26, 2005

Ms. Nancy Matthews
Sierra Research
1801 J Street
Sacramento, CA 95814

Re: San Francisco Electric Reliability Project
BAAQMD Application 12344

Dear Ms. Matthews:

This is to advise you that the BAAQMD has completed the determination of compliance review for the proposed San Francisco Electric Reliability Project. The enclosed Preliminary Determination of Compliance (PDOC) summarizes how the San Francisco Electric Reliability Project will comply with applicable District regulations, including BACT and emission offset requirements. Pursuant to District Regulation 2-3-404, the PDOC is subject to the public notice and 30-day public comment requirements of District Regulations 2-2-406 and 407.

Enclosed is a copy of the Preliminary Determination of Compliance for this application and one copy of the Notice Inviting Written Public Comment. Please submit any comments you may have on the intended action by August 31 , 2005.

Very truly yours,

Jack P Broadbent

Jack Broadbent
Executive Officer/APCO

Enclosure
JB:bn

ALAMEDA COUNTY
Roberta Cooper
Scott Haggerty
Nate Miley
Shelia Young

CONTRA COSTA COUNTY
Mark DeSaulnier
Mark Ross
(Secretary)
Michael Shimansky
Gayle B. Uilkema
(Vice-Chairperson)

MARIN COUNTY
Harold C. Brown, Jr.

NAPA COUNTY
Brad Wagenknecht

SAN FRANCISCO COUNTY
Chris Daly
Jake McGoldrick
Gavin Newsom

SAN MATEO COUNTY
Jerry Hill
Marland Townsend
(Chairperson)

SANTA CLARA COUNTY
Erin Garner
Liz Kniss
Patrick Kwok
Julia Miller

SOLANO COUNTY
John F. Silva

SONOMA COUNTY
Tim Smith
Pamela Torliatt

Jack P. Broadbent
EXECUTIVE OFFICER

Notice Inviting Written Public Comment

Notice is hereby given that the Air Pollution Control Officer of the Bay Area Air Quality Management District has issued a preliminary Determination of Compliance for application number 12344 for the San Francisco Electric Reliability Project, a natural gas fired simple cycle power plant to be located at the corner of Maryland and 25th Streets in the City of San Francisco.

The proposed power plant is projected to emit the following maximum quantities of regulated air pollutants:

Nitrogen Oxides	39.8 tons per year
Carbon Monoxide	27.9 tons per year
Particulate Matter (PM_{10})	18 tons per year
Precursor Organic Compounds	7.7 tons per year
Sulfur Dioxide	2.7 tons per year

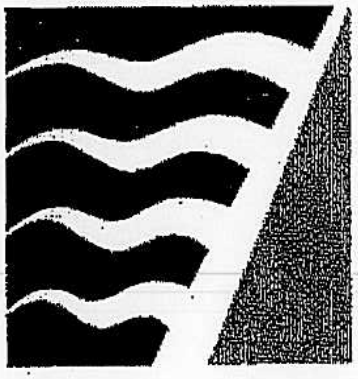
The emissions of nitrogen oxides, carbon monoxide, particulate matter (PM_{10}), precursor organic compounds, and sulfur dioxide associated with this project trigger the Best Available Control Technology (BACT) requirement of District Regulation 2-2-301.1. The emissions of nitrogen oxides and precursor organic compounds associated with this project trigger the emission offset requirements of District Regulation 2-2-302.

Pursuant to District Regulation 2-2-405, the Air Pollution Control Officer invites written public comment on the preliminary Determination of Compliance and its intended action.

The preliminary Determination of Compliance is available for public inspection at the Public Information and Education Office located on the 5th floor of District headquarters at 939 Ellis Street, San Francisco CA, 94109. Written comments should be directed to Bob Nishimura of the District Engineering Division by August 31, 2005.

Dated at San Francisco, the 26th day of July, 2005

Jack P. Broadbent
Executive Officer/Air Pollution Control Officer
Bay Area Air Quality Management District



BAY AREA
AIR QUALITY
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DISTRICT

Preliminary Determination of Compliance

San Francisco Electric Reliability Project

Application 12344

Engineering Division

Bay Area Air Quality Management District

July 19, 2005

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I. Introduction

This report is the Bay Area Air Quality Management District (BAAQMD, or "District") Preliminary Determination of Compliance (PDOC) for the San Francisco Electric Reliability Project (SFERP), a natural gas-fired, simple cycle power plant proposed by the City and County of San Francisco. This facility is to be located at the corner of Maryland Street and 25th Street in the Potrero area of San Francisco, on a 4-acre site of city-owned land. The SFERP will consist of three natural gas-fired General Electric LM6000PC simple cycle combustion turbine generators (CTGs) with associated equipment and two-cell wet cooling towers. The proposed facility will be capable of generating a nominal output of 145 megawatts (MW). The SFERP is currently undergoing review by the California Energy Commission (CEC) for certification pursuant to the Warren-Alquist Act (Public Resources Code §25500 *et seq.*).

In accordance with BAAQMD Regulation 2, Rule 2, Best Available Control Technology (BACT) requirements must be applied to the CTGs to minimize emissions of precursor organic compounds (POCs), oxides of nitrogen (NO_x), sulfur dioxide (SO_2), particulate matter with an aerodynamic diameter less than or equal to 10 microns (PM_{10}), and carbon monoxide (CO). In addition, the applicant must provide emission offsets for NO_x. Emissions of all regulated air pollutants will be less than 100 tons per year; therefore, the SFERP is not a Major Facility under District regulations and is not subject to Prevention of Significant Deterioration (PSD) requirements.

A. Background

Pursuant to BAAQMD Regulation 2, Rule 3, Section 405, this document serves as the PDOC for the SFERP. It will also serve as the engineering evaluation report for the BAAQMD Authority to Construct under Application #12344. The PDOC describes how the proposed facility will comply with applicable federal, state, and BAAQMD regulations, including the BACT and emission offset requirements specified in the District's New Source Review Regulation 2, Rule 2. In accordance with Regulation 2-3-405, the District will not issue an Authority to Construct until after the CEC issues a final certification for the SFERP.

Air pollutant emission calculations and permit conditions necessary to assure compliance with applicable rules and regulations are included in this PDOC. The document also includes a summary of the Health Risk Screening Analysis (HRSA) completed by the District to estimate the maximum public health risks that will result from the project's toxic air contaminant (TAC) emissions.

In accordance with BAAQMD Regulation 2, Rule 3, Section 404, this PDOC is subject to the public notice, public inspection, and 30-day public comment period requirements of District Regulation 2, Rule 2, Sections 406 and 407.

B. Project Description

1. Process Equipment

The applicant is proposing a simple-cycle combustion turbine facility with a nominal net electrical output of 145 MW. The SFERP will consist of the following proposed equipment:

S-1 Combustion Turbine Generator (CTG) #1, General Electric LM-6000PC Sprint, 487.3 MMBtu/hr maximum rated capacity, natural gas fired only; Abated by A-1 Selective Catalytic Reduction (SCR) System and A-2 Oxidation Catalyst.

S-2 Combustion Turbine Generator (CTG) #2, General Electric LM-6000PC Sprint, 487.3 MMBtu/hr maximum rated capacity, natural gas fired only; Abated by A-3 Selective Catalytic Reduction (SCR) System and A-4 Oxidation Catalyst.

S-3 Combustion Turbine Generator (CTG) #3, General Electric LM-6000PC Sprint, 487.3 MMBtu/hr maximum rated capacity, natural gas fired only; Abated by A-5 Selective Catalytic Reduction (SCR) System and A-6 Oxidation Catalyst

S-4 Cooling Tower System, Two-cell, 40' H x 50' L x 14' W, 52,000 gpd (exempt from permit requirements per District Regulation 2-1-103)

S-5 Aqueous Ammonia Storage Tank, 29% HN_3, 8' dia. x 30' L, 11,300 gallon capacity (exempt from permit requirements per District Regulation 2-1-123)

The facility will include two small two-cell cooling towers for turbine cooling (S-4). PM_{10} emissions from these cooling towers are estimated to be less than 0.2 lb/day. The cooling towers are exempt from District permit requirements under Regulation 2-1-103. The facility also will include a tank for storage of aqueous ammonia to be used in the SCR systems to reduce NO_x emissions. The tank is exempt from District permit requirements under Regulation 2-1-123.

2. Equipment Operating Scenario

Maximum hourly, daily, and annual emissions from the LM-6000PC combustion turbines were estimated based on expected peaking operation and proposed annual operating limitations. As proposed, each natural gas fired CTG will have a maximum heat input of 487.3 MMBTU per hour, 11,700 MMBTU per day, and 4,268,750 MMBTU per year.

Annual Emissions

Total annual emissions for all three turbines were calculated based on 12,000 combined operating hours per year at 60°F ambient temperature and full load conditions. Actual annual emissions are expected to be less than the calculated values, as actual operation is projected to be less than 12,000 hours per year, the facility will operate at times at reduced load, and higher ambient temperatures are expected.

The offsets provided will be based on the calculated annual emissions, and permit conditions will be imposed to limit annual emissions to the amount of offsets provided. Emissions of NO_x and CO, the pollutants of greatest concern, will be continuously monitored, as will fuel usage. Any or all of the combustion turbines may be operated up to 24 hours per day, 7 days per week, with total plant-wide heat input not to exceed the equivalent of 12,000 hours of full-load operation per year or the mass emissions limits. Each combustion gas turbine may have a total 250 hours per year of startup/shutdown activity.

Daily Emissions

Maximum hourly emissions from the CTGs are expected to occur during a startup or shutdown. Each CTG may have up to two 2-hour startups per day and two half-hour shutdowns per day, with a total of 5 hours of startup/shutdown activity. The maximum emissions for each turbine are summarized as follows.

Maximum Emission Rates for each Combustion Gas Turbine

Operating Mode	NO_x	CO	POC	PM_{10}
Startup/Shutdown (lb/hr)	40	10	2	3
Full Load (lb/hr)	4.4	4.3	1.2	3
Daily Maximum (lb/day)	283	132	34	72

3. Air Pollution Control Strategies and Equipment

The proposed SFERP triggers the BACT requirements of New Source Review in District Regulation 2, Rule 2 for emissions of NO_x, CO, POC, SO_2, and PM_{10}. The applicant has proposed the following controls:

Selective Catalytic Reduction with Ammonia Injection for the Control of NO_x

The S-1, S-2, and S-3 gas turbines will be equipped with evaporative inter-cooling and water injection to minimize NO_x emissions. NO_x emissions will be further reduced through the use of a selective catalytic reduction (SCR) system using ammonia injection. The CTGs will achieve the BACT-level NO_x emissions of 2.5 ppmvd @ 15% O_2 (one hour average) and will be subject to an annual combined emission cap of 39.8 tons per year, which is equivalent to an annual average of 2.5 ppmvd @15 % O_2 at 12,000 hours per year of operation. SCR can typically achieve NO_x emission reductions in the range of about 80 to 95 percent without exceeding the applicable ammonia limit. Ammonia emissions will be limited to 10 ppmvd @ 15 % O_2 and a total of 39.8 tons per year.

NOx Catalytic control equipment operates properly only within a specific temperature window. Control efficiencies will drop if temperatures are outside of this defined temperature range (i.e., either too hot or cool). Hot temperatures associated with uncooled exhaust may cause sintering of the catalysts, reducing catalyst surface area and thus reducing activity. Conversely, low temperatures can result in higher NO_x emissions and unreacted ammonia because the catalyst requires a minimum temperature to become chemically active.

Emission control system inlet temperatures are higher for simple-cycle gas turbines than for combined-cycle turbines. Gas turbines may have exhaust temperatures ranging up to 1000 °F. In combined-cycle gas turbines, heat is removed from exhaust gases with a Heat Recovery Steam Generator (HSRG), resulting in a decrease in gas temperatureentering the emission control system. In simple-cycle systems, the turbine exhaust gas goes to the emission control system without being cooled. Catalysts used for selective catalytic reduction are not as reliable in controlling NO_x at the higher temperatures with uncooled exhaust of simple cycle gas turbine. The higher operating

temperature results in catalyst deactivation, reducing the catalyst efficiency, As a result, gas turbine emissions from combined-cycle operations can be readily controlled with consistently higher efficiency.

Oxidation Catalyst to Minimize CO and POC Emissions

The proposed gas turbines S-1, S-2, and S-3, also trigger BACT for CO and POC emissions. A CO oxidation catalyst is designed to catalytically oxidize the CO and POC to achieve BACT-level CO emissions of 4 ppmvd @ 15 % O_2 (three hour average) and will be subject to an annual facility emission limit of 28 tons of CO per year. The POC emission level will be limited to 2.0 ppmvd @ 15 % O_2 and will be subject to an annual limit of 7.7 tons per year.

Exclusive Use of Clean-burning Natural gas to Minimize SO_2 and PM_{10} Emissions

The gas turbines will exclusively use commercial natural gas as a fuel to minimize SO_2 and PM_{10} emissions. Because the emission rate of SO_2 depends on the sulfur content of the fuel burned and is not dependent upon the burner type or other combustion characteristics, the use of natural gas will result in the lowest possible emissions of SO_2. PM_{10} emissions will be minimized through the use of best combustion practices and "clean burning" natural gas.

II. Facility Emissions

NO_x, CO, POC and ammonia will be all limited to BACT levels by enforceable permit conditions, including certain maximum outlet emission concentrations. BACT for SO_2, and PM_{10} control is the exclusive use of clean-burning natural gas. The outlet concentration, in ppm by volume and dry (ppmvd), is not specifically limited for SO_2 and PM_{10}, so the hourly emission rate will be taken to be those values calculated using the natural gas sulfur content and the rate provided by General Electric, the turbine manufacturer, respectively.

Calculated annual SO_2 emissions are based on utility natural gas containing an average of 0.33 grains of sulfur per 100 scf. Daily and hourly emissions are based on the content of 1 grain of sulfur per 100 scf. PM_{10} emissions are based on the engine manufacturer guaranteed emission rate of 3 pounds PM_{10} per hour.

The facility regulated air pollutant emissions, and TAC emissions, are presented in the following sections. Detailed emission calculations, including the derivations of emission factors are presented below.

Baseload Emissions

Baseload emissions are the maximum hourly emissions under baseload conditions. A summary of the baseload hourly emissions from each turbine is given below, followed by detailed emission calculations for each pollutant.

Summary of Baseload Hourly Emission Estimates, lb/hour-turbine

NO_x (as NO_2)	POC	PM_{10}	CO	SO_2	NH_3
4.4	1.2	3.0	4.3	1.37	6.48

NO_x emissions: The applicant has proposed a NO_x limit of 2.5 ppmvd @ 15 % O_2 (averaged over one hour), which complies with BACT requirements for these gas turbines. The NO_x emissions from the turbines will be limited by permit conditions to 2.5 ppmvd @ 15 % O_2. This concentration is converted to mass NO_x emissions (as NO_2) as follows:

(2.5 ppmvd)(20.95-0)/(20.95-15) = 8.65 ppmvd @ 0 % O_2
(8.65/1,000,000)(1 mol/385.3 dscf)(46.01 lb NOx/lb-mol)(8700 dscf/MMBtu) = 0.0090 lb NO_x/MMBtu

The hourly NO_x (as NO_2) mass emissions rate based on the maximum firing rate of each turbine is calculated as follows:
(0.0090 lb NO_x/MMBtu)(487.3 MMBtu/hr) = 4.39 lb NOx/hr

CO emissions: The hourly CO emissions from the turbines will be limited by permit condition to 4 ppmvd @ 15 % O_2. The hourly CO mass emission rate based on the maximum firing rate of each turbine is calculated as follows based on 4 ppmvd @ 15 % O_2:

(4 ppmvd)(20.95-0)/(20.95-15) = 14.08 ppmvd @ 0 % O_2
(14.08/1,000,000)(1mol/385.3)(28 lb CO/lb-mol)/lb-mol)(8700 dscf/MMBtu) = 0.0089 lb CO/MMBtu
(0.0089 lb CO MMBtu)(487.3 MMBtu/hr) = 4.31 lb CO/hr

POC emissions: The POC emission from the turbines will be limited by permit condition to 2.0 ppmvd @ 15 % O_2. The hourly POC mass emission rate based on the maximum firing rate of each turbine is calculated as follows assuming the POC is methane (CH_4) and based on 2.0 ppmvd @ 15 % O_2.

(2 ppmvd)(20.95-0)/20.95-15) = 7.04 ppmvd @ % O_2
(7.04/1,000,000)(1mol/385.3)(16 lb CH_4/lb-mol)/lb-mol)(8700 dscf/MMBtu) = 0.0025 lb POC/MMBtu
(0.00254 lb CH_4/MMBtu)(487.3 MMBtu/hr) = 1.24 lb POC/hr

Ammonia emissions: The ammonia (NH_3) emission from the turbines will be limited by permit condition to 10 ppmvd @ 15 % O_2. The hourly mass emission rate based on the maximum firing rate of each turbine is calculated as follows based on 10 ppmvd @ 15 % O_2.

(10 ppmvd)(20.95-0)/20.95-15) = 35.21 ppmvd @ % O_2
(35.21/1,000,000)(1mol/385.3)(17 lb NH_3/lb-mol)/lb-mol)(8700 dscf/MMBtu) = 0.0133 lb NH_3/MMBtu
(0.0133 lb NH_3/MMBtu)(487.3 MMBtu/hr) = 6.48 lb NH_3/hr

Sulfur Dioxide emissions: The sulfur dioxide (SO_2) emission factor is based upon a maximum expected average natural gas sulfur content grains per 100 scf and a higher heating value of 1017 Btu/scf. The expected annual average sulfur content (used to calculate annual emissions) is 0.33 grain per 100 scf.

(1.0 grain/100scf)(10^6 Btu/MMBtu) (2 lb SO_2/lb S)/[7000 grain/lb)(1017 Btu/scf)] = 0.0028 SO_2 lb/MMBtu

(0.0028lb SO_2/MMBtu)(487.3 MMBtu/hr) = 1.37 lb SO_2/hr (annual limit based on expected average of 0.33 grain per 100 scf)

PM_{10} emissions: The PM_{10} emission factor is based upon the manufacturer's guarantee of 3.0 lb/hr based on similar installations.

Emissions During Startup and Shutdown

Each CTG may operate up to 24 hours per day, with a maximum of two 2-hour startups per day and two 2-half-hour shutdowns per day totaling 5 hours of startup/shutdown activity per turbine. In addition, only one turbine would startup at a time. Maximum emission rates expected to occur during the startup and shutdown of each CTG are shown as follows.

The startup/shutdown hourly emission estimates are based on the emission estimates provided by the consultant for the SFERP.

Startup/Shutdown Hourly Emission Estimates, lb/hour-turbine

NO_x (as NO_2)	CO	POC	PM10
40	10	2	3

Maximum Daily Emissions:

A summary of the maximum daily emissions from each turbine is given below, followed by detailed emission calculations for each pollutant.

Maximum Daily Emission Estimates, lb/day-turbine

NO_x (as NO_2)	POC	PM_{10}	CO	SO_2	NH_3
283	34	72	132	33	156

Maximum daily emissions are estimated based on 24 hours of worst-case emission rates. The worst-case daily emission rate is either a day, including a startup/shutdown, with the balance of the daily operations based on 100% load (60 °F ambient temperature), or a day with operation at 100% load for 24 hours. The baseload hourly emission estimates are based on allowable BACT concentration emission limits at 100% load. In those cases in which the startup/shutdown emissions are less than the baseline, the baseline number was used for the entire 24 hours.

NO_x (as NO_2):
(40 Lb/hr-startup/stop)(5 hours) + (4.39 lb/hr-baseload)(19hours) = 283.4 lb/day NO_x (as NO_2)
or (4.39 lb/hr. x 24 hours/day) = 105.4 lb/day

CO:
(10 Lb/hr-startup/stop)(5hours) + (4.31 lb/hr-baseload)(19 hours) = 131.9 lb/day CO
or (4.31 lb/hr. x 24 hours/day) = 103.4 lb/day

POC:

(2 lb/hr-startup/shutdown)(5 hours) + (1.24 lb/hr-baseload)(19 hours)= 33.56 lb/day POC
or (1.24 lb/hr x 24 hours/day) = 29.8 lb/day POC

PM_{10}:
(3 lb/hr-startup/shutdown)(5hours) + (3 lb/hour)(19 hours) = 72 lb/day PM_{10}

SO_2:
(1.37 lb/hr-startup/shutdown)(5 hours) + (1.37 lb/hour)(19 hours) = 33 lb/day SO_2

Ammonia:
(6.48 lb/hr. x 24 hours/day) = 156 lb/day

Maximum Annual Emissions:

Annual emissions for each CTG are based on 4000 hours per year of operation. For pollutants for which emissions are higher during startup/shutdown periods, annual emissions are based on 3750 hr/yr at baseload operation, and 250 hr/yr at startup/shutdown operation.

Table 1 is a summary of the hourly, daily and annual maximum regulated air pollutant emissions for all three gas turbines including startup and shutdown.

Table 1
Maximum Hourly, Daily and Annual Regulated
Air Pollutant Emissions for the SFERP

Pollutant	Lb/hr (a)	Lb/day (b)	Tons/yr
NO_x (as NO_2)	120	850	39.8
CO	30	396	27.9
POC	6.0	101	7.7
PM_{10}	9.0	216	18
SO_2	4.11	99	2.7 (c)

(a) includes startup/shutdown emissions
(b) includes 5 hours day of startup/shutdown
(c) Annual SO_2 emissions are based on expected fuel sulfur content of 0.33 gr/100 scf

Table 2 is a summary of the maximum TAC emissions from the project. These emissions are used as input data for air pollutant dispersion models used to assess the maximum increased health risk to the public resulting from the project. The ammonia emissions shown are based upon a worst-case ammonia emission concentration of 10 ppmvd @ 15% O_2 due to ammonia slip from the A-1, A-2 and A-3 SCR systems.

Table 2
Maximum Facility Toxic Air Contaminant (TAC) Emissions

Toxic Air Contaminant	Maximum Facility Emissions lbs/year	Risk Screening Trigger Level,[a] lb/yr
Acetaldehyde[b]	234.6	72
Acrolein	21.2	3.9
Ammonia[c]	78,480	1,930
Benzene[b]	19.1	6.7
1,3-Butadiene[b]	2.5	1.1
Ethylbenzene	187.5	19,300
Formaldehyde[b]	2,110.3	33
Hexane	1489.3	8,300
Naphthalene	9.5	270
PAHs[b]	1	0.043
Propylene	4,433.3	N/A
Propylene Oxide[b]	170.2	52.0
Toluene	764.8	3,860
Xylenes	375.5	57,900

a pursuant to BAAQMD Risk Evaluation Procedure

b carcinogenic compound

c based upon the worst-case ammonia slip of 10 ppmvd @ 15% O2 from the A-1, A-3 and A-5 SCR systems with ammonia injection

The SFERP does not trigger PSD requirements. Table 3 is a summary of the annual regulated air pollutant emission limits for the facility and the PSD trigger levels.

Table 3
Maximum Annual Facility Regulated Air Pollutant Emissions

Pollutant	Cumulative Increase Emissions[a,b] (tons/year)	PSD Trigger[c] (tons/year)
Nitrogen Oxides (as NO_2)	39.8	100
Carbon Monoxide	27.9	100
Precursor Organic Compounds	7.7	NA[d]
Particulate Matter (PM_{10})	18	100
Sulfur Dioxide	2.7	100

a emission increase from proposed gas turbines only; does not include emissions from cooling tower

b Includes startup and shutdown emissions for gas turbines (250 startups and shutdowns)

c PSD trigger levels for new major facility

d there is no PSD requirement for POC

The sulfuric acid mist (H_2SO_4) emissions will be less than the PSD threshold of 7 tons per year. Even assuming all the sulfur were to be converted to sulfuric acid, the sulfuric acid mist emissions would be less than 7 tons per year.

The non-criteria pollutant analysis requirements of District Regulation 2-2-306 do not apply because SFERP is not a Major Facility, and the emissions of these pollutants (i.e., lead, asbestos, beryllium, mercury, fluorides, sulfuric acid mist, hydrogen sulfide, and total reduced sulfur and reduced sulfur compounds) will not exceed the specified emission thresholds. However, an HRSA has been conducted for potential emissions of TACs.

Regulation 2-2-308 requires applicants to demonstrate that emissions from a project located within 10 km of a PSD Class I area will not cause or contribute to exceed any national ambient air quality or any applicable Class I increment. Because the closest Class I area (i.e., the Point Reyes National Seashore) is more than 10 km from the SFERP, this requirement does not apply to the proposed facility.

III. Statement of Compliance

The following section summarizes the applicable District rules and regulations and describes how the proposed SFERP will comply with those requirements.

A. District Regulation 2, Rule 2: New Source Review

The primary requirements of the District's New Source Review rule that apply to the proposed SFERP facility are Section 2-2-301, Best Available Control Technology Requirement, and Section 2-2-302, Offset Requirements, Precursor Organic Compounds and Nitrogen Oxides.

1. District Regulation 2-2-301: BACT Determinations

District Regulation 2-2-206, defines BACT as the more stringent of:

(a) "The most effective control device or technique which has been successfully utilized for the type of equipment comprising such a source; or

(b) The most stringent emission limitation achieved by an emission control device or technique for the type of equipment comprising such a source; or

(c) Any emission control device or technique determined to be technologically feasible and cost-effective by the APCO; or

(d) The most effective emission control limitation for the type of equipment comprising such a source which the EPA states, prior to or during the public comment period, is contained in an approved implementation plan of any state, unless the applicant demonstrates to the satisfaction of the APCO that such limitations are not achievable. Under no circumstances shall the emission control required be less stringent than the emission control required by any applicable provision of federal, state or District laws, rules or regulations."

The type of BACT described in definitions (a) and (b) must have been demonstrated in practice and approved by a local Air Pollution Control District, CARB, or the EPA and is referred to as "BACT 2." This type of BACT is termed "achieved in practice." The BACT category described in definition (c) is referred to as "technologically feasible/cost-effective" and must have been

demonstrated to be effective and reliable on a full-scale unit and shown to be cost-effective on the basis of dollars per ton of pollutant abated. This is referred to as "BACT 1." BACT specifications for both the "achieved in practice" and "technologically feasible/cost-effective" categories have been compiled in the BAAQMD BACT Guideline for various source categories.

Nitrogen Oxides (NO_x)

The District's BACT Guideline Section 89.1.3 for Gas Turbine Simple Cycle greater than 40 Megawatts Heat Input (dated 7/18/03) specifies BACT1 (Technologically Feasible/Cost Effective) for NO_x is 2.5 ppmvd NO_x @ 15% O_2. This BACT determination was based upon the use of SCR and water injection (as applied in the most recent Application #5412, issued 10/15/2002) or a SCONOx System. The EPA has accepted this BACT determination as Federal LAER. CARB has also cited these levels as BACT in its document "Guidance for Power Plant Siting and Best Available Control Technology," June 1999.

SCR lowers NO_x emissions by using a reducing agent (ammonia or urea) to reduce NO_x molecules to elemental nitrogen and water. The ammonia is injected into the flue gas stream upstream of a catalyst, which is used to reduce the required temperature for NO_x reduction to less than 800°F. SCR has been widely and successfully used in combustion turbine and boiler applications for many years.

The District is unaware of any simple cycle turbine system, in the size range being proposed here, that has consistently achieved a lower NOx level than 2.5 ppmvd @15% O_2. Thus the District does not consider a lower NOx control level to be technically feasible for the purposes of a top-down BACT analysis.

Environmental Impacts

The use of SCR will result in ammonia emissions due to an allowable ammonia slip limit of 10 ppmvd @ 15 % O_2. An HRSA using air dispersion modeling showed a chronic hazard index of 0.001 resulting from the ammonia slip emissions for three turbines. In accordance with the District's Toxic Risk Management Policy and currently accepted practice, a hazard index less than 1.0 is not considered significant. Therefore, the toxic impact of the ammonia slip resulting from the use of SCR is deemed to be not significant and is not a sufficient reason to eliminate SCR as a control alternative.

The ammonia emissions resulting from the use of SCR may have another environmental impact through potential formation of secondary particulate matter emissions, such as ammonium nitrate. Because of the complex nature of the chemical reactions and dynamics involved in the formation of secondary particulates, it is difficult to estimate the amount of secondary particulate matter that will be formed from the emission of a given amount of ammonia. However, the District believes that the formation of ammonium nitrate in the Bay Area air basin is limited by the formation of nitric acid and not driven by the amount of ammonia in the atmosphere. Therefore, ammonia emissions from the proposed SCR system are not expected to contribute significantly to the formation of secondary particulate matter. This potential environmental impact is not considered significant enough to justify the elimination of SCR as a control alternative.

One other potential environmental impact from the use of SCR involves the storage and transport of ammonia. Although ammonia is toxic if swallowed or inhaled and can irritate or burn the skin, eyes, nose, or throat, it is a commonly used material that is typically handled safely and without incident. The SFERP facility will be required to maintain a Risk Management Plan (RMP) and implement a Risk Management Program to prevent accidental releases. The RMP provides information on the hazards of the substances handled at the facility and the programs in place to prevent and respond to accidental releases. The accident prevention and emergency response requirements reflect existing safety regulations and sound industry safety codes and standards. In addition, the CEC has modeled the health impacts arising from a catastrophic release of aqueous ammonia due to spontaneous storage tank failure at the proposed SFERP and found that the impact would not be significant. Therefore, the potential environmental impact due to aqueous ammonia storage at the SFERP Facility does not justify the elimination of SCR as a control alternative.

Conclusion

Each combustion gas turbine will meet a NO_x emission concentration limit of 2.5 ppmvd NO_x @ 15% O_2, averaged over a one hour period, during all operating modes except gas turbine start-ups and shutdowns. The applicant has proposed to comply with this emission limitation through the use of dry low NO_x combustors and SCR with ammonia injection. Compliance will be verified by a CEM located in the stack for each gas turbine. SCR will not cause significant energy, economic, or environmental impacts. The applicant's proposed use of SCR to meet the District's BACT standard for NO_x is therefore acceptable.

Carbon Monoxide (CO)

BACT for CO will be analyzed over the turbines' entire operating range from minimum to maximum load. Steam injection power augmentation lowers the combustor flame temperature thereby allowing an increased fuel use rate, which in turn increases gas turbine peak generating capacity during periods of high ambient temperature. However, lowering the combustor flame temperature steam or water injection can increase CO production.

The District's BACT Guideline Section 89.1.3 for Gas Turbine Simple Cycle for greater than 40 Megawatts Heat Input (dated 7/18/03) specifies 6 ppmvd CO, @ 15% O_2 with an averaging period of three hours as BACT1 (Technologically Feasible/Cost Effective). This BACT determination was based upon the use of CO Catalyst and Dry Low NO_x combustors. CARB has also cited these levels as BACT in their "Guidance for Power Plant Siting and Best Available Control Technology," June 1999.

The District has permitted at least five facilities at 4.0 ppmvd CO @15% O_2, averaged over three hours. Per the June 1999 CARB Power Plant Siting Guidance Document, two consecutive years of source testing indicate CO emission concentrations vary from 0.16 to 0.62 ppmvd CO @15% O_2. The District's source test results have measured emissions of less than 1.5 ppm CO @15% O_2. The District therefore believes there is sufficient justification to conclude that a CO emissions level at 4.0 ppmdv@15% O_2 has been achieved in practice. The CO limit will apply during all operating modes except for gas turbine start-up and shutdown. This limit applies to the exhaust from the gas turbine.

The SFERP has agreed to meet a CO emission limit of 4.0 ppmvd @ 15% O_2 that will apply to all gas turbines operating modes except for gas turbine start-up and shutdown. The SFERP will comply with this BACT specification through the use of oxidation catalysts.

Precursor Organic Compounds (POCs)
The District's BACT Guideline Section 89.1.3 for Gas Turbine Simple Cycle for greater than 40 Megawatts Heat Input (dated 7/18/03) specifies 2 ppmvd POC @ 15% O_2 with an averaging period of one hour as BACT. This BACT determination was based upon the use of an Oxidation Catalyst or Dry Low NO_x combustors and is based on recent BAAQMD permits issued for power plants. CARB has also cited these levels as BACT in their "Guidance for Power Plant Siting and Best Available Control Technology," June 1999. The applicant has proposed to meet this POC stack concentration of 2 ppmvd @ 15% O_2.

Sulfur Dioxide (SO_2)
The District's BACT Guideline Section 89.1.3 for Gas Turbine Simple Cycle for greater than 40 Megawatts Heat Input (dated 7/18/03) specifies the exclusive use of PUC-regulated natural gas as BACT for SO_2 emissions. The proposed turbines and duct burners will utilize PUC natural gas exclusively, which will result in minimal SO_2 emissions. Accordingly, the sulfur content of the natural gas will be limited by permit condition to 1grain/100 scf. This average corresponds to an SO_2 emission factor of 0.0028 lb./MMBtu. The natural gas sulfur content specification of 1 grain per 100 scf is deemed BACT for SO_2.

Particulate Matter (PM_{10})
The District's BACT Guideline Section 89.1.3 for Gas Turbine Simple Cycle for greater than 40 Megawatts Heat Input (dated 7/18/03) specifies the exclusive use of PUC-regulated natural gas as BACT for PM_{10} emissions. The proposed turbines and duct burners will utilize PUC natural gas exclusively, which will result in minimal direct PM_{10} emissions and minimal formation of secondary PM_{10} such as sulfates. Accordingly, the sulfur content of the natural gas will be limited by permit condition to 1 grain/ 100 scf.

The cooling tower will operate when inlet air chilling is necessary to maintain turbine output. For this evaluation, the cooling tower is assumed to operate 24 hours per day, 8760 hours per year. SFERP is proposing a cooling tower with a drift rate of 0.0010%. Maximum emissions from cooling tower are calculated from the maximum drift rate and maximum total dissolved solids of the make-up water. The two-cell cooling towers will emit a maximum of 0.04 pounds per hour and 0.2 tons per year of PM_{10}. Since the maximum emissions from the tower are less than 10 pounds per day and 5 tons per year, the cooling tower is exempt from District permit requirements and is not subject to either BACT or offset requirements.

Cooling Tower Emissions Data

Drift rate:	0.0010 %
Water Flow:	3912 gpm
Drift, lbm water/hr:	19.55
TDS level, ppm:	2000
PM_{10} Emission Results:	0.04 lb/hr and 0.17 tons/year

2. District Regulation 2-2-302: Offset Requirements, POCs and NO_x

General Requirements

District Regulation 2-2-302 requires that for new or modified sources at a facility that will be permitted to emit 35 tons per year of POCs or NO_x or more on a pollutant specific basis, the total project emissions must be offset. The applicant has issued a request for proposals to emission reduction credit (ERC) holders to obtain sufficient ERCs to meet the offset requirements for this project. The applicant has committed to obtain offsets locally within the San Francisco area. It should be noted that in the case of POC and NO_x offsets, District regulations do not require consideration of the location of the source of the emission reduction credits relative to the location of the proposed emission increases.

Timing for Provision of Offsets

Pursuant to District Regulation 2-2-311, the applicant must provide the required valid emission reduction credits to mitigate the emission increases for the facility prior to the issuance of the Authority to Construct. Pursuant to District Regulation 2, Rule 3: Power Plants, the Authority to Construct will be issued after the CEC issues their Certificate for the power plant.

Offset Requirements by Pollutant

Pursuant to Regulation 2-2-302, federally enforceable emission offsets are required for POC and NO_x emission increases from permitted sources at facilities, that will emit 10 tons per year or more on a pollutant-specific basis. Because the SFERP facility will emit greater than 35 tons per year of NO_x, the project NO_x emissions must be offset at a ratio of 1.15 to 1.0. Since the SFERP will emit less than 10 tons/year of POC, the applicant is not required to provide POC emission offsets.

The projected PM_{10} emissions from the proposed sources are less than 100 tons per year, therefore SFERP does not trigger the PM_{10} offset requirement of Regulation 2-2-303. Pursuant to Regulation 2-2-303, emission reduction credits are not required for the proposed SO_2 emission increases associated with this project since the facility SO_2 emissions will not exceed 100 tons per year. Regulation 2-2-303 allows a facility that emits less than 100 tons of these pollutants to voluntarily provide emission offsets. The applicant has not opted to provide such emission offsets.

Interpollutant Offset Ratios

Pursuant to District Regulations 2-2-302 and 2-2-302.2, the applicant has the option to substitute ERCs for precursor organic compounds to offset increased emissions of NO_x at a ratio of 1.0 to 1.0.

Current Proposed Offset Package

Table 5 summarizes the current offset obligation of the SFERP and the quantity of valid emission reduction credits (ERCs) that are required.

The applicant has committed to secure sufficient valid emission reduction credits to offset the emission increases from the permitted sources proposed for the SFERP. The applicant has issued a request for proposals to ERC holders to obtain sufficient ERCs to meet the offset requirements for this project. The applicant intends to use ERCs that were generated within San Francisco.

Table 5
Facility Offset Requirements

Pollutant	Net Emission Increase (tpy)	Offset Ratio	Offsets Required (tpy)	Offsets to be Provided (tpy)
NOx	39.8	1.15:1	45.8	45.8
POC	7.7	N/A	0	0

B. Health Risk Screening Analysis

Pursuant to the BAAQMD Risk Evaluation Procedure, a Health Risk Screening Analysis must be prepared to determine the potential impact on public health resulting from the emissions of TACs from the SFERP. The potential TAC emissions (both carcinogenic and non-carcinogenic) from the SFERP were previously summarized in Table 2. In accordance with the requirements of the BAAQMD Risk Evaluation Procedure, the impact on public health due to the emission of these compounds was assessed utilizing air pollutant dispersion models. The results are summarized in Table 6.

Table 6
Health Risk Screening Analysis Results

Source	Multi-pathway Carcinogenic Risk (Risk in One Million)	Non-carcinogenic Chronic Hazard Index
Gas Turbines [a]	0.01	0.001
Cooling Tower	0.004	0.00002

[a] numbers represent combined risk from all sources

The health risk assessment performed by the applicant has been reviewed by the District's Toxics Evaluation Section and found to be in accordance with guidelines adopted by Cal/EPA's Office of Environmental Health Hazard Assessment (OEHHA), the California Air Resources Board (CARB), and the California Air Pollution Control Officers Association (CAPCOA). Pursuant to the BAAQMD Risk Management Policy, the increased carcinogenic risk attributed to this project is considered to be not significant because it is less than 1.0 in one million. The chronic hazard index attributed to the emission of non-carcinogenic air contaminants is considered to be not significant because it is less than 1.0. Therefore, the SFERP facility is deemed to be in compliance with the BAAQMD Toxic Risk Management Policy

C. Other Applicable District Rules and Regulations

Regulation 1, Section 301: Public Nuisance

This project is not expected to cause injury, detriment, nuisance or annoyance to any considerable number of persons or the public with respect to any impacts resulting from the emission of air contaminants regulated by the District.

Air contaminants from this proposed power plant are highly unlikely to cause a public health nuisance and annoyance to the neighboring community. It is also unlikely to contribute significantly to injury from air contaminants. The plant will not contribute significantly to ozone, carbon monoxide (CO), and particulate matter (PM_{10} and $PM_{2.5}$).

Regulation 2, Rule 1, Sections 301 and 302: Authority to Construct and Permit to Operate
Pursuant to District Regulation 2-1-301 and 2-1-302, the SFERP has submitted an application to the District to obtain an Authority to Construct and Permit to Operate for the proposed S-1, S-2 & S-3 Gas Turbines.

Because the proposed cooling tower will not be used for the evaporative cooling of process water, it is exempt from District permit requirements (Regulations 2-1-301 and 2-1-302) pursuant to Regulation 2, Rule 1, Section 128.4. The worst-case emission projections indicate that the cooling tower will not emit air contaminants at rates above the risk management screening trigger levels as specified in Table 2-1-316 of Regulation 2, Rule1. The applicant has demonstrated that the cooling tower emissions have passed an HRSA in accordance with the District Risk Evaluation Procedure. Therefore, the cooling tower remains exempt from District permit requirements per Regulation 2-1-316.

Regulation 2, Rule 3: Power Plants
Pursuant to Regulation 2-3-403, this PDOC serves as the APCO's preliminary decision that the proposed power plant will meet the requirements of all applicable BAAQMD, state, and federal regulations. The PDOC contains proposed permit conditions to ensure compliance with those regulations. Pursuant to Regulation 2-3-304, the PDOC will be subject to the public notice, public comment, and public inspection requirements contained in Regulations 2-2-406 and 407.

Regulation 2, Rule 6: Major Facility Review
Pursuant to Regulation 2, Rule 6, Section 404.1, the owner/operator of the SFERP must submit an application to the BAAQMD for a major facility review permit within 12 months after the facility becomes subject to Regulation 2, Rule 6. Pursuant to Regulation 2-6-212.1, the SFERP will become subject to Regulation 2, Rule 6 upon initial firing of any of the gas turbines (S-1, S-2, or S-3). However, because the Acid Rain requirements are also contained in the MFR permit, the application must be submitted much earlier (see below).

Regulation 2, Rule 7: Acid Rain
The SFERP gas turbine units and heat recovery steam generators will be subject to the requirements of Title IV of the federal Clean Air Act. The requirements of the Acid Rain Program are outlined in 40 CFR Part 72. The specifications for the type and operation of continuous emission monitors (CEMs) for pollutants that contribute to the formation of acid rain are given in 40 CFR Part 75. District Regulation 2, Rule 7 incorporates by reference the provisions of 40 CFR Part 72. Pursuant to 40 CFR Part 72.30(b)(2)(ii), SFERP must submit an Acid Rain Permit Application to the District at least 24 months prior to the date on which each unit commences operation. Pursuant to 40 CFR Part 72.2, "commence operation" includes the start-up of the unit's combustion chamber.

Regulation 6: Particulate Matter and Visible Emissions

Through the use of low-NO_x burner technology and proper combustion practices, the combustion of natural gas at the proposed gas turbines is not expected to result in visible emissions. Specifically, the facility's combustion sources are expected to comply with Regulation 6, including Sections 301 (Ringelmann No. 1 Limitation), 302 (Opacity Limitation) with visible emissions not to exceed 20% opacity, and 310 (Particulate Weight Limitation) with particulate matter emissions of less than 0.15 grains per dry standard cubic foot of exhaust gas volume. As calculated in accordance with Regulation 6-310.3, the grain loading resulting from the simultaneous operation of each power train is 0.0025 gr/dscf @ 6% O_2.

With a maximum total dissolved solids content of 2000 mg/l, flow rate and corresponding maximum PM_{10} emission rate of 0.04 lb/hr, the proposed 2-cell cooling towers are also expected to comply with the requirements of Regulation 6.

Particulate matter emissions associated with the construction of the facility are exempt from District permit requirements but are subject to Regulation 6. It is expected that the California Energy Commission will consider conditions on construction activities, and may require the use of water and/or chemical dust suppressants to minimize PM_{10} emissions and prevent visible particulate emissions.

Regulation 7: Odorous Substances

Regulation 7-302 prohibits the discharge of odorous substances, which remain odorous beyond the facility property line after dilution with four parts odor-free air. Regulation 7-302 limits ammonia emissions to 5000 ppm. Since the ammonia emissions from the three proposed CTG power trains will each be limited by permit condition to 10 ppmvd @ 15% O_2, the applicant is expected to comply with the requirements of Regulation 7.

Regulation 8: Organic Compounds

This facility is exempt from Regulation 8, Rule 2, "Miscellaneous Operations" per Regulation 8-2-110, since natural gas will be fired exclusively at the SFERP.

The use of solvents for cleaning and maintenance at the SFERP is expected to comply with Regulation 8, Rule 4, "General Solvent and Surface Coating Operations" Section 302.1 by emitting less than 5 tons per year of volatile organic compounds.

Regulation 9, Rule 1: Inorganic Gaseous Pollutants, Sulfur Dioxide

This regulation establishes emission limits for sulfur dioxide from all sources and applies to the combustion sources at this facility. Section 301: Limitations on Ground Level Concentrations, prohibits emissions that would result in ground level SO_2 concentrations in excess of 0.5 ppm continuously for 3 consecutive minutes, 0.25 ppm averaged over 60 consecutive minutes, or 0.05 ppm averaged over 24 hours. Section 302: General Emission Limitation, prohibits SO_2 emissions in excess of 300 ppmv (dry). With maximum projected SO_2 emissions of less than 1 ppmv, the gas turbines are not expected to exceed the ground level SO_2 concentration limit in Section 301, and easily complies with Section 302.

Regulation 9, Rule 3: Inorganic Gaseous Pollutants, Nitrogen Oxides from Heat Transfer Operations

The proposed combustion gas turbines (each rated at 487.3 MM Btu/hr, HHV) will comply with the Regulation 9-3-303 NO_x limit of 125 ppm by complying with a permit condition nitrogen oxide emission limit of 2.5 ppmvd @ 15% O_2.

Regulation 9, Rule 9: Inorganic Gaseous Pollutants, Nitrogen Oxides from Stationary Gas Turbines

Because each of the proposed combustion gas turbines will be limited by permit conditions to NO_x emissions of 2.5 ppmvd @ 15% O_2, they are expected to comply with the Regulation 9-9-301.3 NO_x limitation of 9 ppmvd @ 15% O_2. In addition, the continuous emission monitoring (CEM) system will be installed to satisfy the monitoring and recordkeeping requirements of this rule.

Regulation 10: 40 CFR 60, Subpart GG- Standards of Performance for Stationary Gas Turbines

Regulation 10 (40 CFR 60, Subpart GG) was adopted by reference from the federal New Source Performance Standards (NSPS) for stationary gas turbines. This regulation requires monitoring of fuel; imposes limits on the emissions of NO_x, SO_2, and PM; requires source testing of the stack emissions; process monitoring and data collection and recordkeeping. All of the BACT limits imposed on the combustion turbines are more stringent than the requirements of the NSPS emissions limits. The SFERP will comply with the NSPS.

40 CFR 63, Subpart YYYY-National Emissions Standards for Hazardous Air Pollutants for Stationary Combustion Turbines.

40 CFR 63, Subpart YYYY for hazardous air pollutant emissions requires that a facility emitting more than 10 tons per year of single HAP or more than 25 tons per year for any combination of HAPs will be subject to this requirement. Since, this facility will not emit more than 10 tons for single HAP or 25 tons for any combination, it is not subject to 40 CFR Part 63, Subpart YYYY.

D. CEQA

The CEQA requirements of Districts Regulation 2-1-426 are met since the CEC is the lead agency on this project. The CEC is thus responsible for conducting the CEQA review and preparing the CEQA document for this project. The CEC's final certification and licensure will serve as the EIR equivalent pursuant to the CEC's certified regulatory program (as specified in CEQA Guidelines Section 15253(b) and Public Resources Code Sections 21080.5 and 25523).

IV. Permit Conditions

The following permit conditions will be imposed to assure that the proposed project complies with all applicable District, State, and Federal regulations. The conditions limit operating parameters such as fuel use, stack gas emission concentrations, and mass emission rates. Permit conditions will also specify abatement device operation and performance levels. To aid enforcement efforts, conditions specifying emission monitoring, source testing, and record keeping requirements are included. Furthermore, pollutant mass emission limits (in units of lb/hr and lb/MMBtu of natural gas fired) will ensure that daily and annual emission rate limitations are not exceeded.

Compliance with CO and NO_x limits will be verified by continuous emission monitors (CEMs) that will be in operation during all turbine operating modes, including start-up and shutdown. If the CO and NO_2 CEMs are not capable of accurately assessing gas turbine start-up and shutdown mass emission rates due to variable gas content and the differing response times of the gas monitors, then start-up and shutdown mass emission rates will be based upon annual source test results. Compliance with POC, SO_2, and PM_{10} mass emission limits will be verified by annual source testing.

In addition to permit conditions that apply to the designed operation of each CTG power train, conditions will be imposed that govern equipment operation during the initial commissioning period when the CTGs will operate without their SCR systems and oxidation catalysts fully operational. During this commissioning period, the gas turbines will be tested, control systems will be adjusted, and ducts leading to the stack tubes will be cleaned. Permit Conditions 1 through 12 apply to this commissioning period and are intended to minimize emissions and insure that those emissions will not contribute to the exceedence of any short-term applicable ambient air quality standard.

San Francisco Electric Reliability Project
Permit Conditions

Definitions:

Clock Hour:	Any continuous 60-minute period beginning on the hour.
Calendar Day:	Any continuous 24-hour period beginning at 12:00 AM or 0000 hours.
Year:	Any consecutive twelve-month period of time
Heat Input:	All heat inputs refer to the heat input at the higher heating value (HHV) of the fuel, in Btu/scf.
Rolling 3-hour period:	Any three-hour period that begins on the hour and does not include start-up or shutdown periods.
Firing Hours:	Period of time during which fuel is flowing to a unit, measured in fifteen-minute increments.
MM Btu:	million British thermal units
Gas Turbine Start-up Mode:	The lesser of the first 120 minutes of continuous fuel flow to the Gas Turbine after fuel flow is initiated or the period of time from Gas Turbine fuel flow initiation until the Gas Turbine achieves two

	consecutive CEM data points in compliance with the emission concentration limits of conditions 20(b) and 20(d).
Gas Turbine Shutdown Mode:	The lesser of the 30 minute period immediately prior to the termination of fuel flow to the Gas Turbine or the period of time from non-compliance with any requirement listed in Conditions 20(b) through 20(d) until termination of fuel flow to the Gas Turbine.
Specified PAHs:	The polycyclic aromatic hydrocarbons listed below shall be considered to Specified PAHs for these permit conditions. Any emission limits for Specified PAHs refer to the sum of the emissions for all six of the following compounds. Benzo[a]anthracene Benzo[b]fluoranthene Benzo[k]fluoranthene Benzo[a]pyrene Dibenzo[a,h]anthracene Indeno[1,2,3-cd]pyrene
Corrected Concentration:	The concentration of any pollutant (generally NO_x, CO, or NH_3) corrected to a standard stack gas oxygen concentration. For emission point P-1 (exhaust stack of S-1 Gas Turbine), emission point P-2 (exhaust stack of S-2 Gas Turbine) and P-3 (exhaust stack of S-3 Gas Turbine) the standard stack gas oxygen concentration is 15% O_2 by volume on a dry basis.
Commissioning Activities:	All testing, adjustment, tuning, and calibration activities recommended by the equipment manufacturers and the SFERP construction contractor to insure safe and reliable steady state operation of the gas turbines, heat recovery steam generators, steam turbine, and associated electrical delivery systems.
Commissioning Period:	The Period shall commence when all mechanical, electrical, and control systems are installed and individual system start-up has been completed, or when a gas turbine is first fired, whichever occurs first. The period shall terminate when the plant has completed performance testing, is available for commercial operation, and has initiated sales to the power exchange.
Precursor Organic Compounds (POCs):	Any compound of carbon, excluding methane, ethane, carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate
CEC CPM:	California Energy Commission Compliance Program Manager
SFERP:	San Francisco Electric Reliability Project
*	Not Federally Enforceable

Conditions for the Commissioning Period

1. The owner/operator of the SFERP shall minimize emissions of carbon monoxide and nitrogen oxides from S-1, S-2, and S-3, Gas Turbine Combustors to the maximum extent possible during the commissioning period. Parts 1 through 12 will only apply during the commissioning period as defined above. Unless otherwise indicated, Parts 13 through 42 will apply after the commissioning period has ended.

2. At the earliest feasible opportunity, in accordance with the recommendations of the equipment manufacturers and the construction contractor, the owner/operator shall ensure that S-1, S-2, and S-3, Gas Turbine Combustors are tuned to minimize the emissions of carbon monoxide and nitrogen oxides.

3. At the earliest feasible opportunity, in accordance with the recommendations of the equipment manufacturers and the construction contractor, the owner/operator shall install, adjust, and operate A-1 through A-6, SCR and Oxidation Systems, to minimize the emissions of carbon monoxide and nitrogen oxides from S-1, S-2, and S-3, Gas Turbine Combustors.

4. Coincident with the as-designed operation of A-1 thru A-6, SCR and Oxidation Systems, pursuant to Parts 3, 8, 9 and 10 of this condition, the owner/operator shall ensure that the Gas Turbine Combustors (S-1, S-2, and S-3) comply with the NO_x and CO emission limitations specified in Parts 20(a) through 20(d) of this condition.

5. The owner/operator of the SFERP shall prepare a plan describing the procedures to be followed during the commissioning of the gas turbines. The plan shall be submitted the District Engineering Division and the CEC CPM at least four weeks prior to first firing of S-1, S-2, or S-3, Gas Turbine Combustors. The plan shall include a description of each commissioning activity, the anticipated duration of each activity in hours, and the purpose of the activity. The activities described shall include, but not be limited to, the tuning of the Water Injection system, the installation and operation of the SCR systems and oxidation catalysts, the installation, calibration, and testing of the CO and NO_x continuous emission monitors, and any activities requiring the firing of the Gas Turbine Combustors (S-1, S-2, and S-3) without abatement by their respective SCR and Oxidation Systems. No Gas Turbine Combustor (S-1, S-2, or S-3) shall be fired sooner than 28 days after the District receives the commissioning plan.

6. During the commissioning period, the owner/operator of the SFERP shall demonstrate compliance with Parts 8 through 11 of this condition through the use of properly operated and maintained continuous emission monitors and data recorders for the following parameters:
   - firing hours for each gas turbine (S-1, S-2, and S-3)
   - fuel flow rates to each train
   - stack gas nitrogen oxide emission concentrations at P-1, P-2, and P-3
   - stack gas carbon monoxide emission concentrations P-1, P-2, and P-3
   - stack gas oxygen or carbon dioxide concentrations P-1, P-2, and P-3

   The owner/operator shall monitor the parameters and record at least once every 15 minutes (excluding normal calibration periods or when the monitor source is not in operation) for the Gas

Turbine Combustors (S-1, S-2, and S-3). The owner/operator shall use District-approved methods to calculate heat input rates, NO_x (as NO_2) mass emission rates, carbon monoxide mass emission rates, and NO_x and CO emission concentrations, summarized for each clock hour and each calendar day. All records shall be retained on site for at least 5 years from the date of entry and made available to District personnel upon request.

7. The owner/operator shall install, calibrate, and properly operate District-approved continuous emission monitors specified in Part 6 prior to the first firing of the Gas Turbine Combustors (S-1, S-2, and S-3). After first firing of the turbines, the detection range of these continuous emission monitors must be adjusted as necessary to accurately measure the resulting range of CO and NO_x emission concentrations. The type, specifications, and location of these monitors shall be subject to District review and approval (by the District's Source Test Section).

8. The owner/operator shall not exceed 100 hours of firing during the commissioning period of S-1, Gas Turbine Combustor without abatement of nitrogen oxide emissions by A-1, SCR System. Such operation of S-1, Gas Turbine Combustor without abatement shall be limited to discrete commissioning activities that can only be properly executed without the SCR or Oxidation Catalyst Systems fully operational. Upon completion of these activities, the owner/operator shall provide written notice to the District's Engineering and Enforcement Divisions, and the unused balance of the 100 firing hours without abatement shall expire.

9. The owner/operator shall not exceed 100 hours of firing during the commissioning period of S-2, Gas Turbine Combustor without abatement of nitrogen oxide emissions by A-3, SCR System. Such operation of S-2, Gas Turbine Combustor without abatement shall be limited to discrete commissioning activities that can only be properly executed without the SCR or Oxidation Catalyst Systems fully operational. Upon completion of these activities, the owner/operator shall provide written notice to the District's Engineering and Enforcement Divisions, and the unused balance of the 100 firing hours without abatement shall expire.

10. The owner/operator shall not exceed 100 hours of firing during the commissioning period of S-3, Gas Turbine Combustor without abatement of nitrogen oxide emissions by A-5, SCR System. Such operation of S-3, Gas Turbine Combustor without abatement shall be limited to discrete commissioning activities that can only be properly executed without the SCR or Oxidation Catalyst Systems fully operational. Upon completion of these activities, the owner/operator shall provide written notice to the District Engineering and Enforcement Divisions. and the unused balance of the 100 firing hours without abatement shall expire.

11. The owner/operator shall calculate the total mass emissions of nitrogen oxides, carbon monoxide, precursor organic compounds, PM_{10}, and sulfur dioxide that are emitted by each Gas Turbine Combustor (S-1, S-2, and S-3) during the commissioning period. These emissions count towards the consecutive twelve-month emission limitations specified in Part 23 of this condition.

12. Prior to the end of the Commissioning Period, the owner/operator shall conduct a District- and CEC-approved source test using external continuous emission monitors to determine compliance with Part 18 of this condition. The source test shall determine NO_x, CO, and POC emissions

during start-up and shutdown of the gas turbines. The POC emissions shall be analyzed for methane and ethane to account for the presence of unburned natural gas. The source test shall include a minimum of three start-up and three shutdown periods. No later than twenty working days before the execution of the source tests, the owner/operator shall submit to the District and the CEC Compliance Program Manager (CPM) a detailed source test plan designed to satisfy the requirements of this condition. The District and the CEC CPM will notify the owner/operator of any necessary modifications to the plan within 20 working days of receipt of the plan; otherwise, the plan shall be deemed approved. The owner/operator shall incorporate the District and CEC CPM comments into the test plan. The owner/operator shall notify the District and the CEC CPM within seven (7) working days prior to the planned source testing date. Source test results shall be submitted to the District and the CEC CPM within 30 days of the source testing date.

Conditions for the Gas Turbine Combustors (S-1, S-2, and S-3)

13. The owner/operator shall ensure that S-1, S-2 and S-3, gas turbine combustors are fired on PUC natural gas exclusively. (Basis: BACT for SO_2 and PM_{10})

14. The owner/operator shall ensure that heat input rate to each Gas Turbine Combustor (S-1, S-2, or S-3) does not exceed 487.3 MM Btu per hour, averaged over one hour period. (Basis: 2-1-234)

15. Except during the commissioning period, the owner/operator of S-1, Gas Turbine Combustor shall properly operate and properly maintain A-1, Selective Catalytic Reduction (SCR) and A-2, Oxidation Catalyst Systems whenever fuel is combusted at the source and the A-1 catalyst bed has reached minimum operating temperature. (Basis: BACT for NO_x and CO)

16. Except during the commissioning period, the owner/operator of S-2, Gas Turbine Combustor shall properly operate and properly maintain A-3, Selective Catalytic Reduction (SCR) and A-4, Oxidation Catalyst Systems whenever fuel is combusted at those sources and the A-3 catalyst bed has reached minimum operating temperature. (Basis: BACT for NO_x and CO)

17. Except during the commissioning period, the owner/operator of S-3, Gas Turbine Combustor shall properly operate and properly maintain A-5, Selective Catalytic Reduction (SCR) and A-6, Oxidation Catalyst Systems whenever fuel is combusted at the source and the A-5 catalyst bed has reached minimum operating temperature. (Basis: BACT for NO_x and CO)

18 The owner/operator of the Gas Turbine Combustors (S-1, S-2, and S-3) shall comply with requirements (a) through (h) below under all operating scenarios, except requirements (a) through (h) do not apply during a gas turbine start-up or shutdown. (Basis: BACT and Toxic Risk Management Policy)

(a) Nitrogen oxide mass emissions (calculated in accordance with District-approved methods) at each P-1, P-2, and P-3 (the exhaust point for each Gas Turbine abated by SCR and Catalyst Oxidation) shall not exceed or 0.0090 lb/MM Btu (HHV). (Basis: BACT for NO_x)

(b) The nitrogen oxide emission concentration at each P-1, P-2, and P-3 shall not exceed 2.5 ppmv, on a dry basis, corrected to 15% O_2, averaged over any rolling 1-hour period. (Basis: BACT for NO_x)

(c) Carbon monoxide mass emissions at each P-1, P-2, and P-3 shall not exceed 0.0089 lb/MM Btu (HHV) of natural gas fired, averaged over any rolling 3-hour period. (Basis: BACT for CO)

(d) The carbon monoxide emission concentration at each P-1, P-2, and P-3 shall not exceed 4 ppmv, on a dry basis, corrected to 15% O_2, averaged over any rolling 3-hour period. (Basis: BACT for CO)

(e)* Ammonia (NH_3) emission concentrations at each P-1, P-2, and P-3 shall not exceed 10 ppmv, on a dry basis, corrected to 15% O_2, averaged over any one-hour period. The owner/operator shall verify, by continuous recording, the ammonia injection rate to A-1, A-3, and A-5, SCR Systems. The correlation between the gas turbine, A-1, A-3 and A-5, SCR System ammonia injection rates and the corresponding ammonia emission concentration at emission points P-1, P-2 and P-3 shall be determined in accordance with Part 25 of this condition. (Basis: TRMP for NH_3)

(f) Precursor organic compound (POC) mass emissions (as CH_4) at each P-1, P-2, and P-3 shall not exceed 0.0025 lb/MM Btu of natural gas fired. (Basis: BACT)

(g) Sulfur dioxide (SO_2) mass emissions at each P-1, P-2, and P-3 shall not exceed 0.0027 lb/MM Btu of natural gas fired. (Basis: BACT)

(h) Particulate matter (PM_{10}) mass emissions at each P-1, P-2, and P-3 shall not exceed 3 pounds per hour. (Basis: BACT)

19. The owner/operator shall not exceed the regulated air pollutant mass emission rates from each of the Gas Turbine Combustors (S-1, S-2, and S-3) during a start-up or a shutdown as established below. (Basis: BACT)

	Cold Start-Up (lb/hour)	**Shutdown (lb/hour)**
Oxides of Nitrogen (as NO_2)	40	40
Carbon Monoxide (CO)	10	10
Precursor Organic Compounds (as CH_4)	2	2

20. The owner/operator of the Gas Turbines (S-1, S-2 and S-3) shall not operate more than two startups and shutdowns per turbine in anyone day. (Basis: Cumulative Increase)

21. The owner/operator shall ensure that the cumulative combined emissions from the Gas Turbine Combustors (S-1, S-2, and S-3) do not exceed the following limits during any consecutive twelve-month period, including emissions generated during gas turbine start-ups and shutdowns:
(a) 39.8 tons of NO_x (as NO_2) per rolling 365 day period;
(b) 27.9 tons of CO per rolling 365 day period;
(c) 7.7 tons of POC (as CH_4) per rolling 365 day period;
(d) 18 tons of PM_{10} per rolling 365 day period; and
(e) 2.7 tons of SO_2 per rolling 365 day period.
(Basis: Cumulative Increase)

22.* The owner/operator shall ensure that the maximum projected annual toxic air contaminant emissions from the Gas Turbine Combustors (S-1, S-2, and S-3) not exceed the following limits:
2,110 pounds of formaldehyde per year
235 pounds of acetaldehyde per year

21 pounds of acrolein per year
19 pounds of benzene per year

unless the following requirement is satisfied: The owner/operator shall perform a health risk assessment using the emission rates determined by annual source test and the most current Bay Area Air Quality Management District-approved procedures and unit risk factors in effect at the time of the analysis. This risk analysis shall be submitted to the District and the CEC CPM within 60 days of the source test date. The owner/operator may request that the District and the CEC CPM revise the carcinogenic compound emission limits specified above. If the owner/operator demonstrates to the satisfaction of the APCO that these revised emission limits will result in a cancer risk of not more than 1.0 in one million, the District and the CEC CPM may, at their discretion, adjust the carcinogenic compound emission limits listed above. (Basis: TRMP)

23 The owner/operator shall demonstrate compliance with Parts 14 through15, 18(a) through 18(d), 19, 21(a), and 21(b) by using properly operated and maintained continuous monitors (during all hours of operation including equipment start-up and shutdown periods) for all of the following parameters in (a) through (d) below.

(a) Firing Hours and Fuel Flow Rates for each of the following sources: S-1, S-2, and S-3 combined.
(b) Carbon Dioxide (CO2) or Oxygen (O2) concentrations, Nitrogen Oxides (NOx) concentrations, and Carbon Monoxide (CO) concentrations at each of the following exhaust points: P-1, P-2, and P-3.
(c) Ammonia injection rate at A-1, A-3, and A-5, SCR Systems
(d) Water or steam injection rate at S-1, S-2, and S-3 Gas Turbine Combustors

The owner/operator shall record all of the above parameters measured in (a) though (d) every 15 minutes (excluding normal calibration periods) and shall summarize all of the above parameters for each clock hour. For each calendar day, the owner/operator shall calculate and record the total firing hours, the average hourly fuel flow rates, and average hourly pollutant emission concentrations. (Basis: District Regulations 1-520.1, 9-9-501, BACT, Offsets, Cumulative Increase)

24 The owner/operator shall use the parameters measured in Part 23(a) through (d) and District-approved calculation methods to calculate the parameters below.

(a) Heat Input Rate for each of the following sources: S-1, S-2, and S-3.
(b) Corrected NOx concentrations, NOx mass emissions (as NO2), corrected CO concentrations, and CO mass emissions at each of the following exhaust points: P-1, P-2, and P-3.

Applicable to emission points P-1, P-2, and P-3, the owner/operator shall record the parameters specified above at least once every 15 minutes (excluding normal calibration periods).
(Basis: District Regulations 1-520.1, 9-9-501, BACT, Offsets, Cumulative Increase)

25. As specified below, the owner/operator shall calculate and record the following data:

(a) total Heat Input Rate for every clock hour and the average hourly Heat Input Rate for every rolling 3-hour period.

(b) on an hourly basis, the cumulative total Heat Input Rate for each calendar day for the following: each Gas Turbine and all three sources (S-1, S-2, and S-3).

(c) the average NO_x mass emissions (as NO_2), CO mass emissions, and corrected NO_x and CO emission concentrations for every clock hour and for every rolling 3-hour period.

(d) on an hourly basis, the cumulative total NO_x mass emissions (as NO_2) and the cumulative total CO mass emissions, for each calendar day for the following: each Gas Turbine (S-1, S-2, and S-3) combined.

(e) For each calendar day, the average hourly Heat Input Rates, Corrected NO_x emission concentrations, NO_x mass emissions (as NO_2), corrected CO emission concentrations, and CO mass emissions for each Gas Turbine combined.

(f) On a daily basis, the cumulative total NO_x mass emissions (as NO_2) and cumulative total CO mass emissions, for the previous consecutive twelve month period for all three sources (S-1, S-2, and S-3) combined.

(Basis: District Regulations 1-520.1, 9-9-501, BACT, Offsets, Cumulative Increase)

26. To demonstrate compliance with parts 18(f), 18(g), 18(h), 21(c), 21(d) and 21(e), the owner/operator shall calculate and record on a daily basis, the Precursor Organic Compound (POC) mass emissions, Fine Particulate Matter (PM_{10}) mass emissions (including condensable particulate matter), and Sulfur Dioxide (SO_2) mass emissions from each power train. The owner/operator shall use the actual Heat Input Rates calculated pursuant to Part 28, actual Gas Turbine Start-up Times, actual Gas Turbine Shutdown Times, and CEC and District-approved emission factors to calculate these emissions. The calculated emissions shall be presented as follows:

(a) For each calendar day, POC, PM_{10}, and SO_2 emissions shall be summarized for: each power train (S-1, S-2, and S-3) combined.

(b) On a daily basis, the 365 day rolling average cumulative total POC, PM_{10}, and SO_2 mass emissions, for all three sources (S-1, S-2, and S-3) combined.

(Basis: Offsets, Cumulative Increase)

27.* To demonstrate compliance with Part 22, the owner/operator shall calculate and record on an annual basis the maximum projected annual emissions of: Acetaldehyde, Acrolein, Formaldehyde and Benzene. Maximum projected annual emissions shall be calculated using the maximum Heat Input Rate of 5,847,600 MM Btu/year and the highest emission factor (pounds of pollutant per MM Btu of Heat Input) determined by any source test of the S-1, S-2, and S-3 Gas Turbine Combustors. (Basis: TRMP)

28.* Within 120 days of start-up of the SFERP, the owner/operator shall conduct a District-approved source test at the exhaust point P-1, P-2, or P-3 to determine the corrected ammonia (NH_3) emission concentration compliance with Part 18(e). The source test shall determine the correlation between the heat input rates of each gas turbine S-1, S-2, and S-3 and NH_3 mass emissions. (Basis: TRMP)

29.* The owner/operator shall determine the SCR System ammonia injection rate and the corresponding NH_3 emission concentration at emission point P-1, P-2, or P-3. The source test shall be conducted over the expected operating range of the turbine (including, but not limited to minimum, 70%, 85%, and 100% load) to establish the range of ammonia injection rates

necessary to achieve NO_x emission reductions while maintaining ammonia slip levels. Continuing compliance with part 18(e) shall be demonstrated through calculations of corrected ammonia concentrations based upon the source test correlation and continuous records of ammonia injection rate. (Basis: TRMP)

30. Within 120 days of start-up of the SFERP and on an annual basis thereafter, the owner/operator shall conduct a District-approved source test on exhaust points P-1, P-2, and P-3 while each Gas Turbine Combustor is operating at maximum load to determine compliance with Parts 18(a), (b), (c), (d), (f), (g), and (h), while each Gas Turbine Combustor is operating at minimum load to determine compliance with Parts 18(b) and (d), and to verify the accuracy of the continuous emission monitors required in Part 23. The owner/operator shall test for (as a minimum): water content, stack gas flow rate, oxygen concentration, precursor organic compound concentration and mass emissions, nitrogen oxide concentration and mass emissions (as NO_2), carbon monoxide concentration and mass emissions, sulfur dioxide concentration and mass emissions, methane, ethane, and particulate matter (PM_{10}) emissions including condensable particulate matter. (Basis: BACT, offsets)

31.* Within 120 days of start-up of the SFERP and on a biennial basis (once every two years) thereafter, the owner/operator shall conduct a District-approved source test at the exhaust point P-1, P-2, or P-3 while the Gas Turbine Combustor is operating at maximum allowable operating rates to demonstrate compliance with Part 27. If three consecutive biennial source tests demonstrate that the annual emission rates calculated pursuant to Part 27 for any of the compounds listed below are less than the BAAQMD Toxic Risk Management Policy trigger levels shown, then the owner/operator may discontinue future testing for that pollutant:

Acetaldehyde $\leq$ 235 pounds/year
Acrolein $\leq$ 21 pounds/year
Benzene $\leq$ 19 pounds/year
Formaldehyde $\leq$ 2110 pounds/year

(Basis: TRMP)

32. The owner/operator shall obtain approval for all source test procedures from the District's Source Test Section and the CEC CPM prior to conducting any tests. The owner/operator shall comply with all applicable testing requirements for continuous emission monitors as specified in Volume V of the District's Manual of Procedures. The owner/operator shall notify the District's Source Test Section and the CEC CPM in writing of the source test protocols and projected test dates at least 7 days prior to the testing date(s). As indicated above, the owner/operator shall measure the contribution of condensable PM (back half) to the total PM_{10} emissions. However, the owner/operator may propose alternative measuring techniques to measure condensable PM such as the use of a dilution tunnel or other appropriate method used to capture semi-volatile organic compounds. Source test results shall be submitted to the District and the CEC CPM within 60 days of conducting the tests. (Basis: BACT)

33. The owner/operator of the SFERP shall submit all reports (including, but not limited to monthly CEM reports, monitor breakdown reports, emission excess reports, equipment breakdown reports, etc.) as required by District Rules or Regulations and in accordance with all procedures

and time limits specified in the Rule, Regulation, Manual of Procedures, or Enforcement Division Policies & Procedures Manual. (Basis: Regulation 2-6-502)

34. The owner/operator of the SFERP shall maintain all records and reports on site for a minimum of 5 years. These records shall include but are not limited to: continuous monitoring records (firing hours, fuel flows, emission rates, monitor excesses, breakdowns, etc.), source test and analytical records, natural gas sulfur content analysis results, emission calculation records, records of plant upsets and related incidents. The owner/operator shall make all records and reports available to District and the CEC CPM staff upon request. (Basis: Regulation 2-6-501)

35. The owner/operator of the SFERP shall notify the District and the CEC CPM of any violations of these permit conditions. Notification shall be submitted in a timely manner, in accordance with all applicable District Rules and Regulations, and the Manual of Procedures. Notwithstanding the notification and reporting requirements given in any District Rule, Regulation, or the Manual of Procedures, the owner/operator shall submit written notification (facsimile is acceptable) to the Enforcement Division within 96 hours of the violation of any permit condition. (Basis: Regulation 2-1-403)

36. The owner/operator of SFERP shall provide adequate stack sampling ports and platforms to enable the performance of source testing. The location and configuration of the stack sampling ports shall be subject to BAAQMD review and approval.
(Basis: Regulation 1-501)

37. Within 180 days of the issuance of the Authority to Construct for the SFERP, the owner/operator shall contact the BAAQMD Technical Services Division (Source Test Section) regarding requirements for the continuous monitors, sampling ports, platforms, and source tests required by parts 23, 28, 29, 30, and 31. All source testing and monitoring must be conducted in accordance with the BAAQMD Manual of Procedures or EPA methods. (Basis: Regulation 1-501)

38. Prior to the issuance of the BAAQMD Authority to Construct for the SFERP, the owner/operator shall provide to the District valid emission reduction credit banking certificates in the amount of 45.8 tons/year of Nitrogen Oxides or equivalent as defined by District Regulations 2-2-302.1 and 2-2-302.2. (Basis: Offsets)

39. Pursuant to BAAQMD Regulation 2, Rule 6, section 404.1, the owner/operator of the SFERP shall submit an application to the BAAQMD for a major facility review permit within 12 months of the issuance of the Authority to Construct . (Basis: Regulation 2-6-404.1)

40. Pursuant to 40 CFR Part 72.30(b)(2)(ii) of the Federal Acid Rain Program, the owner/operator of the SFERP shall not operate either of the gas turbines until either: 1) a Title IV Operating Permit has been issued; 2) 24 months after a Title IV Operating Permit Application has been submitted, to the District whichever is earlier. (Basis: Regulation 2, Rule 7)

41. The owner/operator of SFERP shall comply with the continuous emission monitoring requirements of 40 CFR Part 60 or 75 (Appendix A; Specifications and Test procedures, and

Appendix B; Quality Assurance and Quality Control Procedures). (Basis: Regulation 2, Rule 7)

42. The owner/operator shall take monthly samples of the natural gas utilized at the SFERP and analyze for the sulfur content using District-approved laboratory methods, or shall obtain certified analytical results from the gas supplier. The sulfur content test results shall be retained on site for a minimum of five years from the test date and shall be utilized to satisfy the requirements of 40 CFR Part 60, subpart GG. (Basis: Recordkeeping)

V. Recommendation

The APCO has concluded that the proposed SFERP, which is composed of the sources listed below, complies with all applicable District rules and regulations. The following sources will be subject to the permit conditions and BACT and offset requirements discussed previously.

S-1 Combustion Turbine Generator (CTG) #1, General Electric LM-6000 PC Sprint, 487.3 MMBtu/hr maximum rated capacity, natural gas fired only; Abated by A-1 Selective Catalytic Reduction (SCR) System and A-2 Oxidation Catalyst.

S-2 Combustion Turbine Generator (CTG) #2, General Electric LM-6000 PC Sprint, 487.3 MMBtu/hr maximum rated capacity, natural gas fired only; Abated by A-3 Selective Catalytic Reduction (SCR) System A-4 Oxidation Catalyst.

S-3 Combustion Turbine Generator (CTG) #3, General Electric LM-6000 PC Sprint, 487.3 MMBtu/hr maximum rated capacity, natural gas fired only; Abated by A-5 Selective Catalytic Reduction (SCR) System A-6 Oxidation Catalyst.

S-4 Cooling Tower, Two Cells, 40' H x 50' L x 14' W, 52,000 gpd (exempt permit per /requirements per District Regulation 2-1-103)

S-5 Aqueous Ammonia Storage Tank, 29% NH_3, 8' dia. x 30 'L, capacity 11,300 gallons (exempt from permit requirements per District Regulation 2-1-123)

Pursuant to District Regulation 2-3-404, this document shall be subject to the public notice, public comment, and public inspection requirements of Regulation 2-2-406 and 2-2-407.

BAY AREA
AIR QUALITY
MANAGEMENT
DISTRICT
SINCE 1955

August 3, 2005

Sierra Research
1801 J Street
Sacramento, Ca 95814

Attention: **Nancy Matthews**

Application Number :**12344**
Plant No. :**16945**
Equipment Location :
San Francisco Electric Reliability Project
Corner 25th St & Maryland
San Francisco, CA 94188

Dear Applicant:

Subject: New Facility/Combustion Turbine

We are pleased to inform you that the District has made a preliminary decision to approve your application. However, because this project is subject to the public notice requirements of Regulation 2-1-412, a final decision on your application cannot be made until the end of the Public Notice period and the District has had time to review and consider all comments.

Please include your application number with any correspondence with the District. If you have any questions on this matter, please call **Bob Nishimura at (415) 749-4679.**

Sincerely,

Victor Morales-Laimon
Air Quality Engineering Manager

CC: BNN

sierra research

1801 J Street
Sacramento, CA 95814
Tel: (916) 444-6666
Fax: (916) 444-8373

Ann Arbor, MI
Tel: (734) 761-6666
Fax: (734) 761-6755

August 23, 2005

United States Environmental Protection Agency
Clean Air Markets Division (6204J)
Attention: Designated Representative
1200 Pennsylvania Avenue, NW
Washington, D.C. 20460

Re: Certificates of Representation for San Francisco Electric Reliability Project (ORIS Code 56305) and San Francisco International Airport Combustion Turbine Project (ORIS Code 56306)

To Whom It May Concern:

On behalf of the City and County of San Francisco, we are pleased to provide the enclosed Certificates of Representation identifying the Designated and Alternate Designated Representatives for the San Francisco Electric Reliability Project ("SFERP") in San Francisco, California (ORIS code 56305), and the San Francisco International Airport Combustion Turbine Project ("SFIACTP") in South San Francisco, California (ORIS code 56306). The enclosed legal notices, which identify the Designated and Alternate Designated Representatives for both SFERP and SFIACTP, were published in the San Francisco Chronicle on August 15, 2005, as indicated on the certificates of publication.

If you have any questions regarding these certifications, please do not hesitate to call.

Sincerely,

Nancy Matthews

for Gary Rubenstein

Enclosures

cc: Gerardo Rios, USEPA Region 9
Jack Broadbent, BAAQMD
Karen Kubick, SFPUC
Russell Stepp, SFPUC
Jeanne Sole, Office of the City Attorney

Declaration of publication of

PHILLIP D'SOUZA

Declares that:

The annexed advertisement has been regularly published in the

San Francisco Chronicle

Which are and were at all times herein mentioned established as newspapers of general circulation in the City and County of San Francisco, State of California, as that term is defined by Section 6000 of the Government Code.

AS ABOVE
(name of Newspaper)

From: 8-15-05 20____

To: 8-15-05 20____

Both/all days inclusive, namely, on

8-15-05 (only)

(Dates of Publication)

I declare under penalty of perjury that the foregoing is true and correct.

Executed on 8-18-05 20____

At San Francisco, California.

PUBLIC NOTICE

The following individuals have been selected as the "Designated Representative" and "Alternate Designated Representative" under EPA's Acid Rain Program (40 CFR Parts 72-78) for the San Francisco Electric Reliability Project ("SFERP") to be located at the corner of Maryland and 25th Streets in San Francisco, California. SFERP will be owned and operated by the City and County of San Francisco. The Designated Representative and Alternate Designated Representative were selected by the City and County of San Francisco and have all necessary authority to carry out their duties and responsibilities under the Acid Rain Program for SFERP on behalf of the City and County of San Francisco. If you have any questions regarding this notice or the SFERP's Acid Rain Program responsibilities, contact the following individuals:

DESIGNATED REPRESENTATIVE:
Karen Kubick
Manager, Infrastructure Development
San Francisco Public Utilities Commission
1155 Market 4th Floor
San Francisco, CA 94103
(415) 934-5795

ALTERNATE DESIGNATED REPRESENTATIVE:
Russell Stepp
Energy Supply Project Management and Development
San Francisco Public Utilities Commission
1155 Market 4th Floor
San Francisco, CA 94103
(415) 554-3267

Declaration of publication of

PHILLIP D'SOUZA

Declares that:

The annexed advertisement has been regularly published in the

San Francisco Chronicle

Which are and were at all times herein mentioned established as newspapers of general circulation in the City and County of San Francisco, State of California, as that term is defined by Section 6000 of the Government Code.

AS ABOVE
(name of Newspaper)

From: 8-15-05 20____

To: 8-15-05 20____

Both/all days inclusive, namely, on

8-15-05 (only)

(Dates of Publication)

I declare under penalty of perjury that the foregoing is true and correct.

Executed on 8-18-05 20____

At San Francisco, California.

805
PUBLIC NOTICES

PUBLIC NOTICE

The following individuals have been selected as the "Designated Representative" and "Alternate Designated Representative" under EPA's Acid Rain Program (40 CFR Parts 72 - 78) for the San Francisco International Airport Combustion Turbine Projects ("SFIAC TPs") to be located at the San Francisco International Airport in South San Francisco, California. SFIAC TP will be owned and operated by the City and County of San Francisco. The Designated Representative and Alternate Designated Representative were selected by the City and County of San Francisco and have all necessary authority to carry out their duties and responsibilities under the Acid Rain Program for SFIAC TP on behalf of the City and County of San Francisco. If you have any questions regarding this notice or the SFIAC TP's Acid Rain Program responsibilities, contact the following individuals:

DESIGNATED REPRESENTATIVE
Karen Kubick
Manager, Infrastructure Development
San Francisco Public Utilities Commission
1155 Market 4th Floor
San Francisco, CA 94103
(415) 934-5735

ALTERNATE DESIGNATED REPRESENTATIVE
Russell Stepp
Energy Supply Project Management and Development
San Francisco Public Utilities Commission
1155 Market 4th Floor
San Francisco, CA 94103
(415) 554-3267

United States
Environmental Protection Agency
Acid Rain Program

OMB No. 2060-0258

Certificate of Representation

For more information, see instructions and refer to 40 CFR 72.24

This submission is: ✓ New Revised (revised submissions must be complete; see instructions)

STEP 1
Identify the source by plant name, State, and ORIS code.

San Francisco Electric Reliability Project Plant Name	CA State	56305 ORIS Code

STEP 2
Enter requested information for the designated representative.

Karen Kubick Name	
Address San Francisco Public Utilities Commission 1155 Market St 4th Floor San Francisco, CA 94103	
(415) 934-5735 Phone Number	(415) 554-1854 Fax Number
KKubick@sfwater.org E-mail address (if available)	

STEP 3
Enter requested information for the alternate designated representative, if applicable.

Russell Stepp Name	
(415) 554-3267 Phone Number	(415) 554-0796 Fax Number
rstepp@sfwater.org E-mail address (if available)	

STEP 4: Complete Steps 5 and 6, read the certifications, sign and date.

I certify that I was selected as the designated representative or alternate designated representative, as applicable, by an agreement binding on the owners and operators of the affected source and each affected unit at the source.

I certify that I have given notice of the agreement, selecting me as the 'designated representative' for the affected source and each affected unit at the source identified in this certificate of representation, in a newspaper of general circulation in the area where the source is located or in a State publication designed to give general public notice..

I certify that I have all necessary authority to carry out my duties and responsibilities under the Acid Rain Program on behalf of the owners and operators of the affected source and of each affected unit at the source and that each such owner and operator shall be fully bound by my actions, inactions, or submissions.

I certify that I shall abide by any fiduciary responsibilities imposed by the agreement by which I was selected as designated representative or alternate designated representative, as applicable.

I certify that the owners and operators of the affected source and of each affected unit at the source shall be bound by any order issued to me by the Administrator, the permitting authority, or a court regarding the source or unit.

Where there are multiple holders of a legal or equitable title to, or a leasehold interest in, an affected unit, or where a utility or industrial customer purchases power from an affected unit under life-of-the-unit, firm power contractual arrangements, I certify that:

I have given a written notice of my selection as the designated representative or alternate designated representative, as applicable, and of the agreement by which I was selected to each owner and operator of the affected source and of each affected unit at the source; and

Allowances and the proceeds of transactions involving allowances will be deemed to be held or distributed in proportion to each holder's legal, equitable, leasehold, or contractual reservation or entitlement or, if such multiple holders have expressly provided for a different distribution of allowances by contract, that allowances and the proceeds of transactions involving allowances will be deemed to be held or distributed in accordance with the contract.

The agreement by which I was selected as the alternate designated representative, if applicable, includes a procedure for the owners and operators of the source and affected units at the source to authorize the alternate designated representative to act in lieu of the designated representative.

San Francisco Electric Reliability Project Plant Name (from Step 1)

I am authorized to make this submission on behalf of the owners and operators of the affected source or affected units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

Karen Kubick Signature (designated representative)	8/16/05 Date
Russell Sty Signature (alternate designated representative)	8/22/05 Date

STEP 5
Provide the name of every owner and operator of the source and identify each affected unit they own and/or operate.

City and County of San Francisco Name					✓ Owner	✓ Operator
1 ID#	2 ID#	3 ID#	ID#	ID#	ID#	ID#
ID#	ID#	ID#	ID#	ID#	ID#	ID#

Name					Owner	Operator
ID#	ID#	ID#	ID#	ID#	ID#	ID#
ID#	ID#	ID#	ID#	ID#	ID#	ID#

Name					Owner	Operator
ID#	ID#	ID#	ID#	ID#	ID#	ID#
ID#	ID#	ID#	ID#	ID#	ID#	ID#

STEP 6
For any new affected units listed at STEP 5 that have not commenced commercial operation, enter the projected date on which the unit is expected to commence commercial operation.

1 ID#	4/1/07 Projected Commence Commercial Operation Date:
2 ID#	4/1/07 Projected Commence Commercial Operation Date:
3 ID#	4/1/07 Projected Commence Commercial Operation Date:
ID#	Projected Commence Commercial Operation Date:

United States
Environmental Protection Agency
Acid Rain Program

OMB No. 2060-0258

Certificate of Representation

For more information, see instructions and refer to 40 CFR 72.24

This submission is: ✓ New Revised (revised submissions must be complete; see instructions)

STEP 1
Identify the source by plant name, State, and ORIS code.

San Francisco International Airport Combustion Turbine Project Plant Name	CA State	56306 ORIS Code

STEP 2
Enter requested information for the designated representative.

Karen Kubick Name	
Address San Francisco Public Utilities Commission 1155 Market St 4th Floor San Francisco, CA 94103	
(415) 934-5735 Phone Number	(415) 554-1854 Fax Number
KKubick@sfwater.org E-mail address (if available)	

STEP 3
Enter requested information for the alternate designated representative, if applicable.

Russell Stepp Name	
(415) 554-3267 Phone Number	(415) 554-0796 Fax Number
rstepp@sfwater.org E-mail address (if available)	

STEP 4: Complete Steps 5 and 6, read the certifications, sign and date.

I certify that I was selected as the designated representative or alternate designated representative, as applicable, by an agreement binding on the owners and operators of the affected source and each affected unit at the source.

I certify that I have given notice of the agreement, selecting me as the 'designated representative' for the affected source and each affected unit at the source identified in this certificate of representation, in a newspaper of general circulation in the area where the source is located or in a State publication designed to give general public notice.

I certify that I have all necessary authority to carry out my duties and responsibilities under the Acid Rain Program on behalf of the owners and operators of the affected source and of each affected unit at the source and that each such owner and operator shall be fully bound by my actions, inactions, or submissions.

I certify that I shall abide by any fiduciary responsibilities imposed by the agreement by which I was selected as designated representative or alternate designated representative, as applicable.

I certify that the owners and operators of the affected source and of each affected unit at the source shall be bound by any order issued to me by the Administrator, the permitting authority, or a court regarding the source or unit.

Where there are multiple holders of a legal or equitable title to, or a leasehold interest in, an affected unit, or where a utility or industrial customer purchases power from an affected unit under life-of-the-unit, firm power contractual arrangements, I certify that:

I have given a written notice of my selection as the designated representative or alternate designated representative, as applicable, and of the agreement by which I was selected to each owner and operator of the affected source and of each affected unit at the source; and

Allowances and the proceeds of transactions involving allowances will be deemed to be held or distributed in proportion to each holder's legal, equitable, leasehold, or contractual reservation or entitlement or, if such multiple holders have expressly provided for a different distribution of allowances by contract, that allowances and the proceeds of transactions involving allowances will be deemed to be held or distributed in accordance with the contract.

The agreement by which I was selected as the alternate designated representative, if applicable, includes a procedure for the owners and operators of the source and affected units at the source to authorize the alternate designated representative to act in lieu of the designated representative.

San Francisco International Airport Combustion Turbine Project Plant Name (from Step 1)

I am authorized to make this submission on behalf of the owners and operators of the affected source or affected units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

Karen Kubick Signature (designated representative)	8/16/05 Date
Russell Stutz Signature (alternate designated representative)	8/22/05 Date

STEP 5
Provide the name of every owner and operator of the source and identify each affected unit they own and/or operate.

City and County of San Francisco Name					✓ Owner	✓ Operator
1 ID#	ID#	ID#	ID#	ID#	ID#	ID#
ID#	ID#	ID#	ID#	ID#	ID#	ID#

Name					Owner	Operator
ID#	ID#	ID#	ID#	ID#	ID#	ID#
ID#	ID#	ID#	ID#	ID#	ID#	ID#

Name					Owner	Operator
ID#	ID#	ID#	ID#	ID#	ID#	ID#
ID#	ID#	ID#	ID#	ID#	ID#	ID#

STEP 6
For any new affected units listed at STEP 5 that have not commenced commercial operation, enter the projected date on which the unit is expected to commence commercial operation.

1 ID#	4/1/07 Projected Commence Commercial Operation Date:
ID#	Projected Commence Commercial Operation Date:
ID#	Projected Commence Commercial Operation Date:
ID#	Projected Commence Commercial Operation Date:

sierra research

1801 J Street
Sacramento, CA 95814
Tel: (916) 444-6666
Fax: (916) 444-8373

Ann Arbor, MI
Tel: (734) 761-6666
Fax: (734) 761-6755

August 23, 2005

Jack Broadbent
Executive Officer and APCO
Bay Area Air Quality Management District
939 Ellis Street
San Francisco, CA 94109

Re: Acid Rain Permit Application for the San Francisco Electric Reliability Project (ORIS Code 56305)

Dear Mr. Broadbent:

On behalf of the City and County of San Francisco, we are pleased to submit this Acid Rain Permit Application for the San Francisco Electric Reliability Project (SFERP) at Maryland and 25th Streets in San Francisco. SFERP has previously submitted a permit application to the BAAQMD and received a Preliminary Determination of Compliance from the District for a new 145 MW (nominal) power plant including three simple cycle combustion gas turbines.

These new turbine units are subject to the federal Acid Rain Program (40 CFR Parts 72-75). Acid Rain regulations require that the Acid Rain Permit Application be submitted to the appropriate Title V Operating Permit Program authority. The BAAQMD is the delegated Title V permitting authority for the San Francisco Electric Reliability Project.

If you have any questions regarding these materials, please do not hesitate to call.

Sincerely,

Nancy Matthews

for Gary Rubenstein

Enclosure

cc: Gerardo Rios, EPA Region 9
Karen Kubick, SFPUC
Russell Stepp, SFPUC
Jeanne Sole, Office of the City Attorney

United States
Environmental Protection Agency
Acid Rain Program

OMB No. 2060-0258

Acid Rain Permit Application

For more information, see instructions and refer to 40 CFR 72.30 and 72.31

This submission is: ☑ New ☐ Revised

STEP 1

Identify the source by plant name, State, and ORIS code.

San Francisco Electric Reliability Project	CA	56305
Plant Name	State	ORIS Code

STEP 2

Enter the unit ID# for every affected unit at the affected source in column "a." For new units, enter the requested information in columns "c" and "d."

a	b	c	d
Unit ID#	Unit Will Hold Allowances in Accordance with 40 CFR 72.9(c)(1)	New Units Commence Operation Date	New Units Monitor Certification Deadline
1	Yes	4/1/07	12/1/07
2	Yes	4/1/07	12/1/07
3	Yes	4/1/07	12/1/07
	Yes		
	Yes		
	Yes		
	Yes		
	Yes		
	Yes		
	Yes		
	Yes		
	Yes		
	Yes		
	Yes		
	Yes		
	Yes		
	Yes		
	Yes		
	Yes		
	Yes		

STEP 3

Read the standard requirements

Permit Requirements

(1) The designated representative of each affected source and each affected unit at the source shall:
(i) Submit a complete Acid Rain permit application (including a compliance plan) under 40 CFR part 72 in accordance with the deadlines specified in 40 CFR 72.30; and
(ii) Submit in a timely manner any supplemental information that the permitting authority determines is necessary in order to review an Acid Rain permit application and issue or deny an Acid Rain permit;
(2) The owners and operators of each affected source and each affected unit at the source shall:
(i) Operate the unit in compliance with a complete Acid Rain permit application or a superseding Acid Rain permit issued by the permitting authority; and
(ii) Have an Acid Rain Permit.

Monitoring Requirements

(1) The owners and operators and, to the extent applicable, designated representative of each affected source and each affected unit at the source shall comply with the monitoring requirements as provided in 40 CFR part 75.
(2) The emissions measurements recorded and reported in accordance with 40 CFR part 75 shall be used to determine compliance by the unit with the Acid Rain emissions limitations and emissions reduction requirements for sulfur dioxide and nitrogen oxides under the Acid Rain Program.
(3) The requirements of 40 CFR part 75 shall not affect the responsibility of the owners and operators to monitor emissions of other pollutants or other emissions characteristics at the unit under other applicable requirements of the Act and other provisions of the operating permit for the source.

Sulfur Dioxide Requirements

(1) The owners and operators of each source and each affected unit at the source shall:
(i) Hold allowances, as of the allowance transfer deadline, in the unit's compliance subaccount (after deductions under 40 CFR 73.34(c)), or in the compliance subaccount of another affected unit at the same source to the extent provided in 40 CFR 73.35(b)(3), not less than the total annual emissions of sulfur dioxide for the previous calendar year from the unit; and
(ii) Comply with the applicable Acid Rain emissions limitations for sulfur dioxide.
(2) Each ton of sulfur dioxide emitted in excess of the Acid Rain emissions limitations for sulfur dioxide shall constitute a separate violation of the Act.
(3) An affected unit shall be subject to the requirements under paragraph (1) of the sulfur dioxide requirements as follows:
(i) Starting January 1, 2000, an affected unit under 40 CFR 72.6(a)(2); or
(ii) Starting on the later of January 1, 2000 or the deadline for monitor certification under 40 CFR part 75, an affected unit under 40 CFR 72.6(a)(3).
(4) Allowances shall be held in, deducted from, or transferred among Allowance Tracking System accounts in accordance with the Acid Rain Program.
(5) An allowance shall not be deducted in order to comply with the requirements under paragraph (1) of the sulfur dioxide requirements prior to the calendar year for which the allowance was allocated.
(6) An allowance allocated by the Administrator under the Acid Rain Program is a limited authorization to emit sulfur dioxide in accordance with the Acid Rain Program. No provision of the Acid Rain Program, the Acid Rain permit application, the Acid Rain permit, or an exemption under 40 CFR 72.7 or 72.8 and no provision of law shall be construed to limit the authority of the United States to terminate or limit such authorization.
(7) An allowance allocated by the Administrator under the Acid Rain Program does not constitute a property right.

STEP 3, Cont'd.

Nitrogen Oxides Requirements The owners and operators of the source and each affected unit at the source shall comply with the applicable Acid Rain emissions limitation for nitrogen oxides.

Excess Emissions Requirements

(1) The designated representative of an affected unit that has excess emissions in any calendar year shall submit a proposed offset plan, as required under 40 CFR part 77.
(2) The owners and operators of an affected unit that has excess emissions in any calendar year shall:
(i) Pay without demand the penalty required, and pay upon demand the interest on that penalty, as required by 40 CFR part 77; and
(ii) Comply with the terms of an approved offset plan, as required by 40 CFR part 77.

Recordkeeping and Reporting Requirements

(1) Unless otherwise provided, the owners and operators of the source and each affected unit at the source shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created. This period may be extended for cause, at any time prior to the end of 5 years, in writing by the Administrator or permitting
authority:
(i) The certificate of representation for the designated representative for the source and each affected unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation, in accordance with 40 CFR 72.24; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such documents are superseded because of the submission of a new certificate of representation changing the designated representative;
(ii) All emissions monitoring information, in accordance with 40 CFR part 75, provided that to the extent that 40 CFR part 75 provides for a 3-year period for recordkeeping, the 3-year period shall apply.
(iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under the Acid Rain Program; and,
(iv) Copies of all documents used to complete an Acid Rain permit application and any other submission under the Acid Rain Program or to demonstrate compliance with the requirements of the Acid Rain Program.
(2) The designated representative of an affected source and each affected unit at the source shall submit the reports and compliance certifications required under the Acid Rain Program, including those under 40 CFR part 72 subpart I and 40 CFR part 75.

Liability

(1) Any person who knowingly violates any requirement or prohibition of the Acid Rain Program, a complete Acid Rain permit application, an Acid Rain permit, or an exemption under 40 CFR 72.7 or 72.8, including any requirement for the payment of any penalty owed to the United States, shall be subject to enforcement pursuant to section 113(c) of the Act.
(2) Any person who knowingly makes a false, material statement in any record, submission, or report under the Acid Rain Program shall be subject to criminal enforcement pursuant to section 113(c) of the Act and 18 U.S.C. 1001.
(3) No permit revision shall excuse any violation of the requirements of the Acid Rain Program that occurs prior to the date that the revision takes effect.
(4) Each affected source and each affected unit shall meet the requirements of the Acid Rain Program.

San Francisco Electric Reliability Project
Plant Name (from Step 1)

Step 3, Cont'd.

Liability, Cont'd.

(5) Any provision of the Acid Rain Program that applies to an affected source (including a provision applicable to the designated representative of an affected source) shall also apply to the owners and operators of such source and of the affected units at the source.
(6) Any provision of the Acid Rain Program that applies to an affected unit (including a provision applicable to the designated representative of an affected unit) shall also apply to the owners and operators of such unit. Except as provided under 40 CFR 72.44 (Phase II repowering extension plans) and 40 CFR 76.11 (NO_x averaging plans), and except with regard to the requirements applicable to units with a common stack under 40 CFR part 75 (including 40 CFR 75.16, 75.17, and 75.18), the owners and operators and the designated representative of one affected unit shall not be liable for any violation by any other affected unit of which they are not owners or operators or the designated representative and that is located at a source of which they are not owners or operators or the designated representative.
(7) Each violation of a provision of 40 CFR parts 72, 73, 74, 75, 76, 77, and 78 by an affected source or affected unit, or by an owner or operator or designated representative of such source or unit, shall be a separate violation of the Act.

Effect on Other Authorities

No provision of the Acid Rain Program, an Acid Rain permit application, an Acid Rain permit, or an exemption under 40 CFR 72.7 or 72.8 shall be construed as:
(1) Except as expressly provided in title IV of the Act, exempting or excluding the owners and operators and, to the extent applicable, the designated representative of an affected source or affected unit from compliance with any other provision of the Act, including the provisions of title I of the Act relating to applicable National Ambient Air Quality Standards or State Implementation Plans;
(2) Limiting the number of allowances a unit can hold; *provided,* that the number of allowances held by the unit shall not affect the source's obligation to comply with any other provisions of the Act;
(3) Requiring a change of any kind in any State law regulating electric utility rates and charges, affecting any State law regarding such State regulation, or limiting such State regulation, including any prudence review requirements under such State law;
(4) Modifying the Federal Power Act or affecting the authority of the Federal Energy Regulatory Commission under the Federal Power Act; or,
(5) Interfering with or impairing any program for competitive bidding for power supply in a State in which such program is established.

STEP 4

Certification

Read the certification statement, sign, and date

I am authorized to make this submission on behalf of the owners and operators of the affected source or affected units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

Karen Kubick Name	
Signature Karen Kubick	Date 8/16/05

SFPUC
WATER
HETCH HETCHY WATER & POWER
CLEAN WATER

SAN FRANCISCO PUBLIC UTILITIES COMMISSION

1155 Market St., 4th Floor, San Francisco, CA 94103 • Tel. (415) 554-0725 • Fax (415) 554-1854

GAVIN NEWSOM
MAYOR

RICHARD SKLAR
PRESIDENT

ANN MOLLER CAEN
VICE PRESIDENT

E. DENNIS NORMANDY
ADAM WERBACH
RYAN L. BROOKS

SUSAN LEAL
GENERAL MANAGER

August 24, 2005

Jack Broadbent
Executive Officer/APCO
Bay Area Air Quality Management District
939 Ellis Street
San Francisco, CA 94109

Re: San Francisco Electric Reliability Project
BAAQMD Application 12344
Comments on Preliminary Determination of Compliance

Dear Mr. Broadbent:

Thank you for the opportunity to review and comment on the preliminary determination of compliance issued July 26, 2005, for the San Francisco Electric Reliability Project (SFERP). Most of our comments are minor editorial corrections. Our only substantive comments relate to daily startup and shutdown limitations and to the specification of the NOx ERCs that have been proposed for this project.

Substantive Issues

Daily Startup and Shutdown Limitations (Condition 20) Condition 20 as proposed would prohibit the SFERP gas turbines from undergoing more than two startups and shutdowns per turbine in any one day. SFERP believes this condition is overly restrictive for a peaking facility and unnecessary, and requests that the condition be eliminated and replaced with daily emission limits per Table 1 of the engineering evaluation. We can anticipate situations in which a gas turbine would need to operate in what would be considered startup mode more than twice in one day but would still be able to comply with the daily emission limits upon which the engineering evaluation is based. The existing conditions limiting hourly emissions during normal operations and startup and shutdown operations, in combination with the proposed daily limits, will ensure that the gas turbines are operated in conformance with all of the analyses upon which the determination of compliance is based.

NOx ERCs (pages 13 and 14) In the discussion of offset requirements for the project, the PDOC states that the applicant has issued a request for proposals to ERC holders to obtain the required ERCs for the project. In fact, the March 2005 application indicates on Page 8.1-51 that the applicant has signed an option agreement for the purchase of ERCs from Certificate No. 896 to provide the necessary offsets for the project. The NOx ERCs represented by Certificate No. 896 were created through NOx emissions reductions achieved at the nearby Potrero power plant.

Further, Table 5 of the engineering evaluation indicates that 45.8 tons of NOx ERCs will be provided. In fact, as shown in Table 8.1-32 of the March 2005 application, SFPUC will provide 47.5 tons of NOx ERCs, thereby offsetting both the NOx and POC emissions from the SFERP.

Editorial Corrections

Listed below are issues that we have identified in our review of the engineering evaluation and the permit conditions. We request that these issues be addressed as follows:

Emissions During Startup and Shutdown (page 6) The discussion of emissions during startup and shutdown indicates that only one turbine would start up at a time. However, the application indicated that all three turbines could start up simultaneously, and the modeling analysis of ambient air quality impacts during startup demonstrated that the simultaneous startup of all three turbines would not cause the violation of applicable ambient air quality standards. Therefore, the statement that only one turbine will start up at a time should be deleted.

BACT for NOx and CO (page 11) The discussion of best available control technology for NOx and CO refers to the use of dry low NOx combustors in combination with add-on emission control systems to achieve the BACT emission limits. The discussion of BACT for CO refers to the use of steam injection power augmentation. The LM6000 CTGs to be used for this project use water injection, not dry low NOx combustors, to control NOx emissions. Further, the project does not include steam production and there will be no steam injection power augmentation of the CTGs. The text should be corrected.

PM_{10} Emissions and Mitigation (page 13) As stated in the PDOC, because the projected PM_{10} emissions from the new facility are less than 100 tons per year, no PM_{10} offsets are required. However, as indicated in the permit application (page 8.1-54), the City will be providing mitigation for the PM_{10} and $PM_{2.5}$ emissions from the project in the context of the CEC proceeding.

Compliance with Regulation 2, Rule 7: Acid Rain (page 15) This section indicates that SFERP must submit an Acid Rain Permit Application to the District at least 24 months prior to the date on which each unit commences operation. However, the implementing permit condition (Condition 40) provides the alternative language that the turbines may be operated once a Title IV Operating Permit has been issued. For clarity, the discussion on page 15 should state that the turbines may be operated once a Title IV Operating permit has been issued. The applicant filed an Acid Rain permit application for the project on August 23, 2005.

Compliance with NSPS (page 18) Section III.C of the PDOC discusses compliance with 40 CFR 60, Subpart GG, Standards of Performance for Stationary Gas Turbines.

The PDOC should also indicate that the new gas turbines may be subject to, and if subject, would be in compliance with, the proposed new Subpart KKKK when it is finalized by EPA. The proposed rule will be applicable to gas turbines with a heat input in excess of 1 MMBtu/hr that commence construction after February 18, 2005. Gas turbines subject to Subpart KKKK will be exempt from Subpart GG. If Subpart KKKK is ultimately adopted and is determined to be applicable to the proposed SFERP gas turbines, Subpart GG would not apply.

Subpart KKKK limits NOx and SO_2 from new gas turbines based on power output. The limits for turbines greater than 30 MW are 0.39 lb NOx per MW-hr and 0.58 lb SO_2 per MW-hr. The proposed limits for SFERP of 2.5 ppmc NOx and 0.55 ppmc SO_2 are well below the proposed Subpart KKKK limits, as shown in the following table:

	Proposed Permit Limits			Subpart KKKK Limit,
Pollutant	ppmc	lb/hr	lb/MW-hr[a]	lb/MW-hr
NOx	2.5	4.40	0.09	0.39
SO_2	0.55	1.37	0.028	0.58

Note [a] Based on nominal output of 48.3 MW per gas turbine.

SO_2 Mass Emission Limit (Condition 18g) Condition 18g limits SO_2 mass emissions from each gas turbine to 0.0027 pounds per million Btu of heat input. As shown in the emissions calculations on page 5 of the PDOC, this limit should be 0.0028 lb/MMBtu.

Emission Limits During Startups (Condition 19) Condition 19 limits mass emission rates of NOx, CO, and POC during gas turbine startups and shutdowns. A single limit for each pollutant is provided, regardless of whether the gas turbine is cold, warm, or hot prior to the startup. For this reason, the reference to "Cold" startups in the condition should be eliminated.

Recordkeeping (Condition 25) Condition 25(a) requires SFERP to calculate and record the average hourly heat input rate for every rolling three-hour period. Since compliance with the heat input limit is determined on an hourly average basis, it is not clear why calculation of a rolling three-hour average is being required. Similarly, Condition 25(c) requires calculation of a rolling three-hour average of NOx mass emissions and emission concentrations even though the NOx emission concentration limit applies on an hourly and not a three-hour average basis. We believe that calculating and recording three-hour average heat input rates and NOx emissions and concentrations are not necessary, and that these recordkeeping requirements should be deleted from the condition.

We appreciate the opportunity to review and comment on the preliminary determination of compliance. If you have any questions regarding these comments, or wish to

discuss them further, please do not hesitate to call me or Gary Rubenstein of Sierra Research at (916) 444-6666.

Sincerely,

Karen S. Kubick

Karen S. Kubick, P.E.
Manager, Infrastructure Development

cc: Karen Kubick, SFPUC
Jeanne Sole, City of San Francisco
Jacqueline Minor, City of San Francisco
Steve DeYoung
Gary Rubenstein, Sierra Research
Bill Pfanner, California Energy Commission
Tuan Ngo, California Energy Commission

August 31, 2005

Bob Nishimura
District Engineering Division
Bay Air Quality Management District
939 Ellis Street
San Francisco, Ca. 04109

Re: San Francisco Electrical Reliability Project
BAAQMD Application 12344
Comments on the Preliminary Determination of Compliance

Dear Mr. Nishimura,

Thank you for the opportunity to comment on the preliminary determination of compliance for the San Francisco Electrical Reliability Project (SFERP). One major issue that underlies all of our comments is the siting of another pollution source in South East San Francisco a minority community that has been identified in San Francisco City Ordinance No. 124-01 as a community that "has a disproportionate number of industrial and polluting facility and an extraordinarily high rate of childhood asthma and other serious respiratory diseases." (SFREP AFC page 4-1) California law defines environmental justice (EJ) as "the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation and enforcement of environmental laws, regulations and policies." (Government Code Section 65040.12) The BAAQMD website states" The Bay Area Air Quality Management District is committed to environmental policymaking and enforcement practices that are fair and equitable to all residents regardless of age, culture, ethnicity, gender, race, socioeconomic status, or geographic location in order to protect against the health effects of air pollution."

Cumulative Impact Analysis

As mentioned above the Board of Supervisors for the City and County of San Francisco has identified Southeast San Francisco as a community that has a disproportionate number of industrial and polluting facilities. The applicant here proposes to add another pollution source under the guise of shutting down a more polluting source the Hunters Point Power Plant. This is especially ironic in that the District is now processing an application for the use of interchangeable Emission reduction Credits for the Hunters Point facility to extend its operating permit. (Application # 12482 dated 8/2/05). The PDOC fails to analyze the cumulative impact of this project and the other reasonably foreseeable past, present, and future projects in the Project area. Additional projects permitted and under construction include the Muni Maintenance Center, the Illinois street bridge project, the RMC Lonestar project and numerous other proposed projects which will add an additional environmental burden on this minority community allegedly protected by Ordinance NO, 124-01. The PDOC needs to evaluate the impacts from the numerous projects in conjunction with the existing

background conditions and evaluate the impacts to the overburdened minority community.

PM 2.5 Emission limits

The project has PM 2.5 impacts from the direct emissions of 18 tons per year of PM 2.5. Page 6 of the PDOC states "The PM_{10} emission factor is based upon the manufacturer's guarantee of 3.0 lb/hr based on similar installations." The recently permitted Los Esteros Critical Energy facility has a permit limit of 2.5 pounds per hour per turbine using the same LM-6000 turbines based "upon manufactures guarantees of 2.5 LB/hr for similar installations." (Los Esteros Critical energy Facility FDOC Application number B3213 2/5/02 page 5) The Los Esteros Combined cycle application 8859 11/1/2004 page 6 confirms that this limit of 2.5 pounds per hour has in fact been achieved in practice, "The PM_{10} emission factor of 2.5 lb/hr is based upon source testing results for the existing gas turbines at LECEF under simple-cycle operation." The 2.5 pound per hour limitation is a permitted and achieved permit limit for the LM-6000 turbine and should be enforced to reduce direct PM 2.5 emissions by 3 tons per year in the environmentally challenged project area. PM 2.5 mitigation should be provide for the 18 tons of direct PM 2.5 emissions from this facility. the applicant has proposed a street sweeping program to offset the facilities PM emissions but the program will only eliminate 3 tons of PM 2.5 per year. The Districts environmental justice obligations should require a supplemental environmental project that will offset all of the 18 tons of PM 2.5 emissions from this project. Additionally the District should have an Environmental Justice Community Meeting with the affected community members and concerned parties to discuss the Districts effort to ensure environmental justice for this project.

Ammonia Emissions

The project will emit 39 tons per year of ammonia through the use of SCR. Page 10 of the PDOC describes the negative environmental effects of the ammonia emissions "The ammonia emissions resulting from the use of SCR may have another environmental impact through potential formation of secondary particulate matter emissions, such as ammonium nitrate. Because of the complex nature of the chemical reactions and dynamics involved in the formation of secondary particulates, it is difficult to estimate the amount of secondary particulate matter that will be formed from the emission of a given amount of ammonia." The district has performed no analysis of the project area to determine whether these ammonia emissions will in fact not cause a significant impact. . Considering the "uncertain and complex nature of secondary particulate formation from the ammonia emissions" the PDOC should provide a local analysis of the formation of Ammonium Nitrate and not a generalization of conditions for the formation of Ammonium Nitrate in the entire Bay Area Air Basin.

The PDOC also fails to recognize that the projects ammonia emissions will produce nitrogen deposition on San Bruno Mountain an impact that has been considered significant by the US Fish and Wildlife service. Biological impacts should be minimized by limiting ammonia slip or eliminating it altogether with the SCONOX technology.

Another potential environmental impact that may result from the use of SCR involves the storage and transport of aqueous ammonia in a 29% solution. The PDOC fails to address this issue. The applicant has modeled a catastrophic failure of the ammonia storage tank Offsite concentrations of greater than 2,000 ppm could occur to the west of the site approximately 35 feet onto the proposed MUNI Maintenance and Operations Center. (AFC Supplement A page 8.12-28) Employees of the Muni Maintenance center could be exposed to a lethal dose of ammonia in the event of a sudden and catastrophic failure of the Ammonia tank. The Ammonia transportation route would also be through the affected minority community where environmental justice concerns should require an analysis of the potential for injuries or the loss of like due to the transportation of hazardous materials. To prevent this potential loss of life the applicant should be required to use ammonia pellets in a Urea on demand system or eliminate the use of ammonia with the SCONOX Control System.

Because of these environmental consequences from the use of SCR the PDOC should evaluate and recommend the use of the SCONOX control system. The District's BACT Guideline Section 89.1.3 for Gas Turbine Simple Cycle greater than 40 Megawatts Heat Input (dated 7/18/03) specifies BACT1 (Technologically Feasible/Cost Effective) for NO_x is 2.5 ppmvd NO_x @ 15% O_2. This BACT determination was based upon the use of SCR and water injection (as applied in the most recent Application #5412, issued 10/15/2002) or a SCONOx System. The EPA has accepted this BACT determination as Federal LAER. CARB has also cited these levels as BACT in its document "Guidance for Power Plant Siting and Best Available Control Technology," June 1999. Since SCR or SCONOX could be used to achieve a 2.5ppm NOX level according to the Districts BACT Guidelines the District should require the use of SCONOX to the eliminate the ammonia impacts form the use of SCR. SCONOX has also demonstrated lower POC emissions than SCR which limits Toxic air contaminates form the SFREP in an area that has the highest inhalation cancer risk in the state of California.

Emission Reduction Credits

The applicant has proposed the use of Emission Reduction Credit 896 which was created in 1985 at the Potrero Power Plant. This credit will be over 20 years old by the time it is surrendered. Due to biological and environmental justice concerns the District should consider a supplemental environmental project to satisfy the projects NOx ERC liability rather than use 20 year old credits which are of little use in limiting NOx and nitrogen deposition impacts in the year 2007 when this project is proposed to come on line.

Thank you

Robert Sarvey
501 W. Grantline Road
Tracy, Ca. 95376
(209) 835-7162

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

SPARE THE AIR 50 1955-2005 FOR A HEALTHIER FUTURE

September 27, 2005

San Francisco Electric Reliability Project
1155 Market St, 4th floor
San Francisco, CA 94103

Attention: **Karen Kubick**

Application Number :**13374**
Plant No. :**16945**
Equipment Location :
San Francisco Electric Reliability Project
Corner 25th St & Maryland
San Francisco, CA 94188

Dear Applicant:

Subject: Title V: Acid Rain Permit Applic.

This letter is to inform you that your application was received by the District on 09/06/05. You will be notified if your application is complete or if additional information is needed as soon as possible.

Please include your application number with any correspondence with the District. If you have any questions on this matter, please call **Bob Nishimura at (415) 749-4679.**

Sincerely,

Victor Morales-Laimon
Air Quality Engineering Manager

CC: BNN

RECEIVED
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H.H.W.P.

December 13, 2005

Karen S. Kubick, P.E.
Manager, Infrastructure Development
San Francisco Public Utilities Commission
1155 Market Street, 4th Floor
San Francisco, CA 94103

Re: San Francisco Electric Reliability Project
Application Number 12344

Dear Ms. Kubick:

Thank you for your comments on the Preliminary Determination of Compliance for the San Francisco Electric Reliability Project (SFERP). The District has carefully considered your comments and offers the following responses.

Comment #1 Daily Startup and Shutdown Limitations (Condition 20) *"Condition 20 as proposed would prohibit the SFERP combustion turbines from undergoing more than two startups and shutdowns per turbine in any one day. SFERP believes this condition is overly restrictive for a peaking facility and unnecessary and requests that the condition be eliminated and replaced with daily emission limits per Table 1 of the engineering evaluation. We can anticipate situations in which a gas turbine would need to operate in what would be considered startup mode more than twice in one day but would still be able to comply with the daily emission limits upon which the engineering evaluation is based. The existing conditions limiting hourly emissions during normal operations and startup and shutdown operations, in combination with the proposed daily limits, will ensure that the gas turbines are operated in conformance with all of the analyses upon which the determination of compliance is based."*

Response: The District has determined that each combustion turbine can operate in startup/shutdown modes more than twice in one day and still be able to comply with the daily emission limits upon which the engineering evaluation was based. The District has removed the limit on number of startups and shutdowns. The change will not affect hourly, daily, or annual emission limits.

Comment #2 NOx ERCs (pages 13 and 14) *"In the discussion of offset requirements for the project, the PDOC states that the applicant has issued a request for proposals to ERC holders to obtain the required ERCs for this project. In Fact, the March 2005 application indicates on Page 8.1-51 that the applicant has signed an option agreement for the purchase of ERCs from Certificate No. 896 to provide the necessary offsets for the project. The NOx*

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SAN FRANCISCO COUNTY
Chris Daly
Jake McGoldrick
Gavin Newsom

SAN MATEO COUNTY
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SANTA CLARA COUNTY
Erin Garner
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Julia Miller

SOLANO COUNTY
John F. Silva

SONOMA COUNTY
Tim Smith
Pamela Torliatt

Jack P. Broadbent
EXECUTIVE OFFICER/APCO

ERCs represented by Certificate No. 896 were created through NOx emissions reductions achieved at the nearby Potrero Power Plant."

"Further, Table 5 of the engineering evaluation indicates that 45.8 tons of NOx ERCs will be provided. In fact, as shown in Table 8.1-32 of the March 2005 application SFPUC will provide 47.5 tons of NOx ERCs, thereby offsetting both the NOx and POC emissions from the SFERP."

Response: Both the text and table in the engineering evaluation have been corrected to show SFPUC's proposed use of ERCs from Certificate No. 896 to provide the necessary offsets for the project.

Emissions of precursor organic compounds do not exceed the trigger level for offsets requirements. Therefore, emission offsets for POCs are not required by the District Regulation. Furthermore, the District does not accept NOx offsets for POC emissions for purposes of complying with its regulations.

Editorial Corrections

Comment: Emissions During Startup and Shutdown (page 6) *"The discussion of emissions during startup and shutdown indicates only one turbine would start up at a time. However, the application indicates that all three turbines could start up simultaneously, and the modeling analysis of ambient air quality impacts during startup demonstrated that the simultaneous startup of all three turbines would not cause the emissions to exceed applicable ambient air quality standards. Therefore, the statement that only one turbine can be started up at a time should be deleted."*

Response: The requested correction has been made.

Comment: BACT for NOx and CO (page 11) *" The discussion of best available control technology for NOx and CO refers to the use of dry low NOx combustors in combination with add-on control systems to achieve the BACT emissions limits. The discussion of BACT for CO refers to the use of steam injection power augmentation. The LM6000 CTGs to be used for this project use water injection, not dry low NOx combustors to control NOx emissions. Further, the project does not include steam production and there will be no steam injection power augmentation of the CTGs. The text should be corrected."*

Response: The text has been corrected to reflect the type of controls proposed in the permit application.

Comment: PM_{10} Emissions and Mitigation (page13) *"As stated in the PDOC, because the projected PM_{10} emissions from the new facility are less than 100 tons per year, no PM_{10} offsets are required. However, as indicated in the permit application (page 8.1-54), the City will be providing mitigation for PM_{10} and $PM_{2.5}$ emissions from the project in the context of the CEC proceeding."*

Response: The District does not require PM_{10} offsets for this project. The District's permitting decision does not rely on the applicant's provision of mitigation for PM_{10} and $PM_{2.5}$ emissions. There is no need for the District to refer to the mitigation described in the permit application.

Comment: Compliance with Regulation2, Rule 7: Acid Rain (page 15) *"This section indicates that SFERP must submit an Acid Rain Permit Application to the District at least 24 months prior to the date on which each unit commences operation. To clarify, the discussion on page 15 should state that the turbines may be operated once a Title IV Operating permit has been issued."*

Response: The District has clarified the discussion to state that the turbines may be operated once the Title IV permit has been issued.

Comment: Compliance with NSPS (page 18) *"The PDOC should also indicate that the new gas turbines may be subject to, and if subject, would be in compliance with, the proposed new Subpart KKKK when it is finalized by EPA."*

Response: Subpart KKKK has not yet been finalized. The District has, as a result, not evaluated the proposed project's compliance with this requirement. Once KKKK has been finalized, the District will determine applicability and compliance.

Comment: SO_2 Mass Emission Limit (Condition 18g) *"Condition 18g limits SO_2 mass emissions from each gas turbine to 0.0027 pounds per million Btu of heat input. As shown in the emissions calculations on page 5 of the PDOC, this limit should be 0.0028 lb/MMBtu."*

Response: The District has corrected the typo in Part 18g that limits SO_2 mass emissions from each gas turbine from 0.0027 to 0.0028 pounds per million Btu of heat input.

Comment: Emission Limits During Startup (Condition 19) *"Condition 19 limits mass emission rates NOx, CO, and POC during gas turbine startups and shutdowns. A single limit for each pollutant is provided, regardless of whether the gas turbine is cold, warm, or hot prior to the startup. For this reason, the reference to "Cold" startups in the condition should be eliminated."*

Response: The District has removed the word "Cold" startups in Part 19.

Comment: Recordkeeping (Condition 25) *"We believe that calculating and recording three-hour average heat input rates and NOx emissions and concentration are not necessary, and that these recordkeeping requirements should be deleted from the condition."*

Response: Compliance with input rate and NOx limits are determined on an hourly basis. The District has therefore removed the three hour average heat input rates and NOx emissions and concentrations from Part 25.

If you have any questions regarding these matters, or wish to discuss them further, please do not hesitate to call Bob Nishimura at (415) 749-4679 or email: bnishimura@baaqmd.gov.

Sincerely,

Signed by Jack P. Broadbent 12-13-05
Jack P. Broadbent
Executive Officer/APCO

JPB:BN

BAY AREA
AIR QUALITY
MANAGEMENT
DISTRICT

Ms. Nancy Matthews
Sierra Research
1801 J Street
Sacramento, CA 95814

Re: San Francisco Electric Reliability Project
BAAQMD Application 12344

Dear Ms. Matthews:

This is to advise you that the BAAQMD has issued the Final Determination of Compliance (FDOC) the San Francisco Electric Reliability Project (SFERP). The SFERP is a nominal 145-MW, natural gas fired, simple-cycle power plant located at the corner of Maryland and 25th Streets in the Potrero District. The enclosed (FDOC) summarizes how the SFERP will comply with applicable District, state, and federal regulations. The publication of the PDOC fulfilled the public notice and 30-day public comment requirements of District Regulations 2-2-405 and 406.

If you have any questions regarding this matter, please contact Bob Nishimura, Supervising Air Quality Engineer, at (415) 749-4679.

Very truly yours,

Jack P. Broadbent
Executive Officer/APCO

Enclosure
JPB:bn

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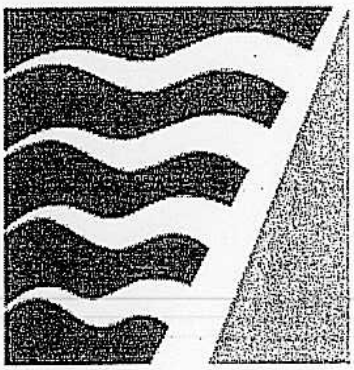

BAY AREA
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DISTRICT

Final
Determination of Compliance

San Francisco Electric Reliability Project

Application 12344

Engineering Division

Bay Area Air Quality Management District

November 22, 2005

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I. Introduction

This report is the Bay Area Air Quality Management District (BAAQMD, or "District") Final Determination of Compliance (FDOC) for the San Francisco Electric Reliability Project (SFERP), a natural gas-fired, simple cycle power plant proposed by the City and County of San Francisco. This facility is to be located at the corner of Maryland Street and 25th Street in the Potrero area of San Francisco, on a 4-acre site of city-owned land. The SFERP will consist of three natural gas-fired General Electric LM6000PC simple cycle combustion turbine generators (CTGs) with associated equipment and two-cell wet cooling towers. The proposed facility will be capable of generating a nominal output of 145 megawatts (MW). The SFERP is currently undergoing review by the California Energy Commission (CEC) for certification pursuant to the Warren-Alquist Act (Public Resources Code §25500 *et seq.*).

In accordance with BAAQMD Regulation 2, Rule 2, Best Available Control Technology (BACT) requirements must be applied to the CTGs to minimize emissions of precursor organic compounds (POCs), oxides of nitrogen (NO_x), sulfur dioxide (SO_2), particulate matter with an aerodynamic diameter less than or equal to 10 microns (PM_{10}), and carbon monoxide (CO). In addition, the applicant must provide emission offsets for NO_x. Emissions of all regulated air pollutants will be less than 100 tons per year; therefore, the SFERP is not a Major Facility under District regulations and is not subject to Prevention of Significant Deterioration (PSD) requirements.

A. Background

Pursuant to BAAQMD Regulation 2, Rule 3, Section 405, this document serves as the FDOC for the SFERP. It will also serve as the engineering evaluation report for the BAAQMD Authority to Construct under Application #12344. The FDOC describes how the proposed facility will comply with applicable federal, state, and BAAQMD regulations, including the BACT and emission offset requirements specified in the District's New Source Review Regulation 2, Rule 2. In accordance with Regulation 2-3-405, the District will not issue an Authority to Construct until after the CEC issues a final certification for the SFERP.

Air pollutant emission calculations and permit conditions necessary to assure compliance with applicable rules and regulations are included in this FDOC. The document also includes a summary of the Health Risk Screening Analysis (HRSA) completed by the District to estimate the maximum public health risks that will result from the project's toxic air contaminant (TAC) emissions.

In accordance with BAAQMD Regulation 2, Rule 3, Section 404, the Preliminary Determination of Compliance (PDOC) for this project was subject to the public notice, public inspection, and 30-day public comment period requirements of District Regulation 2, Rule 2, Sections 406 and 407. The District has considered public comments submitted, and has a number of appropriate changes into this FDOC.

B. Project Description

1. Process Equipment

The applicant is proposing a simple-cycle combustion turbine facility with a nominal net electrical output of 145 MW. The SFERP will consist of the following proposed equipment:

S-1 Combustion Turbine Generator (CTG) #1, General Electric LM-6000PC Sprint, 487.3 MMBtu/hr maximum rated capacity, natural gas fired only; Abated by A-1 Selective Catalytic Reduction (SCR) System and A-2 Oxidation Catalyst.

S-2 Combustion Turbine Generator (CTG) #2, General Electric LM-6000PC Sprint, 487.3 MMBtu/hr maximum rated capacity, natural gas fired only; Abated by A-3 Selective Catalytic Reduction (SCR) System and A-4 Oxidation Catalyst.

S-3 Combustion Turbine Generator (CTG) #3, General Electric LM-6000PC Sprint, 487.3 MMBtu/hr maximum rated capacity, natural gas fired only; Abated by A-5 Selective Catalytic Reduction (SCR) System and A-6 Oxidation Catalyst.

S-4 Cooling Tower System, Two-cell, 40' H x 50' L x 14' W, 52,000 gpd (exempt from permit requirements per District Regulation 2-1-103)

S-5 Aqueous Ammonia Storage Tank, 29% HN_3, 8' dia. x 30' L, 11,300 gallon capacity (exempt from permit requirements per District Regulation 2-1-123)

The facility will include two small two-cell cooling towers for turbine cooling (S-4). PM_{10} emissions from these cooling towers are estimated to be less than 0.2 lb/day. The cooling towers are exempt from District permit requirements under Regulation 2-1-103. The facility also will include a tank for storage of aqueous ammonia to be used in the SCR systems to reduce NO_x emissions (S-5). The tank is exempt from District permit requirements under Regulation 2-1-123.

2. Equipment Operating Scenario

Maximum hourly, daily, and annual emissions from the LM-6000PC combustion turbines were estimated based on expected peaking operation and proposed annual operating limitations. As proposed, each natural gas fired CTG will have a maximum heat input of 487.3 MMBTU per hour, 11,700 MMBTU per day, and 4,268,750 MMBTU per year.

Annual Emissions

Total annual emissions for all three turbines were calculated based on 12,000 combined operating hours per year at 60°F ambient temperature and full load conditions. Actual annual emissions are expected to be less than the calculated values, as actual operation is projected to be less than 12,000 hours per year, the facility will operate at times at reduced load, and higher ambient temperatures are expected.

The offsets provided will be based on the calculated annual emissions, and permit conditions will be imposed to limit annual emissions to the amount of offsets provided. Emissions of NO_x and CO, the pollutants of greatest concern, will be continuously monitored, as will fuel usage. Any or all of

the combustion turbines may be operated up to 24 hours per day, 7 days per week, with total plant-wide heat input not to exceed the equivalent of 12,000 hours of full-load operation per year or the mass emissions limits. Each combustion gas turbine may have a total 250 hours per year of startup/shutdown activity.

Daily Emissions

Maximum hourly emissions from the CTGs are expected to occur during a startup or shutdown. Each CTG will be limited to the daily maximum emission rates listed below. The maximum emissions for each turbine are summarized as follows.

Maximum Emission Rates for each Combustion Gas Turbine

Operating Mode	NO_x	CO	POC	PM_{10}
Startup/Shutdown (lb/hr)	40	10	2	2.5
Full Load (lb/hr)	4.4	4.3	1.2	2.5
Daily Maximum (lb/day)	283	132	34	60

3. Air Pollution Control Strategies and Equipment

The proposed SFERP triggers the BACT requirements of New Source Review in District Regulation 2, Rule 2 for emissions of NO_x, CO, POC, SO_2, and PM_{10}. The applicant has proposed the following controls:

Selective Catalytic Reduction with Ammonia Injection for the Control of NO_x

The S-1, S-2, and S-3 gas turbines will be equipped with evaporative inter-cooling and water injection to minimize NO_x emissions. NO_x emissions will be further reduced through the use of a selective catalytic reduction (SCR) system using ammonia injection. The CTGs will achieve the BACT-level NO_x emissions of 2.5 ppmvd @ 15% O_2 (one hour average) and will be subject to an annual combined emission cap of 39.8 tons per year, which is equivalent to an annual average of 2.5 ppmvd @15 % O_2 at 12,000 hours per year of operation. SCR can typically achieve NO_x emission reductions in the range of about 80 to 95 percent without exceeding the applicable ammonia limit. Ammonia emissions will be limited to 10 ppmvd @ 15 % O_2 and a total of 39.8 tons per year.

NOx catalytic control equipment operates properly only within a specific temperature window. Control efficiencies will drop if temperatures are outside of this defined temperature range (i.e., either too hot or cool). Hot temperatures associated with uncooled exhaust may cause sintering of the catalysts, reducing catalyst surface area and thus reducing activity. Conversely, low temperatures can result in higher NO_x emissions and unreacted ammonia because the catalyst requires a minimum temperature to become chemically active.

Emission control system inlet temperatures are higher for simple-cycle gas turbines than for combined-cycle turbines. Gas turbines may have exhaust temperatures ranging up to 1000 °F. In

combined-cycle gas turbines, heat is removed from exhaust gases with a Heat Recovery Steam Generator (HSRG), resulting in a decrease in gas temperatures entering the emission control system. In simple-cycle systems, the turbine exhaust gas goes to the emission control system without being cooled. Catalysts used for selective catalytic reduction are not as reliable in controlling NO_x at the higher temperatures with uncooled exhaust of simple cycle gas turbine. The higher operating temperature results in catalyst deactivation, reducing the catalyst efficiency. As a result, gas turbine emissions from combined-cycle operations can be readily controlled with consistently higher efficiency.

Oxidation Catalyst to Minimize CO and POC Emissions

The proposed gas turbines S-1, S-2, and S-3, also trigger BACT for CO and POC emissions. A CO oxidation catalyst is designed to catalytically oxidize the CO and POC to achieve BACT-level CO emissions of 4 ppmvd @ 15 % O_2 (three hour average) and will be subject to an annual facility emission limit of 28 tons of CO per year. The POC emission level will be limited to 2.0 ppmvd @ 15 % O_2 and will be subject to an annual limit of 7.7 tons per year.

Exclusive Use of Clean-burning Natural gas to Minimize SO_2 and PM_{10} Emissions

The gas turbines will exclusively use commercial natural gas as a fuel to minimize SO_2 and PM_{10} emissions. Because the emission rate of SO_2 depends on the sulfur content of the fuel burned and is not dependent upon the burner type or other combustion characteristics, the use of natural gas will result in the lowest possible emissions of SO_2. PM_{10} emissions will be minimized through the use of best combustion practices and "clean burning" natural gas.

II. Facility Emissions

NO_x, CO, POC and ammonia will be all limited to BACT levels by enforceable permit conditions, including certain maximum outlet emission concentrations. BACT for SO_2, and PM_{10} control is the exclusive use of clean-burning natural gas. The outlet concentration, in ppm by volume and dry (ppmvd), is not specifically limited for SO_2 and PM_{10}, so the hourly emission rate will be taken to be those values calculated using the natural gas sulfur content and the rate provided by General Electric, the turbine manufacturer, respectively.

Calculated annual SO_2 emissions are based on utility natural gas containing an average of 0.33 grains of sulfur per 100 scf. Daily and hourly emissions are based on the content of 1 grain of sulfur per 100 scf. PM_{10} emissions are based on the Los Esteros Critical Energy Center turbine manufacturer guaranteed emission rate of 2.5 pounds PM_{10} per hour.

The facility regulated air pollutant emissions, and TAC emissions, are presented in the following sections. Detailed emission calculations, including the derivations of emission factors are presented below.

Baseload Emissions

Baseload emissions are the maximum hourly emissions under baseload conditions. A summary of the baseload hourly emissions from each turbine is given below, followed by detailed emission calculations for each pollutant.

Summary of Baseload Hourly Emission Estimates, lb/hour-turbine

NO_x (as NO_2)	POC	PM_{10}	CO	SO_2	NH_3
4.4	1.2	2.5	4.3	1.37	6.48

NO_x emissions: The applicant has proposed a NO_x limit of 2.5 ppmvd @ 15 % O_2 (averaged over one hour), which complies with BACT requirements for these gas turbines. The NO_x emissions from the turbines will be limited by permit conditions to 2.5 ppmvd @ 15 % O_2. This concentration is converted to mass NO_x emissions (as NO_2) as follows:

(2.5 ppmvd)(20.95-0)/(20.95-15) = 8.65 ppmvd @ 0 % O_2
(8.65/1,000,000)(1 mol/385.3 dscf)(46.01 lb NOx/lb-mol)(8700 dscf/MMBtu) = 0.0090 lb NO_x/MMBtu

The hourly NO_x (as NO_2) mass emissions rate based on the maximum firing rate of each turbine is calculated as follows:
(0.0090 lb NO_x/MMBtu)(487.3 MMBtu/hr) = 4.39 lb NOx/hr

CO emissions: The hourly CO emissions from the turbines will be limited by permit condition to 4 ppmvd @ 15 % O_2. The hourly CO mass emission rate based on the maximum firing rate of each turbine is calculated as follows based on 4 ppmvd @ 15 % O_2:

(4 ppmvd)(20.95-0)/(20.95-15) = 14.08 ppmvd @ 0 % O_2
(14.08/1,000,000)(1mol/385.3)(28 lb CO/lb-mol)/lb-mol)(8700 dscf/MMBtu) = 0.0089 lb CO/MMBtu
(0.0089 lb CO MMBtu)(487.3 MMBtu/hr) = 4.31 lb CO/hr

POC emissions: The POC emission from the turbines will be limited by permit condition to 2.0 ppmvd @ 15 % O_2. The hourly POC mass emission rate based on the maximum firing rate of each turbine is calculated as follows assuming the POC is methane (CH_4) and based on 2.0 ppmvd @ 15 % O_2.

(2 ppmvd)(20.95-0)/20.95-15) = 7.04 ppmvd @ % O_2
(7.04/1,000,000)(1mol/385.3)(16 lb CH_4/lb-mol)/lb-mol)(8700 dscf/MMBtu) = 0.0025 lb POC/MMBtu
(0.00254 lb CH_4/MMBtu)(487.3 MMBtu/hr) = 1.24 lb POC/hr

Ammonia emissions: The ammonia (NH_3) emission from the turbines will be limited by permit condition to 10 ppmvd @ 15 % O_2. The hourly mass emission rate based on the maximum firing rate of each turbine is calculated as follows based on 10 ppmvd @ 15 % O_2.

(10 ppmvd)(20.95-0)/20.95-15) = 35.21 ppmvd @ % O_2
(35.21/1,000,000)(1mol/385.3)(17 lb NH_3/lb-mol)/lb-mol)(8700 dscf/MMBtu) = 0.0133 lb NH_3/MMBtu

(0.0133 lb NH_3/MMBtu)(487.3 MMBtu/hr) = 6.48 lb NH_3/hr

Sulfur Dioxide emissions: The sulfur dioxide (SO_2) emission factor is based upon a maximum expected average natural gas sulfur content grains per 100 scf and a higher heating value of 1017 Btu/scf. The expected annual average sulfur content (used to calculate annual emissions) is 0.33 grain per 100 scf.

(1.0 grain/100scf)(10^6 Btu/MMBtu) (2 lb SO_2/lb S)/[7000 grain/lb)(1017 Btu/scf)] = 0.0028 SO_2 lb/MMBtu

(0.0028lb SO_2/MMBtu)(487.3 MMBtu/hr) = 1.37 lb SO_2/hr (annual limit based on expected average of 0.33 grain per 100 scf)

PM_{10} emissions: The PM_{10} emission factor is based upon the BACT-required level of 2.5 lb/hr based on similar installations.

Emissions During Startup and Shutdown

Each CTG may operate up to 24 hours per day, with a typical two 2-hour startups per day and two 2-half-hour shutdowns per day totaling 5 hours of startup/shutdown activity per turbine. Maximum emission rates expected to occur during the startup and shutdown of each CTG are shown as follows.

The startup/shutdown hourly emission estimates are based on the emission estimates provided by the consultant for the SFERP.

Startup/Shutdown Hourly Emission Estimates, lb/hour-turbine

NO_x (as NO_2)	CO	POC	PM10
40	10	2	2.5

Maximum Daily Emissions:

A summary of the maximum daily emissions from each turbine is given below, followed by detailed emission calculations for each pollutant.

Maximum Daily Emission Estimates, lb/day-turbine

NO_x (as NO_2)	POC	PM_{10}	CO	SO_2	NH_3
283	**34**	**60**	**132**	**33**	**156**

Maximum daily emissions are estimated based on 24 hours of worst-case emission rates. The worst-case daily emission rate is either a day, including a startup/shutdown, with the balance of the daily operations based on 100% load (60 °F ambient temperature), or a day with operation at 100% load for 24 hours. The baseload hourly emission estimates are based on allowable BACT concentration emission limits at 100% load. In those cases in which the startup/shutdown emissions are less than the baseline, the baseline number was used for the entire 24 hours.

NO_x (as NO_2):
(40 Lb/hr-startup/stop)(5 hours) + (4.39 lb/hr-baseload)(19hours) = 283.4 lb/day NO_x (as NO_2)
or (4.39 lb/hr. x 24 hours/day) = 105.4 lb/day

CO:
(10 Lb/hr-startup/stop)(5hours) + (4.31 lb/hr-baseload)(19 hours) = 131.9 lb/day CO
or (4.31 lb/hr. x 24 hours/day) = 103.4 lb/day

POC:
(2 lb/hr-startup/shutdown)(5 hours) + (1.24 lb/hr-baseload)(19 hours)= 33.56 lb/day POC
or (1.24 lb/hr x 24 hours/day) = 29.8 lb/day POC

PM_{10}:
(2.5 lb/hr-startup/shutdown)(5hours) + (2.5 lb/hour)(19 hours) = 60 lb/day PM_{10}

SO_2:
(1.37 lb/hr-startup/shutdown)(5 hours) + (1.37 lb/hour)(19 hours) = 33 lb/day SO_2

Ammonia:
(6.48 lb/hr. x 24 hours/day) = 156 lb/day

Maximum Annual Emissions:

Annual emissions for each CTG are based on 4000 hours per year of operation. For pollutants for which emissions are higher during startup/shutdown periods, annual emissions are based on 3750 hr/yr at baseload operation, and 250 hr/yr at startup/shutdown operation.

Table 1 is a summary of the hourly, daily and annual maximum regulated air pollutant emissions for all three gas turbines including startup and shutdown.

Table 1
Maximum Hourly, Daily and Annual Regulated
Air Pollutant Emissions for the SFERP

Pollutant	Lb/hr [(a)]	Lb/day [(b)]	Tons/yr
NO_x (as NO_2)	120	850	39.8
CO	30	396	27.9
POC	6.0	101	7.7
PM_{10}	7.5	180	15
SO_2	4.11	99	2.7 (c)

(a) includes startup/shutdown emissions
(b) includes 5 hours day of startup/shutdown
(c) Annual SO_2 emissions are based on expected fuel sulfur content of 0.33 gr/100 scf

Table 2 is a summary of the maximum TAC emissions from the project. These emissions are used as input data for air pollutant dispersion models used to assess the maximum increased health risk to the public resulting from the project. The ammonia emissions shown are based upon a worst-case ammonia emission concentration of 10 ppmvd @ 15% O_2 due to ammonia slip from the A-1, A-2 and A-3 SCR systems.

Table 2
Maximum Facility Toxic Air Contaminant (TAC) Emissions

Toxic Air Contaminant	Maximum Facility Emissions, lbs/year	Risk Screening Trigger Level,[a] lb/yr
Acetaldehyde[b]	234.6	72
Acrolein	21.2	3.9
Ammonia[c]	78,480	1,930
Benzene[b]	19.1	6.7
1,3-Butadiene[b]	2.5	1.1
Ethylbenzene	187.5	19,300
Formaldehyde[b]	2,110.3	33
Hexane	1489.3	8,300
Naphthalene	9.5	270
PAHs[b]	1	0.043
Propylene	4,433.3	N/A
Propylene Oxide[b]	170.2	52.0
Toluene	764.8	3,860
Xylenes	375.5	57,900

a pursuant to BAAQMD Risk Evaluation Procedure

b carcinogenic compound

c based upon the worst-case ammonia slip of 10 ppmvd @ 15% O2 from the A-1, A-3 and A-5 SCR systems with ammonia injection

The SFERP does not trigger PSD requirements. Table 3 is a summary of the annual regulated air pollutant emission limits for the facility and the PSD trigger levels.

Table 3
Maximum Annual Facility Regulated Air Pollutant Emissions

Pollutant	Cumulative Increase in Emissions[a,b] (tons/year)	PSD Trigger[c] (tons/year)
Nitrogen Oxides (as NO_2)	39.8	100
Carbon Monoxide	27.9	100
Precursor Organic Compounds	7.7	NA[d]
Particulate Matter (PM_{10})	15	100
Sulfur Dioxide	2.7	100

a emission increase from proposed gas turbines only; does not include emissions from cooling tower

b Includes startup and shutdown emissions for gas turbines (250 startups and shutdowns)

c PSD trigger levels for new major facility

d there is no PSD requirement for POC

The sulfuric acid mist (H_2SO_4) emissions will be less than the PSD threshold of 7 tons per year. Even assuming all the sulfur were to be converted to sulfuric acid, the sulfuric acid mist emissions would be less than 7 tons per year.

The non-criteria pollutant analysis requirements of District Regulation 2-2-306 do not apply because SFERP is not a Major Facility, and the emissions of these pollutants (i.e., lead, asbestos, beryllium, mercury, fluorides, sulfuric acid mist, hydrogen sulfide, and total reduced sulfur and reduced sulfur compounds) will not exceed the specified emission thresholds. However, an HRSA has been conducted for potential emissions of TACs.

Regulation 2-2-308 requires applicants to demonstrate that emissions from a project located within 10 km of a PSD Class I area will not cause or contribute to exceed any national ambient air quality or any applicable Class I increment. Because the closest Class I area (i.e., the Point Reyes National Seashore) is more than 10 km from the SFERP, this requirement does not apply to the proposed facility.

III. Statement of Compliance

The following section summarizes the applicable District rules and regulations and describes how the proposed SFERP will comply with those requirements.

A. District Regulation 2, Rule 2: New Source Review

The primary requirements of the District's New Source Review rule that apply to the proposed SFERP facility are Section 2-2-301; Best Available Control Technology Requirement, and Section 2-2-302, Offset Requirements, Precursor Organic Compounds and Nitrogen Oxides.

1. District Regulation 2-2-301: BACT Determinations

District Regulation 2-2-206, defines BACT as the more stringent of:

(a) The most effective control device or technique which has been successfully utilized for the type of equipment comprising such a source; or

(b) The most stringent emission limitation achieved by an emission control device or technique for the type of equipment comprising such a source; or

(c) Any emission control device or technique determined to be technologically feasible and cost-effective by the APCO; or

(d) The most effective emission control limitation for the type of equipment comprising such a source which the EPA states, prior to or during the public comment period, is contained in an approved implementation plan of any state, unless the applicant demonstrates to the satisfaction of the APCO that such limitations are not achievable. Under no circumstances shall the emission control required be less stringent than the emission control required by any applicable provision of federal, state or District laws, rules or regulations.

The type of BACT described in definitions (a) and (b) must have been demonstrated in practice and approved by a local Air Pollution Control District, CARB, or the EPA and is referred to as "BACT

2." This type of BACT is also termed "achieved in practice." The BACT category described in definition (c) is referred to as "technologically feasible/cost-effective" and must have been demonstrated to be effective and reliable on a full-scale unit and shown to be cost-effective on the basis of dollars per ton of pollutant abated. This is referred to as "BACT 1." BACT specifications for both the "achieved in practice" and "technologically feasible/cost-effective" categories have been compiled in the BAAQMD BACT Guideline for various source categories.

Nitrogen Oxides (NO_x)

The District's BACT Guideline Section 89.1.3 for Gas Turbine Simple Cycle greater than 40 Megawatts Heat Input (dated 7/18/03) specifies BACT1 (Technologically Feasible/Cost Effective) for NO_x is 2.5 ppmvd NO_x @ 15% O_2. This BACT determination was based upon the use of SCR and water injection (as applied in the most recent Application #5412, issued 10/15/2002) or a SCONOx System. The EPA has accepted this BACT determination as Federal LAER. CARB has also cited these levels as BACT in its document "Guidance for Power Plant Siting and Best Available Control Technology," June 1999.

SCR lowers NO_x emissions by using a reducing agent (ammonia or urea) to reduce NO_x molecules to elemental nitrogen and water. The ammonia is injected into the flue gas stream upstream of a catalyst, which is used to reduce the required temperature for NO_x reduction to less than 800°F. SCR has been widely and successfully used in combustion turbine and boiler applications for many years.

The District is unaware of any simple cycle turbine system, in the size range being proposed here, that has consistently achieved a lower NOx level than 2.5 ppmvd @15% O_2. Thus the District does not consider a lower NOx control level to be technically feasible for the purposes of a top-down BACT analysis.

Environmental Impacts

The use of SCR will result in ammonia emissions due to an allowable ammonia slip limit of 10 ppmvd @ 15 % O_2. An HRSA using air dispersion modeling showed a chronic hazard index of 0.001 resulting from the ammonia slip emissions for three turbines. In accordance with the District's Toxic Risk Management Policy and currently accepted practice, a hazard index less than 1.0 is not considered significant. Therefore, the toxic impact of the ammonia slip resulting from the use of SCR is deemed to be not significant and is not a sufficient reason to eliminate SCR as a control alternative.

The ammonia emissions resulting from the use of SCR may have another environmental impact through potential formation of secondary particulate matter emissions, such as ammonium nitrate. Because of the complex nature of the chemical reactions and dynamics involved in the formation of secondary particulates, it is difficult to estimate the amount of secondary particulate matter that will be formed from the emission of a given amount of ammonia. However, the District believes that the formation of ammonium nitrate in the Bay Area air basin is limited by the formation of nitric acid and not driven by the amount of ammonia in the atmosphere. Therefore, ammonia emissions from the proposed SCR system are not expected to contribute significantly to the formation of secondary particulate matter. This potential environmental impact is not considered significant enough to justify the elimination of SCR as a control alternative.

One other potential environmental impact from the use of SCR involves the storage and transport of ammonia. Although ammonia is toxic if swallowed or inhaled and can irritate or burn the skin, eyes, nose, or throat, it is a commonly used material that is typically handled safely and without incident. The SFERP facility will be required to maintain a Risk Management Plan (RMP) and implement a Risk Management Program to prevent accidental releases. The RMP provides information on the hazards of the substances handled at the facility and the programs in place to prevent and respond to accidental releases. The accident prevention and emergency response requirements reflect existing safety regulations and sound industry safety codes and standards. In addition, the CEC has modeled the health impacts arising from a catastrophic release of aqueous ammonia due to spontaneous storage tank failure at the proposed SFERP and found that the impact would not be significant. Therefore, the potential environmental impact due to aqueous ammonia storage at the SFERP facility does not justify the elimination of SCR as a control alternative.

Conclusion

Each combustion gas turbine will meet a NO_x emission concentration limit of 2.5 ppmvd NO_x @ 15% O_2, averaged over a one hour period, during all operating modes except gas turbine start-ups and shutdowns. The applicant has proposed to comply with this emission limitation through the use of dry low NO_x combustors and SCR with ammonia injection. Compliance will be verified by a CEM located in the stack for each gas turbine. SCR will not cause significant energy, economic, or environmental impacts. The applicant's proposed use of SCR to meet the District's BACT standard for NO_x is therefore acceptable.

Carbon Monoxide (CO)

BACT for CO will be analyzed over the turbines' entire operating range from minimum to maximum load. Water injection lowers the combustor flame temperature thereby allowing an increased fuel use rate. However, lowering the combustor flame temperature steam or water injection can increase CO production.

The District's BACT Guideline Section 89.1.3 for Gas Turbine Simple Cycle for greater than 40 Megawatts Heat Input (dated 7/18/03) specifies 6 ppmvd CO, @ 15% O_2 with an averaging period of three hours as BACT1 (Technologically Feasible/Cost Effective). This BACT determination was based upon the use of CO Catalyst and water injection. CARB has also cited these levels as BACT in their "Guidance for Power Plant Siting and Best Available Control Technology," June 1999.

The District has permitted at least five facilities at 4.0 ppmvd CO @15% O_2, averaged over three hours. Per the June 1999 CARB Power Plant Siting Guidance Document, two consecutive years of source testing indicate CO emission concentrations vary from 0.16 to 0.62 ppmvd CO @15% O_2. The District's source test results have measured emissions of less than 1.5 ppm CO @15% O_2. The District therefore believes there is sufficient justification to conclude that a CO emissions level at 4.0 ppmdv@15% O_2 has been achieved in practice. The CO limit will apply during all operating modes except for gas turbine start-up and shutdown. This limit applies to the exhaust from the gas turbine.

The SFERP has agreed to meet a CO emission limit of 4.0 ppmvd @ 15% O_2 that will apply to all gas turbines operating modes except for gas turbine start-up and shutdown. The SFERP will comply with this BACT specification through the use of oxidation catalysts.

Precursor Organic Compounds (POCs)
The District's BACT Guideline Section 89.1.3 for Gas Turbine Simple Cycle for greater than 40 Megawatts Heat Input (dated 7/18/03) specifies 2 ppmvd POC @ 15% O_2 with an averaging period of one hour as BACT. This BACT determination was based upon the use of an Oxidation Catalyst or Dry Low NO_x combustors and is based on recent BAAQMD permits issued for power plants. CARB has also cited these levels as BACT in their "Guidance for Power Plant Siting and Best Available Control Technology," June 1999. The applicant has proposed to meet this POC stack concentration of 2 ppmvd @ 15% O_2.

Sulfur Dioxide (SO_2)
The District's BACT Guideline Section 89.1.3 for Gas Turbine Simple Cycle for greater than 40 Megawatts Heat Input (dated 7/18/03) specifies the exclusive use of PUC-regulated natural gas as BACT for SO_2 emissions. The proposed turbines will utilize PUC natural gas exclusively, which will result in minimal SO_2 emissions. Accordingly, the sulfur content of the natural gas will be limited by permit condition to 1 grain/100 scf. This average corresponds to an SO_2 emission factor of 0.0028 lb./MMBtu. The natural gas sulfur content specification of 1 grain per 100 scf is deemed BACT for SO_2.

Particulate Matter (PM_{10})
The District's BACT Guideline Section 89.1.3 for Gas Turbine Simple Cycle for greater than 40 Megawatts Heat Input (dated 7/18/03) specifies the exclusive use of PUC-regulated natural gas as BACT for PM_{10} emissions. The proposed turbines and duct burners will utilize PUC natural gas exclusively, which will result in minimal direct PM_{10} emissions and minimal formation of secondary PM_{10} such as sulfates. Accordingly, the sulfur content of the natural gas will be limited by permit condition to 1 grain/100 scf.

PM emissions from gas-fired gas turbines are inherently low. The District has, in the past, utilized the BACT definition in Section 2-2-206.1 to determine that Best Available Control Technology for PM for gas turbines was "exclusive use of CPUC-regulated grade natural gas" to minimize fuel contaminant and sulfate contributions to PM emissions from gas turbines. Unlike NOx and CO emissions, PM emissions from gas turbines cannot feasibly be reduced using combustion modifications or add-on emission control technology.

An identical turbine at Los Esteros has an emission limitation of 2.5 lb/hr, and the emission limitation has been consistently achieved. Although the SFERP turbines will be used less frequently than the Los Esteros turbines, and will spend a greater fraction of its operation transitioning between load levels, the District has determined that the Los Esteros turbines are the same type of equipment. The Los Esteros limitation of 2.5 lb/hr is more stringent than the 3.0 lb/hr originally proposed for SFERP, and therefore comprises BACT.

The applicant has agreed to accept a limitation of 2.5 lb/hr for PM.

The cooling tower will operate when inlet air chilling is necessary to maintain turbine output. For this evaluation, the cooling tower is assumed to operate 24 hours per day, 8760 hours per year. SFERP is proposing a cooling tower with a drift rate of 0.0010%. Maximum emissions from cooling tower are calculated from the maximum drift rate and maximum total dissolved solids of the make-up water. The two-cell cooling towers will emit a maximum of 0.04 pounds per hour and 0.2 tons per year of PM_{10}. Since the maximum emissions from the tower are less than 10 pounds per day and 5 tons per year, the cooling tower is exempt from District permit requirements and is not subject to either BACT or offset requirements.

Cooling Tower Emissions Data

Drift rate:	0.0010 %
Water Flow:	3912 gpm
Drift, lbm water/hr:	19.55
TDS level, ppm:	2000
PM_{10} Emission Results:	0.04 lb/hr and 0.17 tons/year

2. District Regulation 2-2-302: Offset Requirements, POCs and NO_x

General Requirements

District Regulation 2-2-302 requires that for new or modified sources at a facility that will be permitted to emit 35 tons per year of POCs or NO_x or more on a pollutant specific basis, the total project emissions must be offset. The applicant issued a request for proposals to emission reduction credit (ERC) holders to obtain sufficient ERCs to meet the offset requirements for this project. The applicant has committed to obtain offsets locally within the San Francisco area. It should be noted that in the case of POC and NO_x offsets, District regulations do not require consideration of the location of the source of the emission reduction credits relative to the location of the proposed emission increases.

Timing for Provision of Offsets

Pursuant to District Regulation 2-2-311, the applicant must provide the required valid emission reduction credits to mitigate the emission increases for the facility prior to the issuance of the Authority to Construct. Pursuant to District Regulation 2, Rule 3: Power Plants, the Authority to Construct will be issued after the CEC issues their Certificate for the power plant.

Offset Requirements by Pollutant

Pursuant to Regulation 2-2-302, federally enforceable emission offsets are required for POC and NO_x emission increases from permitted sources at facilities, that will emit 10 tons per year or more on a pollutant-specific basis. Because the SFERP facility will emit greater than 35 tons per year of NO_x, the project NO_x emissions must be offset at a ratio of 1.15 to 1.0. Since the SFERP will emit less than 10 tons/year of POC, the applicant is not required to provide POC emission offsets.

The projected PM_{10} emissions from the proposed sources are less than 100 tons per year, therefore SFERP does not trigger the PM_{10} offset requirement of Regulation 2-2-303 and no PM_{10} offsets are required. Pursuant to Regulation 2-2-303, emission reduction credits are not required for the proposed SO_2 emission increases associated with this project since the facility SO_2 emissions will not exceed 100 tons per year. Regulation 2-2-303 allows a facility that emits less than 100 tons of

these pollutants to voluntarily provide emission offsets. The applicant will provide mitigation for PM_{10} and $PM_{2.5}$ emissions from the project as required by the CEC.

Interpollutant Offset Ratios

Pursuant to District Regulations 2-2-302 and 2-2-302.2, the applicant has the option to substitute ERCs for precursor organic compounds to offset increased emissions of NO_x at a ratio of 1.0 to 1.0.

Current Proposed Offset Package

Table 5 summarizes the current offset obligation of the SFERP and the quantity of valid emission reduction credits (ERCs) that are required.

The applicant has committed to secure sufficient valid emission reduction credits to offset the emission increases from the permitted sources proposed for the SFERP. In March 2005, the applicant has signed an option agreement for the purchase of ERCs represented by Certificate No. 896 which were created through NOx emissions reduction achieved at the nearby Mirant Potrero power plant. The table below shows that 47.5 tons of NOx ERCs will be provided. POC offsets are not required because POC emissions do not exceed the trigger levels for offsets under District regulations.

Table 4
Facility Offset Requirements

Pollutant	Net Emission Increase (tpy)	Offset Ratio	Offsets Required (tpy)	Offsets to be Provided (tpy)
NOx	39.8	1.15:1	45.8	47.5
POC	7.7	N/A	0	N/A

B. Health Risk Screening Analysis

Pursuant to the BAAQMD Risk Evaluation Procedure, a Health Risk Screening Analysis must be prepared to determine the potential impact on public health resulting from the emissions of TACs from the SFERP. The potential TAC emissions (both carcinogenic and non-carcinogenic) from the SFERP were previously summarized in Table 2. In accordance with the requirements of the BAAQMD Risk Evaluation Procedure, the impact on public health due to the emission of these compounds was assessed utilizing air pollutant dispersion models. The results are summarized in Table 6.

Table 5
Health Risk Screening Analysis Results

Source	Multi-pathway Carcinogenic Risk (Risk in One Million)	Non-carcinogenic Chronic Hazard Index
Gas Turbines [a]	0.01	0.001
Cooling Tower	0.004	0.00002

[a] numbers represent combined risk from all sources

The health risk assessment performed by the applicant has been reviewed by the District's Toxics Evaluation Section and found to be in accordance with guidelines adopted by Cal/EPA's Office of Environmental Health Hazard Assessment (OEHHA), the California Air Resources Board (CARB), and the California Air Pollution Control Officers Association (CAPCOA). Pursuant to the BAAQMD Risk Management Policy, the increased carcinogenic risk attributed to this project is considered to be not significant because it is less than 1.0 in one million. The chronic hazard index attributed to the emission of non-carcinogenic air contaminants is considered to be not significant because it is less than 1.0. Therefore, the SFERP facility is deemed to be in compliance with the BAAQMD Toxic Risk Management Policy.

C. Other Applicable District Rules and Regulations

Regulation 1, Section 301: Public Nuisance
This project is not expected to cause injury, detriment, nuisance or annoyance to any considerable number of persons or the public with respect to any impacts resulting from the emission of air contaminants regulated by the District.

Air contaminants from this proposed power plant are highly unlikely to cause a public health nuisance and annoyance to the neighboring community. It is also unlikely to contribute significantly to injury from air contaminants. The plant will not contribute significantly to ozone, carbon monoxide (CO), and particulate matter (PM_{10} and $PM_{2.5}$) levels in the air.

Regulation 2, Rule 1, Sections 301 and 302: Authority to Construct and Permit to Operate
Pursuant to District Regulation 2-1-301 and 2-1-302, the SFERP has submitted an application to the District to obtain an Authority to Construct and Permit to Operate for the proposed S-1, S-2 & S-3 Gas Turbines.

Because the proposed cooling tower will not be used for the evaporative cooling of process water, it is exempt from District permit requirements (Regulations 2-1-301 and 2-1-302) pursuant to Regulation 2, Rule 1, Section 128.4. The worst-case emission projections indicate that the cooling tower will not emit air contaminants at rates above the risk management screening trigger levels as specified in Table 2-1-316 of Regulation 2, Rule 1. The applicant has also demonstrated that the cooling tower emissions have passed an HRSA in accordance with the District Risk Evaluation Procedure. Therefore, the cooling tower remains exempt from District permit requirements per Regulation 2-1-316.

Regulation 2, Rule 3: Power Plants
Pursuant to Regulation 2-3-403, this FDOC serves as the APCO's preliminary decision that the proposed power plant will meet the requirements of all applicable BAAQMD, state, and federal regulations. The FDOC contains proposed permit conditions to ensure compliance with those regulations. Pursuant to Regulation 2-3-304, the PDOC was subject to the public notice, public comment, and public inspection requirements contained in Regulations 2-2-406 and 407.

Regulation 2, Rule 6: Major Facility Review
Pursuant to Regulation 2, Rule 6, Section 404.1, the owner/operator of the SFERP must submit an application to the BAAQMD for a major facility review permit within 12 months after the facility

becomes subject to Regulation 2, Rule 6. Pursuant to Regulation 2-6-212.1, the SFERP will become subject to Regulation 2, Rule 6 upon initial firing of any of the gas turbines (S-1, S-2, or S-3). However, because the Acid Rain requirements are also contained in the MFR permit, the application must be submitted much earlier (see below).

Regulation 2, Rule 7: Acid Rain

The SFERP gas turbine units will be subject to the requirements of Title IV of the federal Clean Air Act. The requirements of the Acid Rain Program are outlined in 40 CFR Part 72. The specifications for the type and operation of continuous emission monitors (CEMs) for pollutants that contribute to the formation of acid rain are given in 40 CFR Part 75. District Regulation 2, Rule 7 incorporates by reference the provisions of 40 CFR Part 72. Pursuant to 40 CFR Part 72.30(b)(2)(ii), SFERP must submit an Acid Rain Permit Application to the District at least 24 months prior to the date on which each unit commences operation. Pursuant to 40 CFR Part 72.2, "commence operation" includes the start-up of the unit's combustion chamber. The applicant filed an Acid Rain permit application for the project on August 23, 2005.

Regulation 6: Particulate Matter and Visible Emissions

Through the use of low-NO_x burner technology and proper combustion practices, the combustion of natural gas at the proposed gas turbines is not expected to result in visible emissions. Specifically, the facility's combustion sources are expected to comply with Regulation 6, including Sections 301 (Ringelmann No. 1 Limitation), 302 (Opacity Limitation) with visible emissions not to exceed 20% opacity, and 310 (Particulate Weight Limitation) with particulate matter emissions of less than 0.15 grains per dry standard cubic foot of exhaust gas volume. As calculated in accordance with Regulation 6-310.3, the grain loading resulting from the simultaneous operation of each power train is 0.0025 gr/dscf @ 6% O_2.

With maximum total dissolved solids content of 2000 mg/l, flow rate and corresponding maximum PM_{10} emission rate of 0.04 lb/hr, the proposed 2-cell cooling towers are also expected to comply with the requirements of Regulation 6.

Particulate matter emissions associated with the construction of the facility are exempt from District permit requirements but are subject to Regulation 6. It is expected that the California Energy Commission will consider conditions on construction activities, and may require the use of water and/or chemical dust suppressants to minimize PM_{10} emissions and prevent visible particulate emissions.

Regulation 7: Odorous Substances

Regulation 7-302 prohibits the discharge of odorous substances, which remain odorous beyond the facility property line after dilution with four parts odor-free air. Regulation 7-302 limits ammonia emissions to 5000 ppm. Since the ammonia emissions from the three proposed CTG power trains will each be limited by permit condition to 10 ppmvd @ 15% O_2, the applicant is expected to comply with the requirements of Regulation 7.

Regulation 8: Organic Compounds

This facility is exempt from Regulation 8, Rule 2, "Miscellaneous Operations" per Regulation 8-2-110, since natural gas will be fired exclusively at the SFERP.

The use of solvents for cleaning and maintenance at the SFERP is expected to comply with Regulation 8, Rule 4, "General Solvent and Surface Coating Operations" Section 302.1 by emitting less than 5 tons per year of volatile organic compounds.

Regulation 9, Rule 1: Inorganic Gaseous Pollutants, Sulfur Dioxide

This regulation establishes emission limits for sulfur dioxide from all sources and applies to the combustion sources at this facility. Section 301: Limitations on Ground Level Concentrations, prohibits emissions that would result in ground level SO_2 concentrations in excess of 0.5 ppm continuously for 3 consecutive minutes, 0.25 ppm averaged over 60 consecutive minutes, or 0.05 ppm averaged over 24 hours. Section 302: General Emission Limitations, prohibits SO_2 emissions in excess of 300 ppmv (dry). With maximum projected SO_2 emissions of less than 1 ppmv, the gas turbines are not expected to exceed the ground level SO_2 concentration limit in Section 301and easily complies with Section 302.

Regulation 9, Rule 3: Inorganic Gaseous Pollutants, Nitrogen Oxides from Heat Transfer Operations

The proposed combustion gas turbines (each rated at 487.3 MM Btu/hr, HHV) will comply with the Regulation 9-3-303 NO_x limit of 125 ppm by complying with a permit condition nitrogen oxide emission limit of 2.5 ppmvd @ 15% O_2.

Regulation 9, Rule 9: Inorganic Gaseous Pollutants, Nitrogen Oxides from Stationary Gas Turbines

Because each of the proposed combustion gas turbines will be limited by permit conditions to NO_x emissions of 2.5 ppmvd @ 15% O_2, they are expected to comply with the Regulation 9-9-301.3 NO_x limitation of 9 ppmvd @ 15% O_2. In addition, the continuous emission monitoring (CEM) system will be installed to satisfy the monitoring and recordkeeping requirements of this rule.

Regulation 10: 40 CFR 60, Subpart GG- Standards of Performance for Stationary Gas Turbines

Regulation 10 (40 CFR 60, Subpart GG) was adopted by reference from the federal New Source Performance Standards (NSPS) for stationary gas turbines. This regulation requires monitoring of fuel; imposes limits on the emissions of NO_x, SO_2, and PM; requires source testing of the stack emissions; process monitoring and data collection and recordkeeping. All of the BACT limits imposed on the combustion turbines are more stringent than the requirements of the NSPS emissions limits. The SFERP will comply with the NSPS. New gas turbines may be subject to, and if subject, would be in compliance with, the proposed new Subpart KKKK when it is finalized by EPA. If Subpart KKKK is ultimately adopted and is determined to be applicable to the proposed SFERP gas turbines, Subpart GG would not apply.

40 CFR 63, Subpart YYYY-National Emissions Standards for Hazardous Air Pollutants for Stationary Combustion Turbines.

40 CFR 63, Subpart YYYY for hazardous air pollutant emissions requires that a facility emitting more than 10 tons per year of single HAP or more than 25 tons per year for any combination of HAPs will be subject to this requirement. Since, this facility will not emit more than 10 tons for single HAP or 25 tons for any combination, it is not subject to 40 CFR Part 63, Subpart YYYY.

D. CEQA

The CEQA requirements of Districts Regulation 2-1-426 are met since the CEC is the lead agency on this project. The CEC is thus responsible for conducting the CEQA review and preparing the CEQA document for this project. The CEC's final certification and licensure will serve as the EIR equivalent pursuant to the CEC's certified regulatory program (as specified in CEQA Guidelines Section 15253(b) and Public Resources Code Sections 21080.5 and 25523).

IV. Permit Conditions

The following permit conditions will be imposed to assure that the proposed project complies with all applicable District, State, and Federal regulations. The conditions limit operating parameters such as fuel use, stack gas emission concentrations, and mass emission rates. Permit conditions will also specify abatement device operation and performance levels. To aid enforcement efforts, conditions specifying emission monitoring, source testing, and record keeping requirements are included. Furthermore, pollutant mass emission limits (in units of lb/hr and lb/MMBtu of natural gas fired) will ensure that daily and annual emission rate limitations are not exceeded.

Compliance with CO and NO_x limits will be verified by continuous emission monitors (CEMs) that will be in operation during all turbine operating modes, including start-up and shutdown. If the CO and NOx CEMs are not capable of accurately assessing gas turbine start-up and shutdown mass emission rates due to variable gas content and the differing response times of the gas monitors, then start-up and shutdown mass emission rates will be based upon annual source test results. Compliance with POC, SO_2, and PM_{10} mass emission limits will be verified by annual source testing.

In addition to permit conditions that apply to the designed operation of each CTG power train, conditions will be imposed that govern equipment operation during the initial commissioning period when the CTGs will operate without their SCR systems and oxidation catalysts fully operational. During this commissioning period, the gas turbines will be tested, control systems will be adjusted, and ducts leading to the stack tubes will be cleaned. Permit Conditions 1 through 12 apply to this commissioning period and are intended to minimize emissions and insure that those emissions will not contribute to the exceedence of any short-term applicable ambient air quality standard.

San Francisco Electric Reliability Project
Permit Conditions

Definitions:

Clock Hour:	Any continuous 60-minute period beginning on the hour.
Calendar Day:	Any continuous 24-hour period beginning at 12:00 AM or 0000 hours.
Year:	Any consecutive twelve-month period of time
Heat Input:	All heat inputs refer to the heat input at the higher heating value (HHV) of the fuel, in Btu/scf.

Rolling 3-hour period:	Any three-hour period that begins on the hour and does not include start-up or shutdown periods.
Firing Hours:	Period of time during which fuel is flowing to a unit, measured in fifteen-minute increments.
MM Btu:	million British thermal units
Gas Turbine Start-up Mode:	The lesser of the first 120 minutes of continuous fuel flow to the Gas Turbine after fuel flow is initiated or the period of time from Gas Turbine fuel flow initiation until the Gas Turbine achieves two consecutive CEM data points in compliance with the emission concentration limits of conditions 18(b) and 18(d).
Gas Turbine Shutdown Mode:	The lesser of the 30 minute period immediately prior to the termination of fuel flow to the Gas Turbine or the period of time from non-compliance with any requirement listed in Conditions 18(b) through 18(d) until termination of fuel flow to the Gas Turbine.
Specified PAHs:	The polycyclic aromatic hydrocarbons listed below shall be considered to Specified PAHs for these permit conditions. Any emission limits for Specified PAHs refer to the sum of the emissions for all six of the following compounds. Benzo[a]anthracene Benzo[b]fluoranthene Benzo[k]fluoranthene Benzo[a]pyrene Dibenzo[a,h]anthracene Indeno[1,2,3-cd]pyrene
Corrected Concentration:	The concentration of any pollutant (generally NO_x, CO, or NH_3) corrected to a standard stack gas oxygen concentration. For emission point P-1 (exhaust stack of S-1 Gas Turbine), emission point P-2 (exhaust stack of S-2 Gas Turbine) and P-3 (exhaust stack of S-3 Gas Turbine) the standard stack gas oxygen concentration is 15% O_2 by volume on a dry basis.
Commissioning Activities:	All testing, adjustment, tuning, and calibration activities recommended by the equipment manufacturers and the SFERP construction contractor to insure safe and reliable steady state operation of the gas turbines, heat recovery steam generators, steam turbine, and associated electrical delivery systems.
Commissioning Period:	The Period shall commence when all mechanical, electrical, and control systems are installed and individual system start-up has been completed, or when a gas turbine is first fired, whichever occurs first. The period shall terminate when the plant has completed performance testing, is available for commercial operation, and has initiated sales to the power exchange.
Precursor Organic Compounds (POCs):	Any compound of carbon, excluding methane, ethane, carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate
CEC CPM:	California Energy Commission Compliance Program Manager

SFERP:
*

San Francisco Electric Reliability Project
Not Federally Enforceable

Conditions for the Commissioning Period

1. The owner/operator of the SFERP shall minimize emissions of carbon monoxide and nitrogen oxides from S-1, S-2, and S-3, Gas Turbine Combustors to the maximum extent possible during the commissioning period. Parts 1 through 12 will only apply during the commissioning period as defined above. Unless otherwise indicated, Parts 13 through 42 will apply after the commissioning period has ended.

2. At the earliest feasible opportunity, in accordance with the recommendations of the equipment manufacturers and the construction contractor, the owner/operator shall ensure that S-1, S-2, and S-3, Gas Turbine Combustors are tuned to minimize the emissions of carbon monoxide and nitrogen oxides.

3. At the earliest feasible opportunity, in accordance with the recommendations of the equipment manufacturers and the construction contractor, the owner/operator shall install, adjust, and operate A-1 through A-6, SCR and Oxidation Systems, to minimize the emissions of carbon monoxide and nitrogen oxides from S-1, S-2, and S-3, Gas Turbine Combustors.

4. Coincident with the as-designed operation of A-1 thru A-6, SCR and Oxidation Systems, pursuant to Parts 3, 8, 9 and 10 of this condition, the owner/operator shall ensure that the Gas Turbine Combustors (S-1, S-2, and S-3) comply with the NO_x and CO emission limitations specified in Parts 18(a) through 18(d) of this condition.

5. The owner/operator of the SFERP shall prepare a plan describing the procedures to be followed during the commissioning of the gas turbines. The plan shall be submitted the District Engineering Division and the CEC CPM at least four weeks prior to first firing of S-1, S-2, or S-3, Gas Turbine Combustors. The plan shall include a description of each commissioning activity, the anticipated duration of each activity in hours, and the purpose of the activity. The activities described shall include, but not be limited to, the tuning of the Water Injection system, the installation and operation of the SCR systems and oxidation catalysts, the installation, calibration, and testing of the CO and NO_x continuous emission monitors, and any activities requiring the firing of the Gas Turbine Combustors (S-1, S-2, and S-3) without abatement by their respective SCR and Oxidation Systems. No Gas Turbine Combustor (S-1, S-2, or S-3) shall be fired sooner than 28 days after the District receives the commissioning plan.

6. During the commissioning period, the owner/operator of the SFERP shall demonstrate compliance with Parts 8 through 11 of this condition through the use of properly operated and maintained continuous emission monitors and data recorders for the following parameters:
   - firing hours for each gas turbine (S-1, S-2, and S-3)
   - fuel flow rates to each train
   - stack gas nitrogen oxide emission concentrations at P-1, P-2, and P-3
   - stack gas carbon monoxide emission concentrations P-1, P-2, and P-3
   - stack gas oxygen or carbon dioxide concentrations P-1, P-2, and P-3

   The owner/operator shall monitor the parameters and record at least once every 15 minutes (excluding normal calibration periods or when the monitor source is not in operation) for the Gas

Turbine Combustors (S-1, S-2, and S-3). The owner/operator shall use District-approved methods to calculate heat input rates, NO_x (as NO_2) mass emission rates, carbon monoxide mass emission rates, and NO_x and CO emission concentrations, summarized for each clock hour and each calendar day. All records shall be retained on site for at least 5 years from the date of entry and made available to District personnel upon request.

7. The owner/operator shall install, calibrate, and properly operate District-approved continuous emission monitors specified in Part 6 prior to the first firing of the Gas Turbine Combustors (S-1, S-2, and S-3). After first firing of the turbines, the detection range of these continuous emission monitors must be adjusted as necessary to accurately measure the resulting range of CO and NO_x emission concentrations. The type, specifications, and location of these monitors shall be subject to District review and approval (by the District's Source Test Section).

8. The owner/operator shall not exceed 100 hours of firing during the commissioning period of S-1, Gas Turbine Combustor without abatement of nitrogen oxide emissions by A-1, SCR System. Such operation of S-1, Gas Turbine Combustor without abatement shall be limited to discrete commissioning activities that can only be properly executed without the SCR or Oxidation Catalyst Systems fully operational. Upon completion of these activities, the owner/operator shall provide written notice to the District's Engineering and Enforcement Divisions, and the unused balance of the 100 firing hours without abatement shall expire.

9. The owner/operator shall not exceed 100 hours of firing during the commissioning period of S-2, Gas Turbine Combustor without abatement of nitrogen oxide emissions by A-3, SCR System. Such operation of S-2, Gas Turbine Combustor without abatement shall be limited to discrete commissioning activities that can only be properly executed without the SCR or Oxidation Catalyst Systems fully operational. Upon completion of these activities, the owner/operator shall provide written notice to the District's Engineering and Enforcement Divisions, and the unused balance of the 100 firing hours without abatement shall expire.

10. The owner/operator shall not exceed 100 hours of firing during the commissioning period of S-3, Gas Turbine Combustor without abatement of nitrogen oxide emissions by A-5, SCR System. Such operation of S-3, Gas Turbine Combustor without abatement shall be limited to discrete commissioning activities that can only be properly executed without the SCR or Oxidation Catalyst Systems fully operational. Upon completion of these activities, the owner/operator shall provide written notice to the District Engineering and Enforcement Divisions. and the unused balance of the 100 firing hours without abatement shall expire.

11. The owner/operator shall calculate the total mass emissions of nitrogen oxides, carbon monoxide, precursor organic compounds, PM_{10}, and sulfur dioxide that are emitted by each Gas Turbine Combustor (S-1, S-2, and S-3) during the commissioning period. These emissions count towards the consecutive twelve-month emission limitations specified in Part 21 of this condition.

12. Prior to the end of the Commissioning Period, the owner/operator shall conduct a District- and CEC-approved source test using external continuous emission monitors to determine compliance with Part 18 of this condition. The source test shall determine NO_x, CO, and POC emissions

during start-up and shutdown of the gas turbines. The POC emissions shall be analyzed for methane and ethane to account for the presence of unburned natural gas. The source test shall include a minimum of three start-up and three shutdown periods. No later than twenty working days before the execution of the source tests, the owner/operator shall submit to the District and the CEC Compliance Program Manager (CPM) a detailed source test plan designed to satisfy the requirements of this condition. The District and the CEC CPM will notify the owner/operator of any necessary modifications to the plan within 20 working days of receipt of the plan; otherwise, the plan shall be deemed approved. The owner/operator shall incorporate the District and CEC CPM comments into the test plan. The owner/operator shall notify the District and the CEC CPM within seven (7) working days prior to the planned source testing date. Source test results shall be submitted to the District and the CEC CPM within 30 days of the source testing date.

Conditions for the Gas Turbine Combustors (S-1, S-2, and S-3)

13. The owner/operator shall ensure that S-1, S-2 and S-3, gas turbine combustors are fired on PUC natural gas exclusively. (Basis: BACT for SO_2 and PM_{10})

14. The owner/operator shall ensure that heat input rate to each Gas Turbine Combustor (S-1, S-2, or S-3) does not exceed 487.3 MM Btu per hour, averaged over one hour period. (Basis: 2-1-234)

15. Except during the commissioning period, the owner/operator of S-1, Gas Turbine Combustor shall properly operate and properly maintain A-1, Selective Catalytic Reduction (SCR) and A-2, Oxidation Catalyst Systems whenever fuel is combusted at the source and the A-1 catalyst bed has reached minimum operating temperature. (Basis: BACT for NO_x and CO)

16. Except during the commissioning period, the owner/operator of S-2, Gas Turbine Combustor shall properly operate and properly maintain A-3, Selective Catalytic Reduction (SCR) and A-4, Oxidation Catalyst Systems whenever fuel is combusted at those sources and the A-3 catalyst bed has reached minimum operating temperature. (Basis: BACT for NO_x and CO)

17. Except during the commissioning period, the owner/operator of S-3, Gas Turbine Combustor shall properly operate and properly maintain A-5, Selective Catalytic Reduction (SCR) and A-6, Oxidation Catalyst Systems whenever fuel is combusted at the source and the A-5 catalyst bed has reached minimum operating temperature. (Basis: BACT for NO_x and CO)

18 The owner/operator of the Gas Turbine Combustors (S-1, S-2, and S-3) shall comply with requirements (a) through (h) below under all operating scenarios, except requirements (a) through (h) do not apply during a gas turbine start-up or shutdown. (Basis: BACT and Toxic Risk Management Policy)

(a) Nitrogen oxide mass emissions (calculated in accordance with District-approved methods) at each P-1, P-2, and P-3 (the exhaust point for each Gas Turbine abated by SCR and Catalyst Oxidation) shall not exceed or 0.0090 lb/MM Btu (HHV). (Basis: BACT for NO_x)

(b) The nitrogen oxide emission concentration at each P-1, P-2, and P-3 shall not exceed 2.5 ppmv, on a dry basis, corrected to 15% O_2, averaged over any rolling 1-hour period. (Basis: BACT for NO_x)

(c) Carbon monoxide mass emissions at each P-1, P-2, and P-3 shall not exceed 0.0089 lb/MM Btu (HHV) of natural gas fired, averaged over any rolling 3-hour period. (Basis: BACT for CO)

(d) The carbon monoxide emission concentration at each P-1, P-2, and P-3 shall not exceed 4 ppmv, on a dry basis, corrected to 15% O_2, averaged over any rolling 3-hour period. (Basis: BACT for CO)

(e)* Ammonia (NH_3) emission concentrations at each P-1, P-2, and P-3 shall not exceed 10 ppmv, on a dry basis, corrected to 15% O_2, averaged over any one-hour period. The owner/operator shall verify, by continuous recording, the ammonia injection rate to A-1, A-3, and A-5, SCR Systems. The correlation between the gas turbine, A-1, A-3 and A-5, SCR System ammonia injection rates and the corresponding ammonia emission concentration at emission points P-1, P-2 and P-3 shall be determined in accordance with Part 25 of this condition. (Basis: TRMP for NH_3)

(f) Precursor organic compound (POC) mass emissions (as CH_4) at each P-1, P-2, and P-3 shall not exceed 0.0025 lb/MM Btu of natural gas fired. (Basis: BACT)

(g) Sulfur dioxide (SO_2) mass emissions at each P-1, P-2, and P-3 shall not exceed 0.0028 lb/MM Btu of natural gas fired. (Basis: BACT)

(h) Particulate matter (PM_{10}) mass emissions at each P-1, P-2, and P-3 shall not exceed 2.5 pounds per hour. (Basis: BACT)

19. The owner/operator shall not exceed the regulated air pollutant mass emission rates from each of the Gas Turbine Combustors (S-1, S-2, and S-3) during a start-up or a shutdown as established below. (Basis: BACT)

	Start-Up (lb/hour)	**Shutdown (lb/hour)**
Oxides of Nitrogen (as NO_2)	40	40
Carbon Monoxide (CO)	10	10
Precursor Organic Compounds (as CH_4)	2	2

20. The owner/operator of the Gas Turbines (S-1, S-2 and S-3) shall not exceed the following daily limits for each turbine during any one calendar day. (Basis: Cumulative Increase)

	Daily Limits, lb/day
Oxides of Nitrogen (as NO_2)	283
Carbon Monoxide (CO)	132
Precursor organic Compounds (as CH_4)	34
Particulate Matter	60
Sulfur Dioxide (SO_2)	33
Ammonia (NH_3)	156

21. The owner/operator shall ensure that the cumulative combined emissions from the Gas Turbine Combustors (S-1, S-2, and S-3) do not exceed the following limits during any consecutive twelve-month period, including emissions generated during gas turbine start-ups and shutdowns:

(a) 39.8 tons of NO_x (as NO_2) per rolling 365 day period;

(b) 27.9 tons of CO per rolling 365 day period;

(c) 7.7 tons of POC (as CH_4) per rolling 365 day period;

(d) 15 tons of PM_{10} per rolling 365 day period; and
(e) 2.7 tons of SO_2 per rolling 365 day period.
(Basis: Cumulative Increase)

22.* The owner/operator shall ensure that the maximum projected annual toxic air contaminant emissions from the Gas Turbine Combustors (S-1, S-2, and S-3) not exceed the following limits:

2,110 pounds of formaldehyde per year
235 pounds of acetaldehyde per year
21 pounds of acrolein per year
19 pounds of benzene per year

unless the following requirement is satisfied:. The owner/operator shall perform a health risk assessment using the emission rates determined by annual source test and the most current Bay Area Air Quality Management District-approved procedures and unit risk factors in effect at the time of the analysis. This risk analysis shall be submitted to the District and the CEC CPM within 60 days of the source test date. The owner/operator may request that the District and the CEC CPM revise the carcinogenic compound emission limits specified above. If the owner/operator demonstrates to the satisfaction of the APCO that these revised emission limits will result in a cancer risk of not more than 1.0 in one million, the District and the CEC CPM may, at their discretion, adjust the carcinogenic compound emission limits listed above. (Basis: TRMP)

23 The owner/operator shall demonstrate compliance with Parts 14 through15, 18(a) through 18(d), 19, 20, 21(a), and 21(b) by using properly operated and maintained continuous monitors (during all hours of operation including equipment start-up and shutdown periods) for all of the following parameters in (a) through (d) below.

(a) Firing Hours and Fuel Flow Rates for each of the following sources: S-1, S-2, and S-3 combined.
(b) Carbon Dioxide (CO2) or Oxygen (O2) concentrations, Nitrogen Oxides (NOx) concentrations, and Carbon Monoxide (CO) concentrations at each of the following exhaust points: P-1, P-2, and P-3.
(c) Ammonia injection rate at A-1, A-3, and A-5, SCR Systems
(d) Water or steam injection rate at S-1, S-2, and S-3 Gas Turbine Combustors

The owner/operator shall record all of the above parameters measured in (a) though (d) every 15 minutes (excluding normal calibration periods) and shall summarize all of the above parameters for each clock hour. For each calendar day, the owner/operator shall calculate and record the total firing hours, the average hourly fuel flow rates, and average hourly pollutant emission concentrations. (Basis: District Regulations 1-520.1, 9-9-501, BACT, Offsets, Cumulative Increase)

24 The owner/operator shall use the parameters measured in Part 23(a) through (d) and District-approved calculation methods to calculate the parameters below.

(a) Heat Input Rate for each of the following sources: S-1, S-2, and S-3.
(b) Corrected NOx concentrations, NOx mass emissions (as NO2), corrected CO concentrations, and CO mass emissions at each of the following exhaust points: P-1, P-2, and P-3.

Applicable to emission points P-1, P-2, and P-3, the owner/operator shall record the parameters specified above at least once every 15 minutes (excluding normal calibration periods). (Basis: District Regulations 1-520.1, 9-9-501, BACT, Offsets, Cumulative Increase)

25. As specified below, the owner/operator shall calculate and record the following data:
    (a) total Heat Input Rate for every clock hour and the average hourly Heat Input Rate.
    (b) on an hourly basis, the cumulative total Heat Input Rate for each calendar day for the following: each Gas Turbine and all three sources (S-1, S-2, and S-3).
    (c) the average NO_x mass emissions (as NO_2), CO mass emissions, and corrected NO_x and CO emission concentrations for every clock hour.
    (d) on an hourly basis, the cumulative total NO_x mass emissions (as NO_2) and the cumulative total CO mass emissions, for each calendar day for the following: each Gas Turbine (S-1, S-2, and S-3) combined.
    (e) For each calendar day, the average hourly Heat Input Rates, Corrected NO_x emission concentrations, NO_x mass emissions (as NO_2), corrected CO emission concentrations, and CO mass emissions for each Gas Turbine combined.
    (f) On a daily basis, the cumulative total NO_x mass emissions (as NO_2) and cumulative total CO mass emissions, for the previous consecutive twelve month period for all three sources (S-1, S-2, and S-3) combined.

    (Basis: District Regulations 1-520.1, 9-9-501, BACT, Offsets, Cumulative Increase)

26. To demonstrate compliance with parts 18(f), 18(g), 18(h), 20, 21(c), 21(d) and 21(e), the owner/operator shall calculate and record on a daily basis, the Precursor Organic Compound (POC) mass emissions, Fine Particulate Matter (PM_{10}) mass emissions (including condensable particulate matter), and Sulfur Dioxide (SO_2) mass emissions from each power train. The owner/operator shall use the actual Heat Input Rates calculated pursuant to Part 28, actual Gas Turbine Start-up Times, actual Gas Turbine Shutdown Times, and CEC and District-approved emission factors to calculate these emissions. The calculated emissions shall be presented as follows:
    (a) For each calendar day, POC, PM_{10}, and SO_2 emissions shall be summarized for: each power train (S-1, S-2, and S-3) combined.
    (b) On a daily basis, the 365 day rolling average cumulative total POC, PM_{10}, and SO_2 mass emissions, for all three sources (S-1, S-2, and S-3) combined.

    (Basis: Offsets, Cumulative Increase)

27.* To demonstrate compliance with Part 22, the owner/operator shall calculate and record on an annual basis the maximum projected annual emissions of: Acetaldehyde, Acrolein, Formaldehyde and Benzene. Maximum projected annual emissions shall be calculated using the maximum Heat Input Rate of 5,847,600 MM Btu/year and the highest emission factor (pounds of pollutant per MM Btu of Heat Input) determined by any source test of the S-1, S-2, and S-3 Gas Turbine Combustors. (Basis: TRMP)

28.* Within 120 days of start-up of the SFERP, the owner/operator shall conduct a District-approved source test at the exhaust point P-1, P-2, or P-3 to determine the corrected ammonia (NH_3) emission concentration compliance with Part 18(e). The source test shall determine the

correlation between the heat input rates of each gas turbine S-1, S-2, and S-3 and NH_3 mass emissions. (Basis: TRMP)

29.* The owner/operator shall determine the SCR System ammonia injection rate and the corresponding NH_3 emission concentration at emission point P-1, P-2, or P-3. The source test shall be conducted over the expected operating range of the turbine (including, but not limited to minimum, 70%, 85%, and 100% load) to establish the range of ammonia injection rates necessary to achieve NO_x emission reductions while maintaining ammonia slip levels. Continuing compliance with part 18(e) shall be demonstrated through calculations of corrected ammonia concentrations based upon the source test correlation and continuous records of ammonia injection rate. (Basis: TRMP)

30. Within 120 days of start-up of the SFERP and on an annual basis thereafter, the owner/operator shall conduct a District-approved source test on exhaust points P-1, P-2, and P-3 while each Gas Turbine Combustor is operating at maximum load to determine compliance with Parts 18(a), (b), (c), (d), (f), (g), and (h), while each Gas Turbine Combustor is operating at minimum load to determine compliance with Parts 18(b) and (d), and to verify the accuracy of the continuous emission monitors required in Part 23. The owner/operator shall test for (as a minimum): water content, stack gas flow rate, oxygen concentration, precursor organic compound concentration and mass emissions, nitrogen oxide concentration and mass emissions (as NO_2), carbon monoxide concentration and mass emissions, sulfur dioxide concentration and mass emissions, methane, ethane, and particulate matter (PM_{10}) emissions including condensable particulate matter. (Basis: BACT, offsets)

31.* Within 120 days of start-up of the SFERP and on a biennial basis (once every two years) thereafter, the owner/operator shall conduct a District-approved source test at the exhaust point P-1, P-2, or P-3 while the Gas Turbine Combustor is operating at maximum allowable operating rates to demonstrate compliance with Part 22. If three consecutive biennial source tests demonstrate that the annual emission rates calculated pursuant to Part 22 for any of the compounds listed below are less than the BAAQMD Toxic Risk Management Policy trigger levels shown, then the owner/operator may discontinue future testing for that pollutant:

Acetaldehyde $\leq$ 235 pounds/year
Acrolein $\leq$ 21 pounds/year
Benzene $\leq$ 19 pounds/year
Formaldehyde $\leq$ 2110 pounds/year

(Basis: TRMP)

32. The owner/operator shall obtain approval for all source test procedures from the District's Source Test Section and the CEC CPM prior to conducting any tests. The owner/operator shall comply with all applicable testing requirements for continuous emission monitors as specified in Volume V of the District's Manual of Procedures. The owner/operator shall notify the District's Source Test Section and the CEC CPM in writing of the source test protocols and projected test dates at least 7 days prior to the testing date(s). As indicated above, the owner/operator shall measure the contribution of condensable PM (back half) to the total PM_{10} emissions. However, the owner/operator may propose alternative measuring techniques to measure condensable PM such as the use of a dilution tunnel or other appropriate method used to capture semi-volatile

organic compounds. Source test results shall be submitted to the District and the CEC CPM within 60 days of conducting the tests. (Basis: BACT)

33. The owner/operator of the SFERP shall submit all reports (including, but not limited to monthly CEM reports, monitor breakdown reports, emission excess reports, equipment breakdown reports, etc.) as required by District Rules or Regulations and in accordance with all procedures and time limits specified in the Rule, Regulation, Manual of Procedures, or Enforcement Division Policies & Procedures Manual. (Basis: Regulation 2-6-502)

34. The owner/operator of the SFERP shall maintain all records and reports on site for a minimum of 5 years. These records shall include but are not limited to: continuous monitoring records (firing hours, fuel flows, emission rates, monitor excesses, breakdowns, etc.), source test and analytical records, natural gas sulfur content analysis results, emission calculation records, records of plant upsets and related incidents. The owner/operator shall make all records and reports available to District and the CEC CPM staff upon request. (Basis: Regulation 2-6-501)

35. The owner/operator of the SFERP shall notify the District and the CEC CPM of any violations of these permit conditions. Notification shall be submitted in a timely manner, in accordance with all applicable District Rules and Regulations, and the Manual of Procedures. Notwithstanding the notification and reporting requirements given in any District Rule, Regulation, or the Manual of Procedures, the owner/operator shall submit written notification (facsimile is acceptable) to the Enforcement Division within 96 hours of the violation of any permit condition. (Basis: Regulation 2-1-403)

36. The owner/operator of SFERP shall provide adequate stack sampling ports and platforms to enable the performance of source testing. The location and configuration of the stack sampling ports shall be subject to BAAQMD review and approval.
(Basis: Regulation 1-501)

37. Within 180 days of the issuance of the Authority to Construct for the SFERP, the owner/operator shall contact the BAAQMD Technical Services Division (Source Test Section) regarding requirements for the continuous monitors, sampling ports, platforms, and source tests required by parts 23, 28, 29, 30, and 31. All source testing and monitoring must be conducted in accordance with the BAAQMD Manual of Procedures or EPA methods. (Basis: Regulation 1-501)

38. Prior to the issuance of the BAAQMD Authority to Construct for the SFERP, the owner/operator shall provide to the District valid emission reduction credit banking certificates in the amount of 45.8 tons/year of Nitrogen Oxides or equivalent as defined by District Regulations 2-2-302.1 and 2-2-302.2. (Basis: Offsets)

39. Pursuant to BAAQMD Regulation 2, Rule 6, section 404.1, the owner/operator of the SFERP shall submit an application to the BAAQMD for a major facility review permit within 12 months of the issuance of the Authority to Construct . (Basis: Regulation 2-6-404.1)

40. The owner/operator of the SFERP shall not operate either of the gas turbines until: 1) a Title IV Operating Permit has been issued; 2) 24 months after a Title IV Operating Permit Application has been submitted, to the District whichever is earlier. (Basis: Regulation 2, Rule 7)

41. The owner/operator of SFERP shall comply with the continuous emission monitoring requirements of 40 CFR Part 60 or 75 (Appendix A; Specifications and Test procedures, and Appendix B; Quality Assurance and Quality Control Procedures). (Basis: Regulation 2, Rule 7)

42. The owner/operator shall take monthly samples of the natural gas utilized at the SFERP and analyze for the sulfur content using District-approved laboratory methods, or shall obtain certified analytical results from the gas supplier. The sulfur content test results shall be retained on site for a minimum of five years from the test date and shall be utilized to satisfy the requirements of 40 CFR Part 60, subpart GG. (Basis: Recordkeeping)

V. Recommendation

The APCO has concluded that the proposed SFERP, which is composed of the sources listed below, complies with all applicable District rules and regulations. The following sources will be subject to the permit conditions and BACT and offset requirements discussed previously.

S-1 Combustion Turbine Generator (CTG) #1, General Electric LM-6000 PC Sprint, 487.3 MMBtu/hr maximum rated capacity, natural gas fired only; Abated by A-1 Selective Catalytic Reduction (SCR) System and A-2 Oxidation Catalyst.

S-2 Combustion Turbine Generator (CTG) #2, General Electric LM-6000 PC Sprint, 487.3 MMBtu/hr maximum rated capacity, natural gas fired only; Abated by A-3 Selective Catalytic Reduction (SCR) System A-4 Oxidation Catalyst.

S-3 Combustion Turbine Generator (CTG) #3, General Electric LM-6000 PC Sprint, 487.3 MMBtu/hr maximum rated capacity, natural gas fired only; Abated by A-5 Selective Catalytic Reduction (SCR) System A-6 Oxidation Catalyst.

S-4 Cooling Tower, Two Cells, 40' H x 50' L x 14' W, 52,000 gpd (exempt permit per /requirements per District Regulation 2-1-103)

S-5 Aqueous Ammonia Storage Tank, 29% NH_3, 8' dia. x 30 'L, capacity 11,300 gallons (exempt from permit requirements per District Regulation 2-1-123)

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December 20, 2005

Jack Broadbent
Executive Officer/APCO
Bay Area Air Quality Management District
939 Ellis Street
San Francisco, CA 94109

Re: San Francisco Electric Reliability Project
BAAQMD Application 12344
Errata for Final Determination of Compliance

Dear Mr. Broadbent:

Thank you for the opportunity to review the Final Determination of Compliance (FDOC) dated December 12, 2005, for the San Francisco Electric Reliability Project (SFERP). The FDOC did address the substantive issues in our letter dated August 24, 2005. However, there are a few editorial corrections noted below that should be made so that the engineering evaluation and permit conditions are consistent and accurate, and we are requesting that the District issue an errata addressing these items.

Editorial Corrections

Listed below are issues that we have identified in our review of the FDOC. We request that these issues be addressed as follows:

BACT for NOx (pages 10 & 11) – The discussion of best available control technology (BACT) on page 10 states that BACT for NOx is water injection and SCR; however, the conclusion on page 11 states that SFERP proposed the use of dry low NOx combustors and SCR with ammonia injection, which is incorrect. The second sentence in the conclusion should be corrected to say:

- "The applicant has proposed to comply with this emission limitation through the use of ~~dry low NOx combustors~~ water injection and SCR with ammonia injection."

Compliance with Regulation 2, Rule 7: Acid Rain (page 16) – This section indicates that SFERP must submit an Acid Rain Permit Application to the District at least 24 months prior to the date on which each unit commences operation. However, the implementing

permit condition (Condition 40) provides the alternative language that the turbines may be operated once a Title IV Operating Permit has been issued. For clarity, the discussion on page 16 should also include similar alternative language, such as adding a final sentence to read as follows:

- SFERP cannot operate either of the gas turbines until either
  - 1) a Title IV Operating Permit has been issued; or
  - 2) 24 months after the Title IV Operating Permit application has been submitted to the District, whichever is earlier.

Recordkeeping (Condition 25) – Conditions 18(c) and 18(d) state that compliance for CO mass emissions and concentration is to be based on a three-hour rolling average; however, there is no longer a computation of this average included in Condition 25. Condition 25 should be corrected as follows:

25. As specified below, the owner/operator shall calculate and record the following data:
    (a) Total Heat Input Rate for every clock hour and the average hourly Heat Input Rate.
    (b) On an hourly basis, the cumulative total Heat Input Rate for each calendar day for the following: each Gas Turbine and all three sources (S-1, S-2, and S-3).
    (c) The average NO_x mass emissions (as NO_2), ~~CO mass emissions,~~ and corrected NO_x ~~and CO~~ emission concentrations for every clock hour.
    (d) The average CO mass emissions and corrected CO emission concentrations for every rolling 3-hour period.
    (e) On an hourly basis, the cumulative total NO_x mass emissions (as NO_2) and the cumulative total CO mass emissions, for each calendar day for the following: each Gas Turbine (S-1, S-2, and S-3) combined.
    (f) For each calendar day, the average hourly Heat Input Rates, Corrected NO_x emission concentrations, NO_x mass emissions (as NO_2), corrected CO emission concentrations, and CO mass emissions for each Gas Turbine combined.
    (g) On a daily basis, the cumulative total NO_x mass emissions (as NO_2) and cumulative total CO mass emissions, for the previous consecutive twelve month period for all three sources (S-1, S-2, and S-3) combined.

(Basis: District Regulations 1-520.1, 9-9-501, BACT, Offsets, Cumulative Increase)

We appreciate the opportunity to review and comment on the FDOC. If you have any questions regarding these comments, or wish to discuss them further, please do not hesitate to call me or Gary Rubenstein of Sierra Research at (916) 444-6666.

Sincerely,

Nancy Matthews

for Gary Rubenstein

cc: Karen Kubick, SFPUC
Jeanne Sole, City of San Francisco
Jacqueline Minor, City of San Francisco
Steve DeYoung
Bill Pfanner, California Energy Commission
Tuan Ngo, California Energy Commission

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December 21, 2005

William Pfanner
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814

Re: San Francisco Electric Reliability Project, Supplement A, 04-AFC-1

Dear Mr. Pfanner:

The Bay Area Air Quality Management District (BAAQMD) issued its final determination of compliance (FDOC) for the proposed San Francisco Electric Reliability Project (SFERP) on December 13, 2005. The Applicant has reviewed the FDOC and in a letter dated December 20, 2005, has requested that the BAAQMD issue errata to correct one inconsistency in the final permit conditions.

The purpose of this letter is to provide proposed revisions to the air quality-related condition of certification that corresponds to the correction we have requested of the BAAQMD. The proposed revisions to the condition of certification are included as Attachment A.

If you have any questions regarding this filing, please do not hesitate to call.

Sincerely,

Nancy Matthews

Nancy Matthews

attachments

cc: Karen Kubick, SFPUC
John Carrier, CH2M Hill
Steve DeYoung
Service List

Attachment A

Proposed Correction to Condition of Certification AQ-25

AQ-25. As specified below, the owner/operator shall calculate and record the following data:

(a) Total Heat Input Rate for every clock hour and the average hourly Heat Input Rate.

(b) On an hourly basis, the cumulative total Heat Input Rate for each calendar day for the following: each Gas Turbine and all three sources (S-1, S-2, and S-3).

(c) The average NOx mass emissions (as NO2), ~~CO mass emissions,~~ and corrected NOx ~~and CO~~ emission concentrations for every clock hour.

(d) The average CO mass emissions and corrected CO emission concentrations for every rolling 3-hour period.

(e) On an hourly basis, the cumulative total NOx mass emissions (as NO2) and the cumulative total CO mass emissions, for each calendar day for the following: each Gas Turbine (S-1, S-2, and S-3) combined.

(f) For each calendar day, the average hourly Heat Input Rates, Corrected NOx emission concentrations, NOx mass emissions (as NO2), corrected CO emission concentrations, and CO mass emissions for each Gas Turbine combined.

(g) On a daily basis, the cumulative total NOx mass emissions (as NO2) and cumulative total CO mass emissions, for the previous consecutive twelve month period for all three sources (S-1, S-2, and S-3) combined.

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December 21, 2005

William Pfanner
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814

Re: San Francisco Electric Reliability Project, Supplement A, 04-AFC-1

Dear Mr. Pfanner:

In issuing its Final Determination of Compliance (FDOC) for the proposed San Francisco Electric Reliability Project (SFERP), the Bay Area Air Quality Management District (BAAQMD) determined that the Best Available Control Technology-based particulate emission limit for the combustion gas turbines proposed for the project should be 2.5 pounds per hour (lb/hr), rather than the 3.0 lb/hr emission limit proposed by the applicant. The FDOC issued by the BAAQMD contains this lower limit, which reduces total allowable hourly, daily, and annual $PM_{10}/PM_{2.5}$ emissions from the facility.

The purpose of this letter is to provide revised $PM_{10}/PM_{2.5}$ emissions calculations for the project that incorporate the new, lower emission limit. The revised calculations are provided in Attachment A. With this letter, we are also providing proposed revisions to the air quality-related conditions of certification that were included in the preliminary staff assessment to incorporate this and other changes made by the BAAQMD in the FDOC. The proposed revisions to the conditions of certification are included as Attachment B.

The applicant has not revised the ambient air quality modeling analysis to incorporate the new emissions limitations. Because the original modeling analysis used higher emission rates than those reflected in the final permit conditions, the original results conservatively overestimate the impacts of the proposed project.

If you have any questions regarding this filing, please do not hesitate to call.

Sincerely,

Nancy Matthews

Nancy Matthews

attachments

cc: Karen Kubick, SFPUC
John Carrier, CH2M Hill
Steve DeYoung
Service List

Appendix A
Revised Tables from the AFC

TABLE 8.1-17
Maximum Emission Rates—Each CTG

Pollutant	ppmv @ 15% O_2	lb/MMBtu	lb/hr
NO_x	2.5[a]	0.009	4.41
SO_2[b]	0.15	0.00092	0.45
CO	4.0[a]	0.0088	4.30
POC	2.0[a]	0.0025	1.23
PM_{10}	n/a	n/a	~~3.0~~ 2.5

Notes:

[a] NO_x, CO and POC emission rates exclude startups and shutdowns (see Table 8.1-18).

[b] Based on annual average natural gas sulfur content of 0.33 gr/100 scf.

TABLE 8.1-19
Maximum Emissions from New Equipment

Emissions/Equipment	NO_x	SO_2	CO	POC	PM_{10}
Maximum Hourly Emissions					
CTGs	120.0	1.3	30.0	6.0	~~9.0~~ 7.5
Cooling Towers	–	–	–	–	<0.1
Total, pounds per hour	**120.0**	**1.3**	**30.0**	**6.0**	**~~9.0~~ 7.5**
Maximum Daily Emissions					
CTGs	744.6	32.3	378.0	97.8	~~216.0~~ 180.0
Cooling Towers	–	–	–	–	0.9
Total, pounds per day	**744.6**	**32.3**	**378.0**	**97.8**	**~~216.9~~ 180.9**
Maximum Annual Emissions, tpy					
CTGs	39.8	2.7	27.9	7.7	~~18.0~~ 15.0
Cooling Towers	–	–	–	–	0.2
Total, tons per year	**39.8**	**2.7**	**27.9**	**7.7**	**~~18.2~~ 15.2**

TABLE 8.1-26
PSD Significant Emissions Levels

Pollutant	Facility Emissions (tpy)	PSD Threshold (tpy)	Significant?
NO_X	39.8	250	No
SO_2	2.7	250	No
POC	7.7	250	No
CO	27.9	250	No
PM_{10}[a]	~~18.2~~ 15.2	250	No

[a] PM_{10} emissions shown include cooling tower.

TABLE 8.1-30
Facility Best Available Control Technology Requirements

Pollutant	Applicability Level	Facility Emission Level (lbs/day)	BACT Required?
Criteria Pollutants: BAAQMD Regulation 2-2-301.1			
POC	10 lbs/day	97.8	yes
NPOC	10 lbs/day	–	no
NO_X	10 lbs/day	744.6	yes
SO_2	10 lbs/day	32.3	yes
PM_{10}	10 lbs/day	~~216.9~~ 180.9	yes
CO	10 lbs/day	378.0	yes
Noncriteria Pollutants: BAAQMD Regulation 2-2-301.2			
Lead	3.2 lbs/day	neg.	no
Asbestos	0.04 lbs/day	neg.	no
Beryllium	0.002 lbs/day	neg.	no
Mercury	0.5 lbs/day	neg.	no
Fluorides	16 lbs/day	neg.	no
Sulfuric Acid Mist	38 lbs/day	neg.	no
Hydrogen Sulfide	55 lbs/day	neg.	no
Total Reduced Sulfur	55 lbs/day	neg.	no
Reduced Sulfur Compounds	55 lbs/day	neg.	no

TABLE 8.1-31
BAAQMD Offset Requirements and Facility Emissions

Pollutant	Applicable Facility Size	Emission Increase	Facility Emissions	Regulation	Offsets Required
POC	10 tpy	Any increase	7.7 tpy	2-2-302	No
NO_x	10 tpy	Any increase	39.8 tpy	2-2-302	Yes
PM_{10}	100 tpy	1 tpy net increase	~~18.2~~ 15.2 tpy	2-2-303	No
SO_2	100 tpy	1 tpy net increase	2.7 tpy	2-2-303	No

TABLE 8.1-33
BAAQMD PSD Requirements Applicable to 100 tpy Fossil Fuel Fired Power Plants

Pollutant	PSD Facility Applicability Level	Modeling Threshold Level	Emissions from New Facility	Modeling Required	Applicable BAAQMD Regulation
NO_X	100 tpy	100 tpy	39.8 tpy	No	2-2-304.2
SO_2	100 tpy	100 tpy	2.7 tpy	No	2-2-304.2
PM_{10}[a]	100 tpy	100 tpy	~~18.2~~ 15.2 tpy	No	2-2-304.3
CO	100 tpy	100 tpy	27.9 tpy	No	2-2-305.1
POC	100 tpy	not required	7.7 tpy	–	–

[a] All particulate matter from the combustion turbines is assumed to be emitted as PM_{10}.

Table 8.1A-1
Emissions and Operating Parameters for New Turbines
San Francisco Electric Reliability Project
PM10 emission rate rev 12/05

	Case 1	Case 2	Case 3	Case 4	Case 5	Case 6
	36 deg full load, no chilling	59 deg full load, w/chilling	80 deg full load, w/chilling	36 deg 50% load	59 deg 50% load	80 deg 50% load
Ambient Temp, F	36	59	80	36	59	80
GT Load, %	100	100	100	50	50	50
GT heat input, MMBtu/hr (HHV)	484.6	487.3	487.2	273.8	274.0	272.2
Stack flow, lb/hr	1,128,201	1,107,509	1,107,154	745,437	768,865	787,074
Stack flow, dscfm	228,475	222,850	222,710	152,936	158,413	162,980
Stack flow, acfm	619,922	620,308	620,356	412,259	411,857	407,798
Stack temp, F	805	826	826	819	782	744
Stack exhaust, vol %						
O2 (dry)	14.66	14.47	14.46	15.64	15.82	16.00
CO2 (dry)	3.59	3.70	3.70	3.03	2.93	2.83
H2O	10.33	11.18	11.22	8.73	8.16	7.48
Emissions						
NOx, ppmvd @ 15% O2	2.50	2.50	2.50	2.50	2.50	2.50
NOx, lb/hr	4.39	4.41	4.41	2.48	2.48	2.47
NOx, lb/MMBtu	0.0091	0.0090	0.0091	0.0091	0.0091	0.0091
SO2, ppmvd @ 15% O2	0.182	0.182	0.182	0.182	0.182	0.182
SO2, lb/hr	0.45	0.45	0.45	0.25	0.25	0.25
SO2, lb/MMBtu	0.00092	0.00092	0.00092	0.00092	0.00092	0.00092
CO, ppmvd @ 15% O2	4.00	4.00	4.00	4.00	4.00	4.00
CO, lb/hr	4.28	4.30	4.30	2.42	2.42	2.40
CO, lb/MMBtu	0.0088	0.0088	0.0088	0.0088	0.0088	0.0088
VOC, ppmvd @ 15% O2	2.00	2.00	2.00	2.00	2.00	2.00
VOC, lb/hr	1.22	1.23	1.23	0.69	0.69	0.69
VOC, lb/MMBtu	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
PM10, lb/hr	***2.5***	***2.5***	***2.5***	***2.5***	***2.5***	***2.5***
PM10, lb/MMBtu	***0.0052***	***0.0051***	***0.0051***	***0.0091***	***0.0091***	***0.0092***
PM10, gr/dscf	***0.001275***	***0.001308***	***0.001308***	***0.001908***	***0.001842***	***0.001792***
NH3, ppmvd@15% O2	10.0	10.0	10.0	10.0	10.0	10.0
NH3, lb/hr	6.50	6.54	6.53	3.67	3.67	3.65

Table 8.1A-4
Detailed Calculations for Maximum Hourly, Daily and Annual Criteria Pollutant Emissions
San Francisco Electric Reliability Project
PM10 emission rate rev 12/05

	Base Load			Startup/Shutdown		NOx			SO2	CO			POC		PM10
	max. hour	hrs/day	hrs/yr	hrs/day	hrs/yr	Maximum lb/hr	Ann. Avg. lb/hr	Startup/Shutdown lb/hr (1)	lb/hr	Maximum lb/hr	Ann. Avg. lb/hr	Startup lb/hr	Maximum lb/hr	Startup lb/hr (1)	lb/hr
Each Turbine	1	20	3750	4	250	4.41	4.41	40.0	0.45	4.30	4.30	10.00	1.23	2.00	***2.5***

	NOx			SO2			CO			POC			PM10		
	Max lb/hr	Max lb/day	Total tpy	Max lb/hr	Max lb/day	Total tpy	Max lb/hr	Max lb/day	Total tpy	Max lb/hr	Max lb/day	Total tpy	Max lb/hr	Max lb/day	Total tpy
Turbine 1	40.0	248.2	13.3	0.45	10.8	0.9	10.0	126.0	9.3	2.0	32.6	2.6	2.5	60.0	***5.0***
Turbine 2	40.0	248.2	13.3	0.45	10.8	0.9	10.0	126.0	9.3	2.0	32.6	2.6	2.5	60.0	***5.0***
Turbine 3	40.0	248.2	13.3	0.45	10.8	0.9	10.0	126.0	9.3	2.0	32.6	2.6	2.5	60.0	***5.0***
Total, 3 Turbines	120.0	744.6	39.8	1.35	32.3	2.7	30.0	378.0	27.9	6.0	97.8	7.67	7.5	180.0	***15.0***
Cooling Tower	--	--	--	--	--	--	--	--	--	--	--	--	0.04	0.9	0.2
Facility Total	120.0	744.6	39.8	1.3	32.3	2.7	30.0	378.0	27.9	6.0	97.8	7.7	7.5	180.9	***15.2***

Appendix B
Proposed Revisions to PSA Conditions of Certification
Air Quality

AQ-SC11 The project owner shall provide additional ~~5~~ 4 TPY of PM2.5 emission reduction credits by subsidizing the replacement or modification (blocking chimneys) of wood stoves or fireplaces.

Verification: At least 30 days prior to the start of any site clearing or ground disturbance activities, the project owner shall provide the CPM, for approval, a final plan to acquire ~~5~~ 4 TPY of PM2.5 emission reduction credits. The wood stove and fireplace replacement or modification programs must start after the plan approval, and no later than 60 days prior to initial startup.

AQ-SC12 In lieu of compliance with Condition **AQ-SC11**, the project owner shall provide ~~45~~ 36 TPY of SOx emission reduction credits acquired in the local Hunters Point and/or Potrero areas to provide an annual equivalent of ~~15~~ 12 TPY of PM2.5.

Verification: The project owner shall submit to the CPM a list of ERCs to be surrendered to the District at least 60 days prior to initial startup.

AQ-18 The owner/operator of the Gas Turbine Combustors (S-1, S-2, and S-3) shall comply with requirements (a) through (h) below under all operating scenarios, except requirements (a) through (h) do not apply during a gas turbine start-up or shutdown.

(g) Sulfur dioxide (SO2) mass emissions at each P-1, P-2, and P-3 shall not exceed ~~0.0027~~ 0.0028 lb/MM Btu of natural gas fired. (Basis: BACT)

(h) Particulate matter (PM10) mass emissions at each P-1, P-2, and P-3 shall not exceed ~~3~~ 2.5 pounds per hour. (Basis: BACT)

AQ-19 The owner/operator shall not exceed the regulated air pollutant mass emission rates from each of the Gas Turbine Combustors (S-1, S-2, and S-3) during a start-up or a shutdown as established below. (Basis: BACT)

	~~Cold~~ Start-Up (lb/hour)	Shutdown (lb/hour)
Oxides of Nitrogen (as NO2)	40	40
Carbon Monoxide (CO)	10	10
Precursor Organic Compounds (as CH4)	2	2

AQ-20 The owner/operator of the Gas Turbines (S-1, S-2 and S-3) shall not ~~operate more than two startups and shutdowns per turbine in any one day~~ exceed the following daily limits for each turbine during any one calendar day. (Basis: Cumulative Increase)

	Daily Limits, lb/day
Oxides of Nitrogen (as NO_2)	283
Carbon Monoxide (CO)	132
Precursor Organic Compounds (as CH_4)	34
Particulate Matter	60
Sulfur Dioxide (SO_2)	33
Ammonia (NH_3)	156

AQ-21 The owner/operator shall ensure that the cumulative combined emissions from the Gas Turbine Combustors (S-1, S-2, and S-3) do not exceed the following limits during any consecutive twelve-month period, including emissions generated during gas turbine start-ups and shutdowns:

- 39.8 tons of NOx (as NO2) per rolling 365 day period;
- 27.9 tons of CO per rolling 365 day period;
- 7.7 tons of POC (as CH4) per rolling 365 day period;
- ~~18~~ 15 tons of PM10 per rolling 365 day period; and
- 2.7 tons of SO2 per rolling 365 day period.

AQ-25 As specified below, the owner/operator shall calculate and record the following data:

- total Heat Input Rate for every clock hour and the average hourly Heat Input Rate ~~for every rolling 3-hour period~~.
- on an hourly basis, the cumulative total Heat Input Rate for each calendar day for the following: each Gas Turbine and all three sources (S-1, S-2, and S-3).
- the average NOx mass emissions (as NO2), CO mass emissions, and corrected NOx and CO emission concentrations for every clock hour and for every rolling 3-hour period.
- on an hourly basis, the cumulative total NOx mass emissions (as NO2) and the cumulative total CO mass emissions, for each calendar day for the following: each Gas Turbine (S-1, S-2, and S-3) combined.
- For each calendar day, the average hourly Heat Input Rates, Corrected NOx emission concentrations, NOx mass emissions (as NO2), corrected CO emission concentrations, and CO mass emissions for each Gas Turbine combined.

- On a daily basis, the cumulative total NOx mass emissions (as NO2) and cumulative total CO mass emissions, for the previous consecutive twelve month period for all three sources (S-1, S-2, and S-3) combined.

BAY AREA
AIR QUALITY
MANAGEMENT
DISTRICT

January 25, 2006

Ms. Nancy Matthews
Sierra Research
1801 J Street
Sacramento, CA 95814

Re: San Francisco Electric Reliability Project
BAAQMD Application 12344

Dear Ms. Matthews:

This is to advise you that the BAAQMD has revised and reissued the Final Determination of Compliance (FDOC) for the San Francisco Electric Reliability Project (SFERP). The SFERP is a nominal 145-MW, natural gas fired, simple-cycle power plant located at the corner of Maryland and 25th Streets in the Potrero District. The enclosed (FDOC) summarizes how the SFERP will comply with applicable District, state, and federal regulations. The publication of the PDOC fulfilled the public notice and 30-day public comment requirements of District Regulations 2-2-405 and 406.

If you have any questions regarding this matter, please contact Bob Nishimura, Supervising Air Quality Engineer, at (415) 749-4679.

Very truly yours,

Jack P. Broadbent
Executive Officer/APCO

Enclosure
JPB:bn

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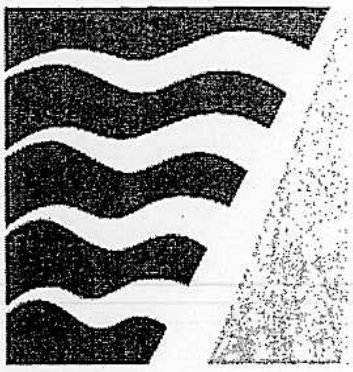

BAY AREA
AIR QUALITY
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Final
Determination of Compliance

San Francisco Electric Reliability Project

Application 12344

Engineering Division

Bay Area Air Quality Management District

Revised and Reissued
January 19, 2006

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I. Introduction

This report is the Bay Area Air Quality Management District (BAAQMD, or "District") Final Determination of Compliance (FDOC) for the San Francisco Electric Reliability Project (SFERP), a natural gas-fired, simple cycle power plant proposed by the City and County of San Francisco. This facility is to be located at the corner of Maryland Street and 25th Street in the Potrero area of San Francisco, on a 4-acre site of city-owned land. The SFERP will consist of three natural gas-fired General Electric LM6000PC simple cycle combustion turbine generators (CTGs) with associated equipment and two-cell wet cooling towers. The proposed facility will be capable of generating a nominal output of 145 megawatts (MW). The SFERP is currently undergoing review by the California Energy Commission (CEC) for certification pursuant to the Warren-Alquist Act (Public Resources Code §25500 *et seq.*).

In accordance with BAAQMD Regulation 2, Rule 2, Best Available Control Technology (BACT) requirements must be applied to the CTGs to minimize emissions of precursor organic compounds (POCs), oxides of nitrogen (NO_x), sulfur dioxide (SO_2), particulate matter with an aerodynamic diameter less than or equal to 10 microns (PM_{10}), and carbon monoxide (CO). In addition, the applicant must provide emission offsets for NO_x. Emissions of all regulated air pollutants will be less than 100 tons per year; therefore, the SFERP is not a Major Facility under District regulations and is not subject to Prevention of Significant Deterioration (PSD) requirements.

A. Background

Pursuant to BAAQMD Regulation 2, Rule 3, Section 405, this document serves as the FDOC for the SFERP. It will also serve as the engineering evaluation report for the BAAQMD Authority to Construct under Application #12344. The FDOC describes how the proposed facility will comply with applicable federal, state, and BAAQMD regulations, including the BACT and emission offset requirements specified in the District's New Source Review Regulation 2, Rule 2. In accordance with Regulation 2-3-405, the District will not issue an Authority to Construct until after the CEC issues a final certification for the SFERP.

Air pollutant emission calculations and permit conditions necessary to assure compliance with applicable rules and regulations are included in this FDOC. The document also includes a summary of the Health Risk Screening Analysis (HRSA) completed by the District to estimate the maximum public health risks that will result from the project's toxic air contaminant (TAC) emissions.

In accordance with BAAQMD Regulation 2, Rule 3, Section 404, the Preliminary Determination of Compliance (PDOC) for this project was subject to the public notice, public inspection, and 30-day public comment period requirements of District Regulation 2, Rule 2, Sections 406 and 407. The District has considered public comments submitted, and has a number of appropriate changes into this FDOC.

B. Project Description

1. Process Equipment

The applicant is proposing a simple-cycle combustion turbine facility with a nominal net electrical output of 145 MW. The SFERP will consist of the following proposed equipment:

S-1 Combustion Turbine Generator (CTG) #1, General Electric LM-6000PC Sprint, 487.3 MMBtu/hr maximum rated capacity, natural gas fired only; Abated by A-1 Selective Catalytic Reduction (SCR) System and A-2 Oxidation Catalyst.

S-2 Combustion Turbine Generator (CTG) #2, General Electric LM-6000PC Sprint, 487.3 MMBtu/hr maximum rated capacity, natural gas fired only; Abated by A-3 Selective Catalytic Reduction (SCR) System and A-4 Oxidation Catalyst.

S-3 Combustion Turbine Generator (CTG) #3, General Electric LM-6000PC Sprint, 487.3 MMBtu/hr maximum rated capacity, natural gas fired only; Abated by A-5 Selective Catalytic Reduction (SCR) System and A-6 Oxidation Catalyst.

S-4 Cooling Tower System, Two-cell, 40' H x 50' L x 14' W, 52,000 gpd (exempt from permit requirements per District Regulation 2-1-103)

S-5 Aqueous Ammonia Storage Tank, 29% HN_3, 8' dia. x 30' L, 11,300 gallon capacity (exempt from permit requirements per District Regulation 2-1-123)

The facility will include two small two-cell cooling towers for turbine cooling (S-4). PM_{10} emissions from these cooling towers are estimated to be less than 0.2 lb/day. The cooling towers are exempt from District permit requirements under Regulation 2-1-103. The facility also will include a tank for storage of aqueous ammonia to be used in the SCR systems to reduce NO_x emissions (S-5). The tank is exempt from District permit requirements under Regulation 2-1-123.

2. Equipment Operating Scenario

Maximum hourly, daily, and annual emissions from the LM-6000PC combustion turbines were estimated based on expected peaking operation and proposed annual operating limitations. As proposed, each natural gas fired CTG will have a maximum heat input of 487.3 MMBTU per hour, 11,700 MMBTU per day, and 4,268,750 MMBTU per year.

Annual Emissions

Total annual emissions for all three turbines were calculated based on 12,000 combined operating hours per year at 60°F ambient temperature and full load conditions. Actual annual emissions are expected to be less than the calculated values, as actual operation is projected to be less than 12,000 hours per year, the facility will operate at times at reduced load, and higher ambient temperatures are expected.

The offsets provided will be based on the calculated annual emissions, and permit conditions will be imposed to limit annual emissions to the amount of offsets provided. Emissions of NO_x and CO, the pollutants of greatest concern, will be continuously monitored, as will fuel usage. Any or all of

the combustion turbines may be operated up to 24 hours per day, 7 days per week, with total plant-wide heat input not to exceed the equivalent of 12,000 hours of full-load operation per year or the mass emissions limits. Each combustion gas turbine may have a total 250 hours per year of startup/shutdown activity.

Daily Emissions

Maximum hourly emissions from the CTGs are expected to occur during a startup or shutdown. Each CTG will be limited to the daily maximum emission rates listed below. The maximum emissions for each turbine are summarized as follows.

Maximum Emission Rates for each Combustion Gas Turbine

Operating Mode	NO_x	CO	POC	PM_{10}
Startup/Shutdown (lb/hr)	40	10	2	2.5
Full Load (lb/hr)	4.4	4.3	1.2	2.5
Daily Maximum (lb/day)	283	132	34	60

3. Air Pollution Control Strategies and Equipment

The proposed SFERP triggers the BACT requirements of New Source Review in District Regulation 2, Rule 2 for emissions of NO_x, CO, POC, SO_2, and PM_{10}. The applicant has proposed the following controls:

Selective Catalytic Reduction with Ammonia Injection for the Control of NO_x

The S-1, S-2, and S-3 gas turbines will be equipped with evaporative inter-cooling and water injection to minimize NO_x emissions. NO_x emissions will be further reduced through the use of a selective catalytic reduction (SCR) system using ammonia injection. The CTGs will achieve the BACT-level NO_x emissions of 2.5 ppmvd @ 15% O_2 (one hour average) and will be subject to an annual combined emission cap of 39.8 tons per year, which is equivalent to an annual average of 2.5 ppmvd @15 % O_2 at 12,000 hours per year of operation. SCR can typically achieve NO_x emission reductions in the range of about 80 to 95 percent without exceeding the applicable ammonia limit. Ammonia emissions will be limited to 10 ppmvd @ 15 % O_2 and a total of 39.8 tons per year.

NOx catalytic control equipment operates properly only within a specific temperature window. Control efficiencies will drop if temperatures are outside of this defined temperature range (i.e., either too hot or cool). Hot temperatures associated with uncooled exhaust may cause sintering of the catalysts, reducing catalyst surface area and thus reducing activity. Conversely, low temperatures can result in higher NO_x emissions and unreacted ammonia because the catalyst requires a minimum temperature to become chemically active.

Emission control system inlet temperatures are higher for simple-cycle gas turbines than for combined-cycle turbines. Gas turbines may have exhaust temperatures ranging up to 1000 °F. In

combined-cycle gas turbines, heat is removed from exhaust gases with a Heat Recovery Steam Generator (HSRG), resulting in a decrease in gas temperatures entering the emission control system. In simple-cycle systems, the turbine exhaust gas goes to the emission control system without being cooled. Catalysts used for selective catalytic reduction are not as reliable in controlling NO_x at the higher temperatures with uncooled exhaust of simple cycle gas turbine. The higher operating temperature results in catalyst deactivation, reducing the catalyst efficiency. As a result, gas turbine emissions from combined-cycle operations can be readily controlled with consistently higher efficiency.

Oxidation Catalyst to Minimize CO and POC Emissions

The proposed gas turbines S-1, S-2, and S-3, also trigger BACT for CO and POC emissions. A CO oxidation catalyst is designed to catalytically oxidize the CO and POC to achieve BACT-level CO emissions of 4 ppmvd @ 15 % O_2 (three hour average) and will be subject to an annual facility emission limit of 28 tons of CO per year. The POC emission level will be limited to 2.0 ppmvd @ 15 % O_2 and will be subject to an annual limit of 7.7 tons per year.

Exclusive Use of Clean-burning Natural gas to Minimize SO_2 and PM_{10} Emissions

The gas turbines will exclusively use commercial natural gas as a fuel to minimize SO_2 and PM_{10} emissions. Because the emission rate of SO_2 depends on the sulfur content of the fuel burned and is not dependent upon the burner type or other combustion characteristics, the use of natural gas will result in the lowest possible emissions of SO_2. PM_{10} emissions will be minimized through the use of best combustion practices and "clean burning" natural gas.

II. Facility Emissions

NO_x, CO, POC and ammonia will be all limited to BACT levels by enforceable permit conditions, including certain maximum outlet emission concentrations. BACT for SO_2, and PM_{10} control is the exclusive use of clean-burning natural gas. The outlet concentration, in ppm by volume and dry (ppmvd), is not specifically limited for SO_2 and PM_{10}, so the hourly emission rate will be taken to be those values calculated using the natural gas sulfur content and the rate provided by General Electric, the turbine manufacturer, respectively.

Calculated annual SO_2 emissions are based on utility natural gas containing an average of 0.33 grains of sulfur per 100 scf. Daily and hourly emissions are based on the content of 1 grain of sulfur per 100 scf. PM_{10} emissions are based on the Los Esteros Critical Energy Center turbine manufacturer guaranteed emission rate of 2.5 pounds PM_{10} per hour.

The facility regulated air pollutant emissions, and TAC emissions, are presented in the following sections. Detailed emission calculations, including the derivations of emission factors are presented below.

Baseload Emissions

Baseload emissions are the maximum hourly emissions under baseload conditions. A summary of the baseload hourly emissions from each turbine is given below, followed by detailed emission calculations for each pollutant.

Summary of Baseload Hourly Emission Estimates, lb/hour-turbine

NO_x (as NO_2)	POC	PM_{10}	CO	SO_2	NH_3
4.4	1.2	2.5	4.3	1.37	6.48

NO_x emissions: The applicant has proposed a NO_x limit of 2.5 ppmvd @ 15 % O_2 (averaged over one hour), which complies with BACT requirements for these gas turbines. The NO_x emissions from the turbines will be limited by permit conditions to 2.5 ppmvd @ 15 % O_2. This concentration is converted to mass NO_x emissions (as NO_2) as follows:

(2.5 ppmvd)(20.95-0)/(20.95-15) = 8.65 ppmvd @ 0 % O_2
(8.65/1,000,000)(1 mol/385.3 dscf)(46.01 lb NOx/lb-mol)(8700 dscf/MMBtu) = 0.0090 lb NO_x/MMBtu

The hourly NO_x (as NO_2) mass emissions rate based on the maximum firing rate of each turbine is calculated as follows:
(0.0090 lb NO_x/MMBtu)(487.3 MMBtu/hr) = 4.39 lb NOx/hr

CO emissions: The hourly CO emissions from the turbines will be limited by permit condition to 4 ppmvd @ 15 % O_2. The hourly CO mass emission rate based on the maximum firing rate of each turbine is calculated as follows based on 4 ppmvd @ 15 % O_2:

(4 ppmvd)(20.95-0)/(20.95-15) = 14.08 ppmvd @ 0 % O_2
(14.08/1,000,000)(1mol/385.3)(28 lb CO/lb-mol)/lb-mol)(8700 dscf/MMBtu) = 0.0089 lb CO/MMBtu
(0.0089 lb CO MMBtu)(487.3 MMBtu/hr) = 4.31 lb CO/hr

POC emissions: The POC emission from the turbines will be limited by permit condition to 2.0 ppmvd @ 15 % O_2. The hourly POC mass emission rate based on the maximum firing rate of each turbine is calculated as follows assuming the POC is methane (CH_4) and based on 2.0 ppmvd @ 15 % O_2.

(2 ppmvd)(20.95-0)/20.95-15) = 7.04 ppmvd @ % O_2
(7.04/1,000,000)(1mol/385.3)(16 lb CH_4/lb-mol)/lb-mol)(8700 dscf/MMBtu) = 0.0025 lb POC/MMBtu
(0.00254 lb CH_4/MMBtu)(487.3 MMBtu/hr) = 1.24 lb POC/hr

Ammonia emissions: The ammonia (NH_3) emission from the turbines will be limited by permit condition to 10 ppmvd @ 15 % O_2. The hourly mass emission rate based on the maximum firing rate of each turbine is calculated as follows based on 10 ppmvd @ 15 % O_2.

(10 ppmvd)(20.95-0)/20.95-15) = 35.21 ppmvd @ % O_2
(35.21/1,000,000)(1mol/385.3)(17 lb NH_3/lb-mol)/lb-mol)(8700 dscf/MMBtu) = 0.0133 lb NH_3/MMBtu

(0.0133 lb NH_3/MMBtu)(487.3 MMBtu/hr) = 6.48 lb NH_3/hr

Sulfur Dioxide emissions: The sulfur dioxide (SO_2) emission factor is based upon a maximum expected average natural gas sulfur content grains per 100 scf and a higher heating value of 1017 Btu/scf. The expected annual average sulfur content (used to calculate annual emissions) is 0.33 grain per 100 scf.

(1.0 grain/100scf)(10^6 Btu/MMBtu) (2 lb SO_2/lb S)/[7000 grain/lb)(1017 Btu/scf)] = 0.0028 SO_2 lb/MMBtu

(0.0028lb SO_2/MMBtu)(487.3 MMBtu/hr) = 1.37 lb SO_2/hr (annual limit based on expected average of 0.33 grain per 100 scf)

PM_{10} emissions: The PM_{10} emission factor is based upon the BACT-required level of 2.5 lb/hr based on similar installations.

Emissions During Startup and Shutdown

Each CTG may operate up to 24 hours per day, with a typical two 2-hour startups per day and two 2-half-hour shutdowns per day totaling 5 hours of startup/shutdown activity per turbine. Maximum emission rates expected to occur during the startup and shutdown of each CTG are shown as follows.

The startup/shutdown hourly emission estimates are based on the emission estimates provided by the consultant for the SFERP.

Startup/Shutdown Hourly Emission Estimates, lb/hour-turbine

NO_x (as NO_2)	CO	POC	PM10
40	10	2	2.5

Maximum Daily Emissions:

A summary of the maximum daily emissions from each turbine is given below, followed by detailed emission calculations for each pollutant.

Maximum Daily Emission Estimates, lb/day-turbine

NO_x (as NO_2)	POC	PM_{10}	CO	SO_2	NH_3
283	34	60	132	33	156

Maximum daily emissions are estimated based on 24 hours of worst-case emission rates. The worst-case daily emission rate is either a day, including a startup/shutdown, with the balance of the daily operations based on 100% load (60 °F ambient temperature), or a day with operation at 100% load for 24 hours. The baseload hourly emission estimates are based on allowable BACT concentration emission limits at 100% load. In those cases in which the startup/shutdown emissions are less than the baseline, the baseline number was used for the entire 24 hours.

NO_x (as NO_2):
(40 Lb/hr-startup/stop)(5 hours) + (4.39 lb/hr-baseload)(19hours) = 283.4 lb/day NO_x (as NO_2)
or (4.39 lb/hr. x 24 hours/day) = 105.4 lb/day

CO:
(10 Lb/hr-startup/stop)(5hours) + (4.31 lb/hr-baseload)(19 hours) = 131.9 lb/day CO
or (4.31 lb/hr. x 24 hours/day) = 103.4 lb/day

POC:
(2 lb/hr-startup/shutdown)(5 hours) + (1.24 lb/hr-baseload)(19 hours)= 33.56 lb/day POC
or (1.24 lb/hr x 24 hours/day) = 29.8 lb/day POC

PM_{10}:
(2.5 lb/hr-startup/shutdown)(5hours) + (2.5 lb/hour)(19 hours) = 60 lb/day PM_{10}

SO_2:
(1.37 lb/hr-startup/shutdown)(5 hours) + (1.37 lb/hour)(19 hours) = 33 lb/day SO_2

Ammonia:
(6.48 lb/hr. x 24 hours/day) = 156 lb/day

Maximum Annual Emissions:

Annual emissions for each CTG are based on 4000 hours per year of operation. For pollutants for which emissions are higher during startup/shutdown periods, annual emissions are based on 3750 hr/yr at baseload operation, and 250 hr/yr at startup/shutdown operation.

Table 1 is a summary of the hourly, daily and annual maximum regulated air pollutant emissions for all three gas turbines including startup and shutdown.

Table 1
Maximum Hourly, Daily and Annual Regulated
Air Pollutant Emissions for the SFERP

Pollutant	Lb/hr [(a)]	Lb/day[(b)]	Tons/yr
NO_x (as NO_2)	120	850	39.8
CO	30	396	27.9
POC	6.0	101	7.7
PM_{10}	7.5	180	15
SO_2	4.11	99	2.7 (c)

(a) includes startup/shutdown emissions
(b) includes 5 hours day of startup/shutdown
(c) Annual SO_2 emissions are based on expected fuel sulfur content of 0.33 gr/100 scf

Table 2 is a summary of the maximum TAC emissions from the project. These emissions are used as input data for air pollutant dispersion models used to assess the maximum increased health risk to the public resulting from the project. The ammonia emissions shown are based upon a worst-case ammonia emission concentration of 10 ppmvd @ 15% O_2 due to ammonia slip from the A-1, A-2 and A-3 SCR systems.

Table 2
Maximum Facility Toxic Air Contaminant (TAC) Emissions

Toxic Air Contaminant	Maximum Facility Emissions, lbs/year	Risk Screening Trigger Level,[a] lb/yr
Acetaldehyde[b]	234.6	72
Acrolein	21.2	3.9
Ammonia[c]	78,480	1,930
Benzene[b]	19.1	6.7
1,3-Butadiene[b]	2.5	1.1
Ethylbenzene	187.5	19,300
Formaldehyde[b]	2,110.3	33
Hexane	1489.3	8,300
Naphthalene	9.5	270
PAHs[b]	1	0.043
Propylene	4,433.3	N/A
Propylene Oxide[b]	170.2	52.0
Toluene	764.8	3,860
Xylenes	375.5	57,900

a pursuant to BAAQMD Risk Evaluation Procedure

b carcinogenic compound

c based upon the worst-case ammonia slip of 10 ppmvd @ 15% O2 from the A-1, A-3 and A-5 SCR systems with ammonia injection

The SFERP does not trigger PSD requirements. Table 3 is a summary of the annual regulated air pollutant emission limits for the facility and the PSD trigger levels.

Table 3
Maximum Annual Facility Regulated Air Pollutant Emissions

Pollutant	**Cumulative Increase in Emissions[a,b] (tons/year)**	**PSD Trigger[c] (tons/year)**
Nitrogen Oxides (as NO_2)	39.8	100
Carbon Monoxide	27.9	100
Precursor Organic Compounds	7.7	NA[d]
Particulate Matter (PM_{10})	15	100
Sulfur Dioxide	2.7	100

a emission increase from proposed gas turbines only; does not include emissions from cooling tower

b Includes startup and shutdown emissions for gas turbines (250 startups and shutdowns)

c PSD trigger levels for new major facility

d there is no PSD requirement for POC

The sulfuric acid mist (H_2SO_4) emissions will be less than the PSD threshold of 7 tons per year. Even assuming all the sulfur were to be converted to sulfuric acid, the sulfuric acid mist emissions would be less than 7 tons per year.

The non-criteria pollutant analysis requirements of District Regulation 2-2-306 do not apply because SFERP is not a Major Facility, and the emissions of these pollutants (i.e., lead, asbestos, beryllium, mercury, fluorides, sulfuric acid mist, hydrogen sulfide, and total reduced sulfur and reduced sulfur compounds) will not exceed the specified emission thresholds. However, an HRSA has been conducted for potential emissions of TACs.

Regulation 2-2-308 requires applicants to demonstrate that emissions from a project located within 10 km of a PSD Class I area will not cause or contribute to exceed any national ambient air quality or any applicable Class I increment. Because the closest Class I area (i.e., the Point Reyes National Seashore) is more than 10 km from the SFERP, this requirement does not apply to the proposed facility.

III. Statement of Compliance

The following section summarizes the applicable District rules and regulations and describes how the proposed SFERP will comply with those requirements.

A. District Regulation 2, Rule 2: New Source Review

The primary requirements of the District's New Source Review rule that apply to the proposed SFERP facility are Section 2-2-301, Best Available Control Technology Requirement, and Section 2-2-302, Offset Requirements, Precursor Organic Compounds and Nitrogen Oxides.

1. District Regulation 2-2-301: BACT Determinations

District Regulation 2-2-206, defines BACT as the more stringent of:

(a) The most effective control device or technique which has been successfully utilized for the type of equipment comprising such a source; or

(b) The most stringent emission limitation achieved by an emission control device or technique for the type of equipment comprising such a source; or

(c) Any emission control device or technique determined to be technologically feasible and cost-effective by the APCO; or

(d) The most effective emission control limitation for the type of equipment comprising such a source which the EPA states, prior to or during the public comment period, is contained in an approved implementation plan of any state, unless the applicant demonstrates to the satisfaction of the APCO that such limitations are not achievable. Under no circumstances shall the emission control required be less stringent than the emission control required by any applicable provision of federal, state or District laws, rules or regulations.

The type of BACT described in definitions (a) and (b) must have been demonstrated in practice and approved by a local Air Pollution Control District, CARB, or the EPA and is referred to as "BACT

2." This type of BACT is also termed "achieved in practice." The BACT category described in definition (c) is referred to as "technologically feasible/cost-effective" and must have been demonstrated to be effective and reliable on a full-scale unit and shown to be cost-effective on the basis of dollars per ton of pollutant abated. This is referred to as "BACT 1." BACT specifications for both the "achieved in practice" and "technologically feasible/cost-effective" categories have been compiled in the BAAQMD BACT Guideline for various source categories.

Nitrogen Oxides (NO_x)

The District's BACT Guideline Section 89.1.3 for Gas Turbine Simple Cycle greater than 40 Megawatts Heat Input (dated 7/18/03) specifies BACT1 (Technologically Feasible/Cost Effective) for NO_x is 2.5 ppmvd NO_x @ 15% O_2. This BACT determination was based upon the use of water injection and SCR with ammonia (as applied in the most recent Application #5412, issued 10/15/2002). The EPA has accepted this BACT determination as Federal LAER. CARB has also cited these levels as BACT in its document "Guidance for Power Plant Siting and Best Available Control Technology," June 1999.

SCR lowers NO_x emissions by using a reducing agent (ammonia or urea) to reduce NO_x molecules to elemental nitrogen and water. The ammonia is injected into the flue gas stream upstream of a catalyst, which is used to reduce the required temperature for NO_x reduction to less than 800°F. SCR has been widely and successfully used in combustion turbine and boiler applications for many years.

The District is unaware of any simple cycle turbine system, in the size range being proposed here, that has consistently achieved a lower NOx level than 2.5 ppmvd @15% O_2. Thus the District does not consider a lower NOx control level to be technically feasible for the purposes of a top-down BACT analysis.

Environmental Impacts

The use of SCR will result in ammonia emissions due to an allowable ammonia slip limit of 10 ppmvd @ 15 % O_2. An HRSA using air dispersion modeling showed a chronic hazard index of 0.001 resulting from the ammonia slip emissions for three turbines. In accordance with the District's Toxic Risk Management Policy and currently accepted practice, a hazard index less than 1.0 is not considered significant. Therefore, the toxic impact of the ammonia slip resulting from the use of SCR is deemed to be not significant and is not a sufficient reason to eliminate SCR as a control alternative.

The ammonia emissions resulting from the use of SCR may have another environmental impact through potential formation of secondary particulate matter emissions, such as ammonium nitrate. Because of the complex nature of the chemical reactions and dynamics involved in the formation of secondary particulates, it is difficult to estimate the amount of secondary particulate matter that will be formed from the emission of a given amount of ammonia. However, the District believes that the formation of ammonium nitrate in the Bay Area air basin is limited by the formation of nitric acid and not driven by the amount of ammonia in the atmosphere. Therefore, ammonia emissions from the proposed SCR system are not expected to contribute significantly to the formation of secondary particulate matter. This potential environmental impact is not considered significant enough to justify the elimination of SCR as a control alternative.

One other potential environmental impact from the use of SCR involves the storage and transport of ammonia. Although ammonia is toxic if swallowed or inhaled and can irritate or burn the skin, eyes, nose, or throat, it is a commonly used material that is typically handled safely and without incident. The SFERP facility will be required to maintain a Risk Management Plan (RMP) and implement a Risk Management Program to prevent accidental releases. The RMP provides information on the hazards of the substances handled at the facility and the programs in place to prevent and respond to accidental releases. The accident prevention and emergency response requirements reflect existing safety regulations and sound industry safety codes and standards. In addition, the CEC has modeled the health impacts arising from a catastrophic release of aqueous ammonia due to spontaneous storage tank failure at the proposed SFERP and found that the impact would not be significant. Therefore, the potential environmental impact due to aqueous ammonia storage at the SFERP facility does not justify the elimination of SCR as a control alternative.

Conclusion

Each combustion gas turbine will meet a NO_x emission concentration limit of 2.5 ppmvd NO_x @ 15% O_2, averaged over a one hour period, during all operating modes except gas turbine start-ups and shutdowns. The applicant has proposed to comply with this emission limitation through the use of water injection and SCR with ammonia injection. Compliance will be verified by a CEM located in the stack for each gas turbine. SCR will not cause significant energy, economic, or environmental impacts. The applicant's proposed use of SCR to meet the District's BACT standard for NO_x is therefore acceptable.

Carbon Monoxide (CO)

BACT for CO will be analyzed over the turbines' entire operating range from minimum to maximum load. Water injection lowers the combustor flame temperature thereby allowing an increased fuel use rate. However, lowering the combustor flame temperature steam or water injection can increase CO production.

The District's BACT Guideline Section 89.1.3 for Gas Turbine Simple Cycle for greater than 40 Megawatts Heat Input (dated 7/18/03) specifies 6 ppmvd CO, @ 15% O_2 with an averaging period of three hours as BACT1 (Technologically Feasible/Cost Effective). This BACT determination was based upon the use of CO Catalyst and water injection. CARB has also cited these levels as BACT in their "Guidance for Power Plant Siting and Best Available Control Technology," June 1999.

The District has permitted at least five facilities at 4.0 ppmvd CO @15% O_2, averaged over three hours. Per the June 1999 CARB Power Plant Siting Guidance Document, two consecutive years of source testing indicate CO emission concentrations vary from 0.16 to 0.62 ppmvd CO @15% O_2. The District's source test results have measured emissions of less than 1.5 ppm CO @15% O_2. The District therefore believes there is sufficient justification to conclude that a CO emissions level at 4.0 ppmdv@15% O_2 has been achieved in practice. The CO limit will apply during all operating modes except for gas turbine start-up and shutdown. This limit applies to the exhaust from the gas turbine.

The SFERP has agreed to meet a CO emission limit of 4.0 ppmvd @ 15% O_2 that will apply to all gas turbines operating modes except for gas turbine start-up and shutdown. The SFERP will comply with this BACT specification through the use of oxidation catalysts.

Precursor Organic Compounds (POCs)
The District's BACT Guideline Section 89.1.3 for Gas Turbine Simple Cycle for greater than 40 Megawatts Heat Input (dated 7/18/03) specifies 2 ppmvd POC @ 15% O_2 with an averaging period of one hour as BACT. This BACT determination was based upon the use of an Oxidation Catalyst or Dry Low NO_x combustors and is based on recent BAAQMD permits issued for power plants. CARB has also cited these levels as BACT in their "Guidance for Power Plant Siting and Best Available Control Technology," June 1999. The applicant has proposed to meet this POC stack concentration of 2 ppmvd @ 15% O_2.

Sulfur Dioxide (SO_2)
The District's BACT Guideline Section 89.1.3 for Gas Turbine Simple Cycle for greater than 40 Megawatts Heat Input (dated 7/18/03) specifies the exclusive use of PUC-regulated natural gas as BACT for SO_2 emissions. The proposed turbines will utilize PUC natural gas exclusively, which will result in minimal SO_2 emissions. Accordingly, the sulfur content of the natural gas will be limited by permit condition to 1 grain/100 scf. This average corresponds to an SO_2 emission factor of 0.0028 lb./MMBtu. The natural gas sulfur content specification of 1 grain per 100 scf is deemed BACT for SO_2.

Particulate Matter (PM_{10})
The District's BACT Guideline Section 89.1.3 for Gas Turbine Simple Cycle for greater than 40 Megawatts Heat Input (dated 7/18/03) specifies the exclusive use of PUC-regulated natural gas as BACT for PM_{10} emissions. The proposed turbines and duct burners will utilize PUC natural gas exclusively, which will result in minimal direct PM_{10} emissions and minimal formation of secondary PM_{10} such as sulfates. Accordingly, the sulfur content of the natural gas will be limited by permit condition to 1 grain/100 scf.

PM emissions from gas-fired gas turbines are inherently low. The District has, in the past, utilized the BACT definition in Section 2-2-206.1 to determine that Best Available Control Technology for PM for gas turbines was "exclusive use of CPUC-regulated grade natural gas" to minimize fuel contaminant and sulfate contributions to PM emissions from gas turbines. Unlike NOx and CO emissions, PM emissions from gas turbines cannot feasibly be reduced using combustion modifications or add-on emission control technology.

An identical turbine at Los Esteros has an emission limitation of 2.5 lb/hr, and the emission limitation has been consistently achieved. Although the SFERP turbines will be used less frequently than the Los Esteros turbines, and will spend a greater fraction of its operation transitioning between load levels, the District has determined that the Los Esteros turbines are the same type of equipment. The Los Esteros limitation of 2.5 lb/hr is more stringent than the 3.0 lb/hr originally proposed for SFERP, and therefore comprises BACT.

The applicant has agreed to accept a limitation of 2.5 lb/hr for PM.

The cooling tower will operate when inlet air chilling is necessary to maintain turbine output. For this evaluation, the cooling tower is assumed to operate 24 hours per day, 8760 hours per year. SFERP is proposing a cooling tower with a drift rate of 0.0010%. Maximum emissions from cooling tower are calculated from the maximum drift rate and maximum total dissolved solids of the make-up water. The two-cell cooling towers will emit a maximum of 0.04 pounds per hour and 0.2 tons per year of PM_{10}. Since the maximum emissions from the tower are less than 10 pounds per day and 5 tons per year, the cooling tower is exempt from District permit requirements and is not subject to either BACT or offset requirements.

Cooling Tower Emissions Data

Drift rate:	0.0010 %
Water Flow:	3912 gpm
Drift, lbm water/hr:	19.55
TDS level, ppm:	2000
PM_{10} Emission Results:	0.04 lb/hr and 0.17 tons/year

2. District Regulation 2-2-302: Offset Requirements, POCs and NO_x

General Requirements

District Regulation 2-2-302 requires that for new or modified sources at a facility that will be permitted to emit 35 tons per year of POCs or NO_x or more on a pollutant specific basis, the total project emissions must be offset. The applicant issued a request for proposals to emission reduction credit (ERC) holders to obtain sufficient ERCs to meet the offset requirements for this project. The applicant has committed to obtain offsets locally within the San Francisco area. It should be noted that in the case of POC and NO_x offsets, District regulations do not require consideration of the location of the source of the emission reduction credits relative to the location of the proposed emission increases.

Timing for Provision of Offsets

Pursuant to District Regulation 2-2-311, the applicant must provide the required valid emission reduction credits to mitigate the emission increases for the facility prior to the issuance of the Authority to Construct. Pursuant to District Regulation 2, Rule 3: Power Plants, the Authority to Construct will be issued after the CEC issues their Certificate for the power plant.

Offset Requirements by Pollutant

Pursuant to Regulation 2-2-302, federally enforceable emission offsets are required for POC and NO_x emission increases from permitted sources at facilities, that will emit 10 tons per year or more on a pollutant-specific basis. Because the SFERP facility will emit greater than 35 tons per year of NO_x, the project NO_x emissions must be offset at a ratio of 1.15 to 1.0. Since the SFERP will emit less than 10 tons/year of POC, the applicant is not required to provide POC emission offsets.

The projected PM_{10} emissions from the proposed sources are less than 100 tons per year, therefore SFERP does not trigger the PM_{10} offset requirement of Regulation 2-2-303 and no PM_{10} offsets are required. Pursuant to Regulation 2-2-303, emission reduction credits are not required for the proposed SO_2 emission increases associated with this project since the facility SO_2 emissions will not exceed 100 tons per year. Regulation 2-2-303 allows a facility that emits less than 100 tons of

these pollutants to voluntarily provide emission offsets. The applicant will provide mitigation for PM_{10} and $PM_{2.5}$ emissions from the project as required by the CEC.

Interpollutant Offset Ratios

Pursuant to District Regulations 2-2-302 and 2-2-302.2, the applicant has the option to substitute ERCs for precursor organic compounds to offset increased emissions of NO_x at a ratio of 1.0 to 1.0.

Current Proposed Offset Package

Table 5 summarizes the current offset obligation of the SFERP and the quantity of valid emission reduction credits (ERCs) that are required.

The applicant has committed to secure sufficient valid emission reduction credits to offset the emission increases from the permitted sources proposed for the SFERP. In March 2005, the applicant has signed an option agreement for the purchase of ERCs represented by Certificate No. 896 which were created through NOx emissions reduction achieved at the nearby Mirant Potrero power plant. The table below shows that 47.5 tons of NOx ERCs will be provided. POC offsets are not required because POC emissions do not exceed the trigger levels for offsets under District regulations.

Table 4
Facility Offset Requirements

Pollutant	Net Emission Increase (tpy)	Offset Ratio	Offsets Required (tpy)	Offsets to be Provided (tpy)
NOx	39.8	1.15:1	45.8	47.5
POC	7.7	N/A	0	N/A

B. Health Risk Screening Analysis

Pursuant to the BAAQMD Risk Evaluation Procedure, a Health Risk Screening Analysis must be prepared to determine the potential impact on public health resulting from the emissions of TACs from the SFERP. The potential TAC emissions (both carcinogenic and non-carcinogenic) from the SFERP were previously summarized in Table 2. In accordance with the requirements of the BAAQMD Risk Evaluation Procedure, the impact on public health due to the emission of these compounds was assessed utilizing air pollutant dispersion models. The results are summarized in Table 6.

Table 5
Health Risk Screening Analysis Results

Source	Multi-pathway Carcinogenic Risk (Risk in One Million)	Non-carcinogenic Chronic Hazard Index
Gas Turbines [a]	0.01	0.001
Cooling Tower	0.004	0.00002

[a] numbers represent combined risk from all sources

The health risk assessment performed by the applicant has been reviewed by the District's Toxics Evaluation Section and found to be in accordance with guidelines adopted by Cal/EPA's Office of Environmental Health Hazard Assessment (OEHHA), the California Air Resources Board (CARB), and the California Air Pollution Control Officers Association (CAPCOA). Pursuant to the BAAQMD Risk Management Policy, the increased carcinogenic risk attributed to this project is considered to be not significant because it is less than 1.0 in one million. The chronic hazard index attributed to the emission of non-carcinogenic air contaminants is considered to be not significant because it is less than 1.0. Therefore, the SFERP facility is deemed to be in compliance with the BAAQMD Toxic Risk Management Policy.

C. Other Applicable District Rules and Regulations

Regulation 1, Section 301: Public Nuisance
This project is not expected to cause injury, detriment, nuisance or annoyance to any considerable number of persons or the public with respect to any impacts resulting from the emission of air contaminants regulated by the District.

Air contaminants from this proposed power plant are highly unlikely to cause a public health nuisance and annoyance to the neighboring community. It is also unlikely to contribute significantly to injury from air contaminants. The plant will not contribute significantly to ozone, carbon monoxide (CO), and particulate matter (PM_{10} and $PM_{2.5}$) levels in the air.

Regulation 2, Rule 1, Sections 301 and 302: Authority to Construct and Permit to Operate
Pursuant to District Regulation 2-1-301 and 2-1-302, the SFERP has submitted an application to the District to obtain an Authority to Construct and Permit to Operate for the proposed S-1, S-2 & S-3 Gas Turbines.

Because the proposed cooling tower will not be used for the evaporative cooling of process water, it is exempt from District permit requirements (Regulations 2-1-301 and 2-1-302) pursuant to Regulation 2, Rule 1, Section 128.4. The worst-case emission projections indicate that the cooling tower will not emit air contaminants at rates above the risk management screening trigger levels as specified in Table 2-1-316 of Regulation 2, Rule 1. The applicant has also demonstrated that the cooling tower emissions have passed an HRSA in accordance with the District Risk Evaluation Procedure. Therefore, the cooling tower remains exempt from District permit requirements per Regulation 2-1-316.

Regulation 2, Rule 3: Power Plants
Pursuant to Regulation 2-3-403, this FDOC serves as the APCO's preliminary decision that the proposed power plant will meet the requirements of all applicable BAAQMD, state, and federal regulations. The FDOC contains proposed permit conditions to ensure compliance with those regulations. Pursuant to Regulation 2-3-304, the PDOC was subject to the public notice, public comment, and public inspection requirements contained in Regulations 2-2-406 and 407.

Regulation 2, Rule 6: Major Facility Review
Pursuant to Regulation 2, Rule 6, Section 404.1, the owner/operator of the SFERP must submit an application to the BAAQMD for a major facility review permit within 12 months after the facility

becomes subject to Regulation 2, Rule 6. Pursuant to Regulation 2-6-212.1, the SFERP will become subject to Regulation 2, Rule 6 upon initial firing of any of the gas turbines (S-1, S-2, or S-3). However, because the Acid Rain requirements are also contained in the MFR permit, the application must be submitted much earlier (see below).

Regulation 2, Rule 7: Acid Rain

The SFERP gas turbine units will be subject to the requirements of Title IV of the federal Clean Air Act. The requirements of the Acid Rain Program are outlined in 40 CFR Part 72. The specifications for the type and operation of continuous emission monitors (CEMs) for pollutants that contribute to the formation of acid rain are given in 40 CFR Part 75. District Regulation 2, Rule 7 incorporates by reference the provisions of 40 CFR Part 72. Pursuant to 40 CFR Part 72.30(b)(2)(ii), SFERP must submit an Acid Rain Permit Application to the District at least 24 months prior to the date on which each unit commences operation. Pursuant to 40 CFR Part 72.2, "commence operation" includes the start-up of the unit's combustion chamber. The applicant filed an Acid Rain permit application for the project on August 23, 2005. SFERP cannot operate either of the gas turbines until either; 1) a Title IV Operating Permit has been issued; or 2) 24 months after the Title IV Operating Permit application has been submitted to the District, whichever is earlier.

Regulation 6: Particulate Matter and Visible Emissions

Through the use of low-NO_x burner technology and proper combustion practices, the combustion of natural gas at the proposed gas turbines is not expected to result in visible emissions. Specifically, the facility's combustion sources are expected to comply with Regulation 6, including Sections 301 (Ringelmann No. 1 Limitation), 302 (Opacity Limitation) with visible emissions not to exceed 20% opacity, and 310 (Particulate Weight Limitation) with particulate matter emissions of less than 0.15 grains per dry standard cubic foot of exhaust gas volume. As calculated in accordance with Regulation 6-310.3, the grain loading resulting from the simultaneous operation of each power train is 0.0025 gr/dscf @ 6% O_2.

With maximum total dissolved solids content of 2000 mg/l, flow rate and corresponding maximum PM_{10} emission rate of 0.04 lb/hr, the proposed 2-cell cooling towers are also expected to comply with the requirements of Regulation 6.

Particulate matter emissions associated with the construction of the facility are exempt from District permit requirements but are subject to Regulation 6. It is expected that the California Energy Commission will consider conditions on construction activities, and may require the use of water and/or chemical dust suppressants to minimize PM_{10} emissions and prevent visible particulate emissions.

Regulation 7: Odorous Substances

Regulation 7-302 prohibits the discharge of odorous substances, which remain odorous beyond the facility property line after dilution with four parts odor-free air. Regulation 7-302 limits ammonia emissions to 5000 ppm. Since the ammonia emissions from the three proposed CTG power trains will each be limited by permit condition to 10 ppmvd @ 15% O_2, the applicant is expected to comply with the requirements of Regulation 7.

Regulation 8: Organic Compounds
This facility is exempt from Regulation 8, Rule 2, "Miscellaneous Operations" per Regulation 8-2-110, since natural gas will be fired exclusively at the SFERP.

The use of solvents for cleaning and maintenance at the SFERP is expected to comply with Regulation 8, Rule 4, "General Solvent and Surface Coating Operations" Section 302.1 by emitting less than 5 tons per year of volatile organic compounds.

Regulation 9, Rule 1: Inorganic Gaseous Pollutants, Sulfur Dioxide
This regulation establishes emission limits for sulfur dioxide from all sources and applies to the combustion sources at this facility. Section 301: Limitations on Ground Level Concentrations, prohibits emissions that would result in ground level SO_2 concentrations in excess of 0.5 ppm continuously for 3 consecutive minutes, 0.25 ppm averaged over 60 consecutive minutes, or 0.05 ppm averaged over 24 hours. Section 302: General Emission Limitations, prohibits SO_2 emissions in excess of 300 ppmv (dry). With maximum projected SO_2 emissions of less than 1 ppmv, the gas turbines are not expected to exceed the ground level SO_2 concentration limit in Section 301and easily complies with Section 302.

Regulation 9, Rule 3: Inorganic Gaseous Pollutants, Nitrogen Oxides from Heat Transfer Operations
The proposed combustion gas turbines (each rated at 487.3 MM Btu/hr, HHV) will comply with the Regulation 9-3-303 NO_x limit of 125 ppm by complying with a permit condition nitrogen oxide emission limit of 2.5 ppmvd @ 15% O_2.

Regulation 9, Rule 9: Inorganic Gaseous Pollutants, Nitrogen Oxides from Stationary Gas Turbines
Because each of the proposed combustion gas turbines will be limited by permit conditions to NO_x emissions of 2.5 ppmvd @ 15% O_2, they are expected to comply with the Regulation 9-9-301.3 NO_x limitation of 9 ppmvd @ 15% O_2. In addition, the continuous emission monitoring (CEM) system will be installed to satisfy the monitoring and recordkeeping requirements of this rule.

Regulation 10: 40 CFR 60, Subpart GG- Standards of Performance for Stationary Gas Turbines
Regulation 10 (40 CFR 60, Subpart GG) was adopted by reference from the federal New Source Performance Standards (NSPS) for stationary gas turbines. This regulation requires monitoring of fuel; imposes limits on the emissions of NO_x, SO_2, and PM; requires source testing of the stack emissions; process monitoring and data collection and recordkeeping. All of the BACT limits imposed on the combustion turbines are more stringent than the requirements of the NSPS emissions limits. The SFERP will comply with the NSPS. New gas turbines may be subject to, and if subject, would be in compliance with, the proposed new Subpart KKKK when it is finalized by EPA. If Subpart KKKK is ultimately adopted and is determined to be applicable to the proposed SFERP gas turbines, Subpart GG would not apply.

40 CFR 63, Subpart YYYY-National Emissions Standards for Hazardous Air Pollutants for Stationary Combustion Turbines.

40 CFR 63, Subpart YYYY for hazardous air pollutant emissions requires that a facility emitting more than 10 tons per year of single HAP or more than 25 tons per year for any combination of HAPs will be subject to this requirement. Since, this facility will not emit more than 10 tons for single HAP or 25 tons for any combination, it is not subject to 40 CFR Part 63, Subpart YYYY.

D. CEQA

The CEQA requirements of Districts Regulation 2-1-426 are met since the CEC is the lead agency on this project. The CEC is thus responsible for conducting the CEQA review and preparing the CEQA document for this project. The CEC's final certification and licensure will serve as the EIR equivalent pursuant to the CEC's certified regulatory program (as specified in CEQA Guidelines Section 15253(b) and Public Resources Code Sections 21080.5 and 25523).

IV. Permit Conditions

The following permit conditions will be imposed to assure that the proposed project complies with all applicable District, State, and Federal regulations. The conditions limit operating parameters such as fuel use, stack gas emission concentrations, and mass emission rates. Permit conditions will also specify abatement device operation and performance levels. To aid enforcement efforts, conditions specifying emission monitoring, source testing, and record keeping requirements are included. Furthermore, pollutant mass emission limits (in units of lb/hr and lb/MMBtu of natural gas fired) will ensure that daily and annual emission rate limitations are not exceeded.

Compliance with CO and NO_x limits will be verified by continuous emission monitors (CEMs) that will be in operation during all turbine operating modes, including start-up and shutdown. If the CO and NOx CEMs are not capable of accurately assessing gas turbine start-up and shutdown mass emission rates due to variable gas content and the differing response times of the gas monitors, then start-up and shutdown mass emission rates will be based upon annual source test results. Compliance with POC, SO_2, and PM_{10} mass emission limits will be verified by annual source testing.

In addition to permit conditions that apply to the designed operation of each CTG power train, conditions will be imposed that govern equipment operation during the initial commissioning period when the CTGs will operate without their SCR systems and oxidation catalysts fully operational. During this commissioning period, the gas turbines will be tested, control systems will be adjusted, and ducts leading to the stack tubes will be cleaned. Permit Conditions 1 through 12 apply to this commissioning period and are intended to minimize emissions and insure that those emissions will not contribute to the exceedence of any short-term applicable ambient air quality standard.

San Francisco Electric Reliability Project
Permit Conditions

Definitions:

Clock Hour:	Any continuous 60-minute period beginning on the hour.
Calendar Day:	Any continuous 24-hour period beginning at 12:00 AM or 0000 hours.
Year:	Any consecutive twelve-month period of time
Heat Input:	All heat inputs refer to the heat input at the higher heating value (HHV) of the fuel, in Btu/scf.
Rolling 3-hour period:	Any three-hour period that begins on the hour and does not include start-up or shutdown periods.
Firing Hours:	Period of time during which fuel is flowing to a unit, measured in fifteen-minute increments.
MM Btu:	million British thermal units
Gas Turbine Start-up Mode:	The lesser of the first 120 minutes of continuous fuel flow to the Gas Turbine after fuel flow is initiated or the period of time from Gas Turbine fuel flow initiation until the Gas Turbine achieves two consecutive CEM data points in compliance with the emission concentration limits of conditions 18(b) and 18(d).
Gas Turbine Shutdown Mode:	The lesser of the 30 minute period immediately prior to the termination of fuel flow to the Gas Turbine or the period of time from non-compliance with any requirement listed in Conditions 18(b) through 18(d) until termination of fuel flow to the Gas Turbine.
Specified PAHs:	The polycyclic aromatic hydrocarbons listed below shall be considered to Specified PAHs for these permit conditions. Any emission limits for Specified PAHs refer to the sum of the emissions for all six of the following compounds. Benzo[a]anthracene Benzo[b]fluoranthene Benzo[k]fluoranthene Benzo[a]pyrene Dibenzo[a,h]anthracene Indeno[1,2,3-cd]pyrene
Corrected Concentration:	The concentration of any pollutant (generally NO_x, CO, or NH_3) corrected to a standard stack gas oxygen concentration. For emission point P-1 (exhaust stack of S-1 Gas Turbine), emission point P-2 (exhaust stack of S-2 Gas Turbine) and P-3 (exhaust stack of S-3 Gas Turbine) the standard stack gas oxygen concentration is 15% O_2 by volume on a dry basis.
Commissioning Activities:	All testing, adjustment, tuning, and calibration activities recommended by the equipment manufacturers and the SFERP construction contractor to insure safe and reliable steady state operation of the gas turbines, heat recovery steam generators, steam turbine, and associated electrical delivery systems.

Commissioning Period:	The Period shall commence when all mechanical, electrical, and control systems are installed and individual system start-up has been completed, or when a gas turbine is first fired, whichever occurs first. The period shall terminate when the plant has completed performance testing, is available for commercial operation, and has initiated sales to the power exchange.
Precursor Organic Compounds (POCs):	Any compound of carbon, excluding methane, ethane, carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate
CEC CPM:	California Energy Commission Compliance Program Manager
SFERP:	San Francisco Electric Reliability Project
*	Not Federally Enforceable

Conditions for the Commissioning Period

1. The owner/operator of the SFERP shall minimize emissions of carbon monoxide and nitrogen oxides from S-1, S-2, and S-3, Gas Turbine Combustors to the maximum extent possible during the commissioning period. Parts 1 through 12 will only apply during the commissioning period as defined above. Unless otherwise indicated, Parts 13 through 42 will apply after the commissioning period has ended.

2. At the earliest feasible opportunity, in accordance with the recommendations of the equipment manufacturers and the construction contractor, the owner/operator shall ensure that S-1, S-2, and S-3, Gas Turbine Combustors are tuned to minimize the emissions of carbon monoxide and nitrogen oxides.

3. At the earliest feasible opportunity, in accordance with the recommendations of the equipment manufacturers and the construction contractor, the owner/operator shall install, adjust, and operate A-1 through A-6, SCR and Oxidation Systems, to minimize the emissions of carbon monoxide and nitrogen oxides from S-1, S-2, and S-3, Gas Turbine Combustors.

4. Coincident with the as-designed operation of A-1 thru A-6, SCR and Oxidation Systems, pursuant to Parts 3, 8, 9 and 10 of this condition, the owner/operator shall ensure that the Gas Turbine Combustors (S-1, S-2, and S-3) comply with the NO_x and CO emission limitations specified in Parts 18(a) through 18(d) of this condition.

5. The owner/operator of the SFERP shall prepare a plan describing the procedures to be followed during the commissioning of the gas turbines. The plan shall be submitted the District Engineering Division and the CEC CPM at least four weeks prior to first firing of S-1, S-2, or S-3, Gas Turbine Combustors. The plan shall include a description of each commissioning activity, the anticipated duration of each activity in hours, and the purpose of the activity. The activities described shall include, but not be limited to, the tuning of the Water Injection system, the installation and operation of the SCR systems and oxidation catalysts, the installation, calibration, and testing of the CO and NO_x continuous emission monitors, and any activities requiring the firing of the Gas Turbine Combustors (S-1, S-2, and S-3) without abatement by their respective SCR and Oxidation Systems. No Gas Turbine Combustor (S-1, S-2, or S-3) shall be fired sooner than 28 days after the District receives the commissioning plan.

6. During the commissioning period, the owner/operator of the SFERP shall demonstrate compliance with Parts 8 through 11 of this condition through the use of properly operated and maintained continuous emission monitors and data recorders for the following parameters:
   - firing hours for each gas turbine (S-1, S-2, and S-3)
   - fuel flow rates to each train
   - stack gas nitrogen oxide emission concentrations at P-1, P-2, and P-3
   - stack gas carbon monoxide emission concentrations P-1, P-2, and P-3
   - stack gas oxygen or carbon dioxide concentrations P-1, P-2, and P-3

   The owner/operator shall monitor the parameters and record at least once every 15 minutes (excluding normal calibration periods or when the monitor source is not in operation) for the Gas

Turbine Combustors (S-1, S-2, and S-3). The owner/operator shall use District-approved methods to calculate heat input rates, NO_x (as NO_2) mass emission rates, carbon monoxide mass emission rates, and NO_x and CO emission concentrations, summarized for each clock hour and each calendar day. All records shall be retained on site for at least 5 years from the date of entry and made available to District personnel upon request.

7. The owner/operator shall install, calibrate, and properly operate District-approved continuous emission monitors specified in Part 6 prior to the first firing of the Gas Turbine Combustors (S-1, S-2, and S-3). After first firing of the turbines, the detection range of these continuous emission monitors must be adjusted as necessary to accurately measure the resulting range of CO and NO_x emission concentrations. The type, specifications, and location of these monitors shall be subject to District review and approval (by the District's Source Test Section).

8. The owner/operator shall not exceed 100 hours of firing during the commissioning period of S-1, Gas Turbine Combustor without abatement of nitrogen oxide emissions by A-1, SCR System. Such operation of S-1, Gas Turbine Combustor without abatement shall be limited to discrete commissioning activities that can only be properly executed without the SCR or Oxidation Catalyst Systems fully operational. Upon completion of these activities, the owner/operator shall provide written notice to the District's Engineering and Enforcement Divisions, and the unused balance of the 100 firing hours without abatement shall expire.

9. The owner/operator shall not exceed 100 hours of firing during the commissioning period of S-2, Gas Turbine Combustor without abatement of nitrogen oxide emissions by A-3, SCR System. Such operation of S-2, Gas Turbine Combustor without abatement shall be limited to discrete commissioning activities that can only be properly executed without the SCR or Oxidation Catalyst Systems fully operational. Upon completion of these activities, the owner/operator shall provide written notice to the District's Engineering and Enforcement Divisions, and the unused balance of the 100 firing hours without abatement shall expire.

10. The owner/operator shall not exceed 100 hours of firing during the commissioning period of S-3, Gas Turbine Combustor without abatement of nitrogen oxide emissions by A-5, SCR System. Such operation of S-3, Gas Turbine Combustor without abatement shall be limited to discrete commissioning activities that can only be properly executed without the SCR or Oxidation Catalyst Systems fully operational. Upon completion of these activities, the owner/operator shall provide written notice to the District Engineering and Enforcement Divisions. and the unused balance of the 100 firing hours without abatement shall expire.

11. The owner/operator shall calculate the total mass emissions of nitrogen oxides, carbon monoxide, precursor organic compounds, PM_{10}, and sulfur dioxide that are emitted by each Gas Turbine Combustor (S-1, S-2, and S-3) during the commissioning period. These emissions count towards the consecutive twelve-month emission limitations specified in Part 21 of this condition.

12. Prior to the end of the Commissioning Period, the owner/operator shall conduct a District- and CEC-approved source test using external continuous emission monitors to determine compliance with Part 18 of this condition. The source test shall determine NO_x, CO, and POC emissions

during start-up and shutdown of the gas turbines. The POC emissions shall be analyzed for methane and ethane to account for the presence of unburned natural gas. The source test shall include a minimum of three start-up and three shutdown periods. No later than twenty working days before the execution of the source tests, the owner/operator shall submit to the District and the CEC Compliance Program Manager (CPM) a detailed source test plan designed to satisfy the requirements of this condition. The District and the CEC CPM will notify the owner/operator of any necessary modifications to the plan within 20 working days of receipt of the plan; otherwise, the plan shall be deemed approved. The owner/operator shall incorporate the District and CEC CPM comments into the test plan. The owner/operator shall notify the District and the CEC CPM within seven (7) working days prior to the planned source testing date. Source test results shall be submitted to the District and the CEC CPM within 30 days of the source testing date.

Conditions for the Gas Turbine Combustors (S-1, S-2, and S-3)

13. The owner/operator shall ensure that S-1, S-2 and S-3, gas turbine combustors are fired on PUC natural gas exclusively. (Basis: BACT for SO_2 and PM_{10})

14. The owner/operator shall ensure that heat input rate to each Gas Turbine Combustor (S-1, S-2, or S-3) does not exceed 487.3 MM Btu per hour, averaged over one hour period. (Basis: 2-1-234)

15. Except during the commissioning period, the owner/operator of S-1, Gas Turbine Combustor shall properly operate and properly maintain A-1, Selective Catalytic Reduction (SCR) and A-2, Oxidation Catalyst Systems whenever fuel is combusted at the source and the A-1 catalyst bed has reached minimum operating temperature. (Basis: BACT for NO_x and CO)

16. Except during the commissioning period, the owner/operator of S-2, Gas Turbine Combustor shall properly operate and properly maintain A-3, Selective Catalytic Reduction (SCR) and A-4, Oxidation Catalyst Systems whenever fuel is combusted at those sources and the A-3 catalyst bed has reached minimum operating temperature. (Basis: BACT for NO_x and CO)

17. Except during the commissioning period, the owner/operator of S-3, Gas Turbine Combustor shall properly operate and properly maintain A-5, Selective Catalytic Reduction (SCR) and A-6, Oxidation Catalyst Systems whenever fuel is combusted at the source and the A-5 catalyst bed has reached minimum operating temperature. (Basis: BACT for NO_x and CO)

18 The owner/operator of the Gas Turbine Combustors (S-1, S-2, and S-3) shall comply with requirements (a) through (h) below under all operating scenarios, except requirements (a) through (h) do not apply during a gas turbine start-up or shutdown. (Basis: BACT and Toxic Risk Management Policy)

(a) Nitrogen oxide mass emissions (calculated in accordance with District-approved methods) at each P-1, P-2, and P-3 (the exhaust point for each Gas Turbine abated by SCR and Catalyst Oxidation) shall not exceed or 0.0090 lb/MM Btu (HHV). (Basis: BACT for NO_x)

(b) The nitrogen oxide emission concentration at each P-1, P-2, and P-3 shall not exceed 2.5 ppmv, on a dry basis, corrected to 15% O_2, averaged over any rolling 3-hour period. (Basis: BACT for NO_x)

(c) Carbon monoxide mass emissions at each P-1, P-2, and P-3 shall not exceed 0.0090 lb/MM Btu (HHV) of natural gas fired, averaged over any rolling one-hour period. (Basis: BACT for CO)

(d) The carbon monoxide emission concentration at each P-1, P-2, and P-3 shall not exceed 4 ppmv, on a dry basis, corrected to 15% O_2, averaged over any rolling 3-hour period. (Basis: BACT for CO)

(e)* Ammonia (NH_3) emission concentrations at each P-1, P-2, and P-3 shall not exceed 10 ppmv, on a dry basis, corrected to 15% O_2, averaged over any one-hour period. The owner/operator shall verify, by continuous recording, the ammonia injection rate to A-1, A-3, and A-5, SCR Systems. The correlation between the gas turbine, A-1, A-3 and A-5, SCR System ammonia injection rates and the corresponding ammonia emission concentration at emission points P-1, P-2 and P-3 shall be determined in accordance with Part 25 of this condition. (Basis: TRMP for NH_3)

(f) Precursor organic compound (POC) mass emissions (as CH_4) at each P-1, P-2, and P-3 shall not exceed 0.0025 lb/MM Btu of natural gas fired. (Basis: BACT)

(g) Sulfur dioxide (SO_2) mass emissions at each P-1, P-2, and P-3 shall not exceed 0.0028 lb/MM Btu of natural gas fired. (Basis: BACT)

(h) Particulate matter (PM_{10}) mass emissions at each P-1, P-2, and P-3 shall not exceed 2.5 pounds per hour. (Basis: BACT)

19. The owner/operator shall not exceed the regulated air pollutant mass emission rates from each of the Gas Turbine Combustors (S-1, S-2, and S-3) during a start-up or a shutdown as established below. (Basis: BACT)

	Start-Up (lb/hour)	**Shutdown (lb/hour)**
Oxides of Nitrogen (as NO_2)	40	40
Carbon Monoxide (CO)	10	10
Precursor Organic Compounds (as CH_4)	2	2

20. The owner/operator of the Gas Turbines (S-1, S-2 and S-3) shall not exceed the following daily limits for each turbine during any one calendar day. (Basis: Cumulative Increase)

	Daily Limits, lb/day
Oxides of Nitrogen (as NO_2)	283
Carbon Monoxide (CO)	132
Precursor organic Compounds (as CH_4)	34
Particulate Matter	60
Sulfur Dioxide (SO_2)	33
Ammonia (NH_3)	156

21. The owner/operator shall ensure that the cumulative combined emissions from the Gas Turbine Combustors (S-1, S-2, and S-3) do not exceed the following limits during any consecutive twelve-month period, including emissions generated during gas turbine start-ups and shutdowns:

(a) 39.8 tons of NO_x (as NO_2) per rolling 365 day period;

(b) 27.9 tons of CO per rolling 365 day period;

(c) 7.7 tons of POC (as CH_4) per rolling 365 day period;

(d) 15 tons of PM_{10} per rolling 365 day period; and
(e) 2.7 tons of SO_2 per rolling 365 day period.
(Basis: Cumulative Increase)

22.* The owner/operator shall ensure that the maximum projected annual toxic air contaminant emissions from the Gas Turbine Combustors (S-1, S-2, and S-3) not exceed the following limits:

2,110 pounds of formaldehyde per year
235 pounds of acetaldehyde per year
21 pounds of acrolein per year
19 pounds of benzene per year

unless the following requirement is satisfied: The owner/operator shall perform a health risk assessment using the emission rates determined by annual source test and the most current Bay Area Air Quality Management District-approved procedures and unit risk factors in effect at the time of the analysis. This risk analysis shall be submitted to the District and the CEC CPM within 60 days of the source test date. The owner/operator may request that the District and the CEC CPM revise the carcinogenic compound emission limits specified above. If the owner/operator demonstrates to the satisfaction of the APCO that these revised emission limits will result in a cancer risk of not more than 1.0 in one million, the District and the CEC CPM may, at their discretion, adjust the carcinogenic compound emission limits listed above. (Basis: TRMP)

23 The owner/operator shall demonstrate compliance with Parts 14 through15, 18(a) through 18(d), 19, 20, 21(a), and 21(b) by using properly operated and maintained continuous monitors (during all hours of operation including equipment start-up and shutdown periods) for all of the following parameters in (a) through (d) below.

(a) Firing Hours and Fuel Flow Rates for each of the following sources: S-1, S-2, and S-3 combined.
(b) Carbon Dioxide (CO2) or Oxygen (O2) concentrations, Nitrogen Oxides (NOx) concentrations, and Carbon Monoxide (CO) concentrations at each of the following exhaust points: P-1, P-2, and P-3.
(c) Ammonia injection rate at A-1, A-3, and A-5, SCR Systems
(d) Water or steam injection rate at S-1, S-2, and S-3 Gas Turbine Combustors

The owner/operator shall record all of the above parameters measured in (a) though (d) every 15 minutes (excluding normal calibration periods) and shall summarize all of the above parameters for each clock hour. For each calendar day, the owner/operator shall calculate and record the total firing hours, the average hourly fuel flow rates, and average hourly pollutant emission concentrations. (Basis: District Regulations 1-520.1, 9-9-501, BACT, Offsets, Cumulative Increase)

24 The owner/operator shall use the parameters measured in Part 23(a) through (d) and District-approved calculation methods to calculate the parameters below.

(a) Heat Input Rate for each of the following sources: S-1, S-2, and S-3.
(b) Corrected NOx concentrations, NOx mass emissions (as NO2), corrected CO concentrations, and CO mass emissions at each of the following exhaust points: P-1, P-2, and P-3.

Applicable to emission points P-1, P-2, and P-3, the owner/operator shall record the parameters specified above at least once every 15 minutes (excluding normal calibration periods). (Basis: District Regulations 1-520.1, 9-9-501, BACT, Offsets, Cumulative Increase)

25. As specified below, the owner/operator shall calculate and record the following data:
    (a) Total Heat Input Rate for every clock hour and the average hourly Heat Input Rate.
    (b) On an hourly basis, the cumulative total Heat Input Rate for each calendar day for the following: each Gas Turbine and all three sources (S-1, S-2, and S-3).
    (c) The average NO_x mass emissions (as NO_2), and corrected NO_x emission concentrations for every clock hour.
    (d) The average CO mass emissions and corrected CO emission concentrations for every rolling 3-hour period.
    (e) On an hourly basis, the cumulative total NOx mass emissions (as NO_2) and the cumulative total CO mass emissions, for each calendar day for the following each Gas Turbines (S-1, S-2, and S-3) combined.
    (f) For each calendar day, the average hourly Heat Input Rates, Corrected, corrected CO emission concentrations, and CO mass emissions, for the previous consecutive twelve month period for all three sources (S-1, S-2, and S-3) combined.
    (g) On a daily basis, the cumulative total NOx mass emissions (as NO_2) and cumulative total CO emissions, for previous consecutive twelve month period for all three sources (S-1, S-2, and S-3) combined.

    (Basis: District Regulations 1-520.1, 9-9-501, BACT, Offsets, Cumulative Increase)

26. To demonstrate compliance with parts 18(f), 18(g), 18(h), 20, 21(c), 21(d) and 21(e), the owner/operator shall calculate and record on a daily basis, the Precursor Organic Compound (POC) mass emissions, Fine Particulate Matter (PM_{10}) mass emissions (including condensable particulate matter), and Sulfur Dioxide (SO_2) mass emissions from each power train. The owner/operator shall use the actual Heat Input Rates calculated pursuant to Part 28, actual Gas Turbine Start-up Times, actual Gas Turbine Shutdown Times, and CEC and District-approved emission factors to calculate these emissions. The calculated emissions shall be presented as follows:
    (a) For each calendar day, POC, PM_{10}, and SO_2 emissions shall be summarized for: each power train (S-1, S-2, and S-3) combined.
    (b) On a daily basis, the 365 day rolling average cumulative total POC, PM_{10}, and SO_2 mass emissions, for all three sources (S-1, S-2, and S-3) combined.

    (Basis: Offsets, Cumulative Increase)

27.* To demonstrate compliance with Part 22, the owner/operator shall calculate and record on an annual basis the maximum projected annual emissions of: Acetaldehyde, Acrolein, Formaldehyde and Benzene. Maximum projected annual emissions shall be calculated using the maximum Heat Input Rate of 5,847,600 MM Btu/year and the highest emission factor (pounds of pollutant per MM Btu of Heat Input) determined by any source test of the S-1, S-2, and S-3 Gas Turbine Combustors. (Basis: TRMP)

28.* Within 120 days of start-up of the SFERP, the owner/operator shall conduct a District-approved source test at the exhaust point P-1, P-2, or P-3 to determine the corrected ammonia (NH_3)

emission concentration compliance with Part 18(e). The source test shall determine the correlation between the heat input rates of each gas turbine S-1, S-2, and S-3 and NH_3 mass emissions. (Basis: TRMP)

29.* The owner/operator shall determine the SCR System ammonia injection rate and the corresponding NH_3 emission concentration at emission point P-1, P-2, or P-3. The source test shall be conducted over the expected operating range of the turbine (including, but not limited to minimum, 70%, 85%, and 100% load) to establish the range of ammonia injection rates necessary to achieve NO_x emission reductions while maintaining ammonia slip levels. Continuing compliance with part 18(e) shall be demonstrated through calculations of corrected ammonia concentrations based upon the source test correlation and continuous records of ammonia injection rate. (Basis: TRMP)

30. Within 120 days of start-up of the SFERP and on an annual basis thereafter, the owner/operator shall conduct a District-approved source test on exhaust points P-1, P-2, and P-3 while each Gas Turbine Combustor is operating at maximum load to determine compliance with Parts 18(a), (b), (c), (d), (f), (g), and (h), while each Gas Turbine Combustor is operating at minimum load to determine compliance with Parts 18(b) and (d), and to verify the accuracy of the continuous emission monitors required in Part 23. The owner/operator shall test for (as a minimum): water content, stack gas flow rate, oxygen concentration, precursor organic compound concentration and mass emissions, nitrogen oxide concentration and mass emissions (as NO_2), carbon monoxide concentration and mass emissions, sulfur dioxide concentration and mass emissions, methane, ethane, and particulate matter (PM_{10}) emissions including condensable particulate matter. (Basis: BACT, offsets)

31.* Within 120 days of start-up of the SFERP and on a biennial basis (once every two years) thereafter, the owner/operator shall conduct a District-approved source test at the exhaust point P-1, P-2, or P-3 while the Gas Turbine Combustor is operating at maximum allowable operating rates to demonstrate compliance with Part 22. If three consecutive biennial source tests demonstrate that the annual emission rates calculated pursuant to Part 22 for any of the compounds listed below are less than the BAAQMD Toxic Risk Management Policy trigger levels shown, then the owner/operator may discontinue future testing for that pollutant:

Acetaldehyde $\leq$ 235 pounds/year
Acrolein $\leq$ 21 pounds/year
Benzene $\leq$ 19 pounds/year
Formaldehyde $\leq$ 2110 pounds/year

(Basis: TRMP)

32. The owner/operator shall obtain approval for all source test procedures from the District's Source Test Section and the CEC CPM prior to conducting any tests. The owner/operator shall comply with all applicable testing requirements for continuous emission monitors as specified in Volume V of the District's Manual of Procedures. The owner/operator shall notify the District's Source Test Section and the CEC CPM in writing of the source test protocols and projected test dates at least 7 days prior to the testing date(s). As indicated above, the owner/operator shall measure the contribution of condensable PM (back half) to the total PM_{10} emissions. However, the owner/operator may propose alternative measuring techniques to measure condensable PM

such as the use of a dilution tunnel or other appropriate method used to capture semi-volatile organic compounds. Source test results shall be submitted to the District and the CEC CPM within 60 days of conducting the tests. (Basis: BACT)

33. The owner/operator of the SFERP shall submit all reports (including, but not limited to monthly CEM reports, monitor breakdown reports, emission excess reports, equipment breakdown reports, etc.) as required by District Rules or Regulations and in accordance with all procedures and time limits specified in the Rule, Regulation, Manual of Procedures, or Enforcement Division Policies & Procedures Manual. (Basis: Regulation 2-6-502)

34. The owner/operator of the SFERP shall maintain all records and reports on site for a minimum of 5 years. These records shall include but are not limited to: continuous monitoring records (firing hours, fuel flows, emission rates, monitor excesses, breakdowns, etc.), source test and analytical records, natural gas sulfur content analysis results, emission calculation records, records of plant upsets and related incidents. The owner/operator shall make all records and reports available to District and the CEC CPM staff upon request. (Basis: Regulation 2-6-501)

35. The owner/operator of the SFERP shall notify the District and the CEC CPM of any violations of these permit conditions. Notification shall be submitted in a timely manner, in accordance with all applicable District Rules and Regulations, and the Manual of Procedures. Notwithstanding the notification and reporting requirements given in any District Rule, Regulation, or the Manual of Procedures, the owner/operator shall submit written notification (facsimile is acceptable) to the Enforcement Division within 96 hours of the violation of any permit condition. (Basis: Regulation 2-1-403)

36. The owner/operator of SFERP shall provide adequate stack sampling ports and platforms to enable the performance of source testing. The location and configuration of the stack sampling ports shall be subject to BAAQMD review and approval.
(Basis: Regulation 1-501)

37. Within 180 days of the issuance of the Authority to Construct for the SFERP, the owner/operator shall contact the BAAQMD Technical Services Division (Source Test Section) regarding requirements for the continuous monitors, sampling ports, platforms, and source tests required by parts 23, 28, 29, 30, and 31. All source testing and monitoring must be conducted in accordance with the BAAQMD Manual of Procedures or EPA methods. (Basis: Regulation 1-501)

38. Prior to the issuance of the BAAQMD Authority to Construct for the SFERP, the owner/operator shall provide to the District valid emission reduction credit banking certificates in the amount of 45.8 tons/year of Nitrogen Oxides or equivalent as defined by District Regulations 2-2-302.1 and 2-2-302.2. (Basis: Offsets)

39. Pursuant to BAAQMD Regulation 2, Rule 6, section 404.1, the owner/operator of the SFERP shall submit an application to the BAAQMD for a major facility review permit within 12 months of the issuance of the Authority to Construct. (Basis: Regulation 2-6-404.1)

40. The owner/operator of the SFERP shall not operate either of the gas turbines until: 1) a Title IV Operating Permit has been issued; 2) 24 months after a Title IV Operating Permit Application has been submitted, to the District whichever is earlier. (Basis: Regulation 2, Rule 7)

41. The owner/operator of SFERP shall comply with the continuous emission monitoring requirements of 40 CFR Part 60 or 75 (Appendix A; Specifications and Test procedures, and Appendix B; Quality Assurance and Quality Control Procedures). (Basis: Regulation 2, Rule 7)

42. The owner/operator shall take monthly samples of the natural gas utilized at the SFERP and analyze for the sulfur content using District-approved laboratory methods, or shall obtain certified analytical results from the gas supplier. The sulfur content test results shall be retained on site for a minimum of five years from the test date and shall be utilized to satisfy the requirements of 40 CFR Part 60, subpart GG. (Basis: Recordkeeping)

V. Recommendation

The APCO has concluded that the proposed SFERP, which is composed of the sources listed below, complies with all applicable District rules and regulations. The following sources will be subject to the permit conditions and BACT and offset requirements discussed previously.

S-1 Combustion Turbine Generator (CTG) #1, General Electric LM-6000 PC Sprint, 487.3 MMBtu/hr maximum rated capacity, natural gas fired only; Abated by A-1 Selective Catalytic Reduction (SCR) System and A-2 Oxidation Catalyst.

S-2 Combustion Turbine Generator (CTG) #2, General Electric LM-6000 PC Sprint, 487.3 MMBtu/hr maximum rated capacity, natural gas fired only; Abated by A-3 Selective Catalytic Reduction (SCR) System A-4 Oxidation Catalyst.

S-3 Combustion Turbine Generator (CTG) #3, General Electric LM-6000 PC Sprint, 487.3 MMBtu/hr maximum rated capacity, natural gas fired only; Abated by A-5 Selective Catalytic Reduction (SCR) System A-6 Oxidation Catalyst.

S-4 Cooling Tower, Two Cells, 40' H x 50' L x 14' W, 52,000 gpd (exempt permit per /requirements per District Regulation 2-1-103)

S-5 Aqueous Ammonia Storage Tank, 29% NH_3, 8' dia. x 30 'L, capacity 11,300 gallons (exempt from permit requirements per District Regulation 2-1-123)

BAY AREA
AIR QUALITY
MANAGEMENT
DISTRICT

February 1, 2006

COPY

Michael Boyd
Lynne Brown
CARE
5439 Soquel Road
Soquel, CA 95073

Re: San Francisco Electric Reliability Project
BAAQMD Application 12344

SPARE THE AIR
50
1955-2005
FOR A HEALTHIER FUTURE

ALAMEDA COUNTY
Roberta Cooper
Scott Haggerty
Nate Miley
Shelia Young

CONTRA COSTA COUNTY
Mark DeSaulnier
Mark Ross
(Vice-Chair)
Michael Shimansky
Gayle B. Uilkema
(Chair)

MARIN COUNTY
Harold C. Brown, Jr.

NAPA COUNTY
Brad Wagenknecht

SAN FRANCISCO COUNTY
Chris Daly
Jake McGoldrick
Gavin Newsom

SAN MATEO COUNTY
Jerry Hill
(Secretary)
Marland Townsend

SANTA CLARA COUNTY
Erin Garner
Liz Kniss
Patrick Kwok
Julia Miller

SOLANO COUNTY
John F. Silva

SONOMA COUNTY
Tim Smith
Pamela Torliatt

Jack P. Broadbent
EXECUTIVE
OFFICER/APCO

Dear Mr. Boyd and Mr. Brown:

Thank you for your comments on the Preliminary Determination of Compliance (PDOC) for the San Francisco Electric Reliability Project (SFERP). A copy of the final Determination of Compliance is enclosed. The District has carefully considered your comments and offers the following responses.

Comment 1: *The serious effects of air pollution in the Southeast San Francisco are well documented and the District's commitment to environmental justice requires the rejection of this application.*

Response: The District has determined that potential impacts of regulated air pollutants and toxic air contaminant emissions from the SFERP are not significant. The District conducted a Screening Health Risk Assessment (SHRA) to determine maximum potential impacts on public health from toxic air contaminants. The modeling shows that the impacts of toxic air contaminants from this proposed project are well below the level considered to be significant.

The District has also determined that this project complies with all District Rules and Regulations including the New Source Review of Toxic Air Contaminants. The proposed new power generation facility, which would use "best available control technology," will not have a significant air quality impact on surrounding communities. To the contrary, it will clear the way for shutting down an older, dirtier facility, a goal frequently voiced by community members.

Comment 2: *This project in conjunction with other projects such as the Muni Maintenance Center the third street light rail project, and numerous other projects associated with the Port Master Plan will further burden this minority community and the PDOC should provide a cumulative analysis of all these projects and their associated health impacts.*

The cumulative impacts of this project have been evaluated in great detail in the CEQA process conducted under the auspices of the California Energy Commission ("CEC"), which is the CEQA lead agency for this project. The CEC staff has concluded that, with the mitigation that is being proposed, the cumulative

impacts arising from this project and others in the area will be less than significant. The District incorporates that analysis by reference into this response.

In addition, the commenter is correct in noting that one of the purposes of the project is to facilitate the shutdown of the Hunters Point Power Plant. The City of San Francisco is engaged in that effort in part because it believes that doing so will have an overall positive environmental impact in Southeast San Francisco, not a negative one. The District supports the City in this effort.

Comment 3: *The project has PM 2.5 impacts from the direct emissions of 18 tons per year of PM 2.5. The District's Environmental Justice obligations require a supplemental environmental project (SEP)that will offset all of the 18 tons of PM 2.5 emissions from this project. ... The District should utilize its woodstove program to limit the impacts of the PM 2.5 emissions from this project.*

BAAQMD regulations do not require particulate offsets from a source of this size. The applicant has proposed a number of mitigation measures to reduce particulate impacts, however, including the street sweeping program referred to in the comment, among others. The CEC's staff has analyzed these mitigation measures as part of the CEQA process and has concluded that they will ensure that there are no significant particulate impacts from the project.

Comment 4: *The project will emit 39 tons per year of ammonia through the use of SCR. Page 10 of the PDOC describes the negative environmental effects of the ammonia emissions.The district has performed no analysis of the project area to determine whether these ammonia emissions will in fact not cause a significant impact. Considering the "uncertain and complex nature of secondary particulate formation from the ammonia emissions" the PDOC should provide a local analysis of the formation of Ammonium Nitrate and not a generalization of conditions for the formation of Ammonium Nitrate in the entire Bay Area Air Basin.*

Response: Formation of ammonium nitrate in the Bay Area air basin is limited by the formation of nitric acid and is not driven by the amount of ammonia in the atmosphere. The relevant atmospheric conditions at the project location are consistent with those elsewhere in the region. Ammonia emissions from the proposed project are not expected to contribute significantly to the formation of secondary particulate matter within the District.

Comment 5: *The PDOC also fails to recognize that the project's ammonia emissions will produce nitrogen deposition on San Bruno Mountain an impact that has been considered significant by the US Fish and Wildlife service. Biological impacts should be minimized by limiting ammonia slip or eliminating it altogether with the SCONOX technology.*

Response: The CEC's staff has evaluated the potential for biological impacts from nitrogen deposition in great detail in the CEQA process. That analysis has found that the

project will increase nitrogen deposition at San Bruno Mountain by less than one one-thousandth of one percent. The nitrogen deposition issues raised by this comment do not alter the District's conclusion that the project complies with all applicable air quality requirements.

Comment 6: *Another potential environmental impact that may result from the use of SCR involves the storage and transport of aqueous ammonia in a 29% solution. The PDOC fails to address this issue. The applicant should be required to use ammonia pellets in a Urea on demand system or eliminate the use of ammonia with the SCONOx Control System.*

Response: Potential environmental impacts from ammonia storage and transport are addressed in several ways. Emergency releases will be addressed by the facility's Risk Management Plan implemented pursuant to Section 112(r) of the Clean Air Act and related legal requirements. Potential impacts are also being addressed through the CEC licensing process. As far as the District's regulations are concerned, the District has determined, after considering all of the comments received, that the proposed project will comply with all applicable legal requirements regarding ammonia emissions.

Comment 7: *Because of these environmental consequences from the use of SCR the PDOC should evaluate and recommend the use of the SCONOx control system. ... Since SCR or SCONOx could be used to achieve a 2.5ppm NOx level according to the District's BACT Guidelines the District should require the use of SCONOx to the eliminate the ammonia impacts form the use of SCR. SCONOx has also demonstrated lower POC emissions than SCR which limits Toxic air contaminates form the SFREP in an area that has the highest inhalation cancer risk in the state of California.*

Response: As the comment recognizes, both SCR and SCONOX can achieve the District's BACT emissions limit for NOx (2.5 ppm). Facilities can therefore use either type of system to satisfy the BACT requirement. As noted elsewhere in this letter, the environmental impacts of the project – including any impacts from the facility's choice of SCR instead of SCONOX to control NOx emissions (to the extent that SCONOX would even be a feasible alternative here) – have been evaluated in great detail in the CEQA process, and that evaluation has concluded that there will be no significant adverse impacts.

Comment 8: *The project area is dominated by serpentine rock formations which contain a high content of naturally occurring asbestos. The PDOC should examine the health effects of the ground disturbance from construction of the SFERP.*

Response: Potential health impacts from asbestos-containing serpentine soils have been examined by CEC Staff in the CEQA process. The serpentine soil issues raised by this comment do not alter the District's conclusion that the project complies with all applicable air quality requirements.

Comment 9: Condition 20 should be retained in the permit to prevent excessive startups and shutdowns which have higher Toxic Air Contaminants (TACs) and Criteria Pollutant emisssions. As illustrated above the project area has the highest cancer inhalation risk in the state of California. and repeated startups and shutdowns will exacerbate Toxic Air Contaminate concentrations in the project area.

Response: The District has determined that each combustion turbine can operate in startup/shutdown modes more than twice in one day and still be able to comply with the daily emission limits upon which the engineering evaluation was based. The condition has been changed to specify these maximum permissible daily emission levels as numerical restrictions instead of a restriction on the number of startups. (Note also the daily PM10 limit has been lowered to 60 lbs/turbine to reflect a reduction in hourly PM10 emissions from 3.0 to 2.5 lbs/turbine.) This change in the way the restriction is expressed will have no effect on emissions rates: the maximum hourly, daily, and annual emissions from the facility will remain exactly the same. The change therefore does not alter the conclusion that the project complies with all applicable air quality requirements and will not have any significant impacts from air emissions.

Comment 10: *The project should be limited to startup of one turbine at a time to prevent cumulative impacts from the startup of all three turbines and the excessive emissions and Toxic Air contaminates associated with this event.*

The applicant performed a Health Risk Screening Analysis for toxic air contaminants based on emissions from the entire facility, including situations where all three turbines are starting up at the same time (see page C-2 of the application). That Health Risk Screening Analysis found that the acute health hazard index for the project is 0.025 (where anything less than a value of 1.0 would be acceptable. The District reviewed the applicant's analysis during its evaluation of the application and concurs with this conclusion. This comment provides no new information to alter the conclusion.

Comment 11: *The applicant has proposed the use of Emission Reduction Credit 896 which was created in 1985 at the Potrero Power Plant. This credit will be over 20 years old by the time it is surrendered. Due to biological and environmental justice concerns the District should consider a supplemental environmental project to satisfy the projects NOx ERC liability rather than use 20 year old credits which are of little use in limiting NOx and nitrogen deposition impacts in the year 2007 when this project is proposed to come on line.*

Response: The credit at issue here was generated when the nearby Potrero Power Plant reduced its emissions, and that reduction in emissions is more than enough to offset the emissions that will result from this project. The District's offset requirement is not intended to mitigate local impacts such as NOx and nitrogen deposition impacts (the District manages local impacts through other regulatory requirements—for example, the risk management program). Instead, the District's offset requirement ensures that regional emissions of the affected pollutants do not increase as a result of economic growth. Because the District includes old credits in its Air Quality Plans, old credits are

as useful for this purpose as new credits. The date on which the Potrero reductions began and the credit was generated is irrelevant. The reductions have been generated and continue to exist today, and they will offset this project's emissions as required by law.

If you have any questions, please contact Bob Nishimura, Supervising Air Quality Engineer at (415) 749-4679 or bnishimura@baaqmd.gov.

Sincerely,

Jack P. Broadbent
Executive Officer/APCO

Robert Sarvey
501 W. Grantline Road
Tracy, CA 95376

Re: San Francisco Electric Reliability Project
BAAQMD Application 12344

Dear Mr. Sarvey

Thank you for your comments on the Preliminary Determination of Compliance (PDOC) for the San Francisco Electric Reliability Project (SFERP). A copy of the final Determination of Compliance is enclosed. The District has carefully considered your comments and offers the following responses.

ALAMEDA COUNTY
Roberta Cooper
Scott Haggerty
Nate Miley
Shelia Young

CONTRA COSTA COUNTY
Mark DeSaulnier
Mark Ross
(Vice-Chair)
Michael Shimansky
Gayle B. Uilkema
(Chair)

MARIN COUNTY
Harold C. Brown, Jr.

NAPA COUNTY
Brad Wagenknecht

SAN FRANCISCO COUNTY
Chris Daly
Jake McGoldrick
Gavin Newsom

SAN MATEO COUNTY
Jerry Hill
(Secretary)
Marland Townsend

SANTA CLARA COUNTY
Erin Garner
Liz Kniss
Patrick Kwok
Julia Miller

SOLANO COUNTY
John F. Silva

SONOMA COUNTY
Tim Smith
Pamela Torliatt

Jack P. Broadbent
EXECUTIVE OFFICER/APCO

Comment #1: *"One major issue that underlies all of our comments is the siting of another pollution source in Southeast San Francisco, a minority community that has been identified in San Francisco City Ordinance No. 124-01 as a community that "has a disproportionate number of industrial and polluting facilities and an extraordinarily high rate of childhood asthma and other serious respiratory diseases etc."*

Response: The District supports the City objectives contained in Ordinance 124-01 and the agreement to close down the Hunters Point Power Plant once the Jefferson-Martin transmission project and other transmission projects are completed. The District has determined that potential impacts of regulated air pollutants and toxic air contaminant emissions from the SFERP are not significant. The District conducted a Screening Health Risk Assessment (SHRA) to determine maximum potential impacts on public health from toxic air contaminants. The modeling shows that the impacts of toxic air contaminants from this proposed project are well below the level considered to be significant.

The District has also determined that this project complies with all District Rules and Regulations including the New Source Review of Toxic Air Contaminants. The proposed new power generation facility, which would use "best available control technology," will not have a significant air quality impact on surrounding communities. To the contrary, it will clear the way for shutting down an older, dirtier facility, a goal frequently voiced by community members.

Comment #2: Cumulative Impact Analysis-" *The PDOC fails to analyze the cumulative impact of this project and other reasonably foreseeable past, present, and future projects in the Project area. Additional projects permitted and under construction include the Muni Maintenance Center, the Illinois street bridge project, the RMC Lonestar project and numerous other proposed projects which will add an additional environmental burden on this minority community allegedly*

protected by Ordinance No. 124-01. The PDOC needs to evaluate the impacts from the numerous projects in conjunction with the existing background conditions and evaluate the impacts to the overburdened minority community."

Response: The cumulative impacts of this project have been evaluated in great detail in the CEQA process conducted under the auspices of the California Energy Commission ("CEC"), which is the CEQA lead agency for this project. The CEC staff has concluded that, with the mitigation that is being proposed, the cumulative impacts arising from this project and others in the area will be less than significant. The District incorporates that analysis by reference into this response.

In addition, the commenter is correct in noting that one of the purposes of the project is to facilitate the shutdown of the Hunters Point Power Plant. The City of San Francisco is engaged in that effort in part because it believes that doing so will have an overall positive environmental impact in Southeast San Francisco, not a negative one. The District supports the City in this effort.

Comment #3: PM 2.5 Emission limits- *"The project has $PM_{2.5}$ impacts from the direct emissions of 18 tons per year of $PM_{2.5}$. The PM_{10} emission factor is based upon the manufacturer's guarantee of 3.0 lb/hr based on similar installations. The recently permitted Los Esteros Critical Energy facility has a permit limit of 2.5 pounds per hour per turbine using the same LM-6000 turbines based "on manufactures guarantees of 2.5 lb/hr for similar installations."*

Response: PM emissions from gas-fired gas turbines are inherently low. The District has, in the past, utilized the BACT definition in Section 2-2-206.1 to determine that Best Available Control Technology for PM for gas turbines was "exclusive use of CPUC-regulated grade natural gas" to minimize fuel contaminant and sulfate contributions to PM emissions from gas turbines. Unlike NOx and CO emissions, PM emissions from gas turbines cannot feasibly be reduced using combustion modifications or add-on emission control technology. Therefore, no specific BACT emission rate has been identified for gas turbines.

However, BACT is defined in BAAQMD 2-2-206 as "**the more stringent of:**

> 206.1 The most effective emission control device or technique which has been successfully utilized for the type of equipment comprising such a source; or
> 206.2 The most stringent emission limitation achieved by an emission control device or technique for the type of equipment comprising such a source; or
> ...

Los Esteros has an emission limitation of 2.5 lb/hr, which has been demonstrated to have been achieved for a turbine that is identical to the turbines proposed for SFERP. Although the SFERP turbines will be used less frequently than the Los Esteros turbines, and will spend a greater fraction of their operation transitioning between load levels, the District has determined that the Los Esteros turbines are the same type of equipment. The

Los Esteros limitation of 2.5 lb/hr is more stringent than the 3.0 lb/hr proposed for SFERP, and therefore comprises BACT.

The applicant has agreed to accept a limitation of 2.5 lb/hr for PM.

Comment #3 continued: *"PM 2.5 Mitigation should be provided for the 18 tons of direct PM 2.5 emissions from this facility."*

Response: BAAQMD regulations do not require particulate offsets from a source of this size. The applicant has proposed a number of mitigation measures to reduce particulate impacts, however, including the street sweeping program referred to in the comment, among others. The CEC's staff has analyzed these mitigation measures as part of the CEQA process and has concluded that they will ensure that there are no significant particulate impacts from the project.

Comment #3 continued: *"Additionally the District should have an Environmental Justice Community Meeting with the affected community members and concerned parties to discuss the District's effort to ensure environmental justice for this project."*

Response: BAAQMD and CEC staffs met with the community at workshops at the Potrero Hill Community Center on June 5 and July 19, 2004 and May 6, 2005 to discuss the proposed project and to hear any health impact concerns expressed by the community.

Comment #4: Ammonia Emissions-*"The project will emit 39 tons per year of ammonia through the use of SCR. Page 10 of the PDOC describes the negative environmental effects of the ammonia emissions. The district has performed no analysis of the project area to determine whether these ammonia emissions will in fact not cause a significant impact. Considering the uncertain and complex nature of secondary particulate formation from the ammonia emissions, the PDOC should provide a local analysis of the formation of ammonium nitrate and not a generalization of conditions for the formation of ammonium nitrate in the entire Bay Area Air Basin."*

Response: Formation of ammonium nitrate in the Bay Area air basin is limited by the formation of nitric acid and is not driven by the amount of ammonia in the atmosphere. The relevant atmospheric conditions at the project location are consistent with those elsewhere in the region. Ammonia emissions from the proposed project are not expected to contribute significantly to the formation of secondary particulate matter within the District.

Comment #4 continued *"The PDOC also fails to recognize that the projects ammonia emissions will produce nitrogen deposition on the San Bruno Mountain, an impact that has been considered significant by the US Fish and Wildlife Services. Biological impacts should be minimized by limiting ammonia slip or eliminating it altogether with the SCONOX technology."*

The CEC's staff has evaluated the potential for biological impacts from nitrogen deposition in great detail in the CEQA process. That analysis has found that the project will increase nitrogen deposition at San Bruno Mountain by less than one one-thousandth of one percent. The nitrogen deposition issues raised by this comment do not alter the District's conclusion that the project complies with all applicable air quality requirements.

Comment #4 continued: *"Another potential environmental impact that may result from the use of SCR involves the storage and transport of aqueous ammonia in a 29% solution. The PDOC fails to address this issue." The applicant modeled a catastrophic failure of the ammonia storage tank and determined that offsite concentrations of greater than 2,000 ppm could occur to the west of the site approximately 35 feet onto the proposed MUNI Maintenance Center. (AFC Supplement A, page 8.12-28) Employees of the MUNI Maintenance center could be exposed to lethal does of ammonia in the event of a sudden and catastrophic failure of the ammonia tank."*

Response: Potential environmental impacts from ammonia storage and transport are addressed in several ways. Emergency releases will be addressed by the facility's Risk Management Plan implemented pursuant to Section 112(r) of the Clean Air Act and related legal requirements. Potential impacts are also being addressed through the CEC licensing process. As far as the District's regulations are concerned, the District has determined, after considering all of the comments received, that the proposed project will comply with all applicable legal requirements regarding ammonia emissions.

Comment #4 continued: *"Because of these environmental consequences from the use of SCR, the PDOC should evaluate and recommend the use of the SCONOX control system.... Since SCR or SCONOX could be used to achieve a 2.5 ppm NOx level according to the District's BACT Guidelines, the District should require the use of SCONOX to eliminate the ammonia impacts from the use of SCR. SCONOX has also demonstrated lower POC emissions than SCR which limits toxic air contaminant from the SFERP in area that has the highest inhalation cancer risk in the State of California."*

Response: As the comment recognizes, both SCR and SCONOX can achieve the District's BACT emissions limit for NOx (2.5 ppm). Facilities can therefore use either type of system to satisfy the BACT requirement. As noted elsewhere in this letter, the environmental impacts of the project – including any impacts from the facility's choice of SCR instead of SCONOX to control NOx emissions (to the extent that SCONOX would even be a feasible alternative here) – have been evaluated in great detail in the CEQA process, and that evaluation has concluded that there will be no significant adverse impacts.

Comment #5: Emission Reduction Credits- *"The applicant has proposed the use of Emission Reduction Credit 896 which was created in 1985 at the Potrero Power Plant. This credit will be over 20 years old by the time it is surrendered. Due to biological and environmental justice concerns the District should consider a supplemental environmental justice project to satisfy the project the project's NOx ERC liability rather*

than use 20 year old credits which are of little use in limiting NOx and nitrogen deposition impacts in the year 2007 when this project is proposed to come on line."

Response: The credit at issue here was generated when the nearby Potrero Power Plant reduced its emissions, and that reduction in emissions is more than enough to offset the emissions that will result from this project. The District's offset requirement is not intended to mitigate local impacts such as NOx and nitrogen deposition impacts (the District manages local impacts through other regulatory requirements—for example, the risk management program). Instead, the District's offset requirement ensures that regional emissions of the affected pollutants do not increase as a result of economic growth. Because the District includes old credits in its Air Quality Plans, old credits are as useful for this purpose as new credits. The date on which the Potrero reductions began and the credit was generated is irrelevant. The reductions have been generated and continue to exist today, and they will offset this project's emissions as required by law.

If you have any questions, please contact Bob Nishimura, Supervising Air Quality Engineer at (415) 749-4679 or bnishimura@baaqmd.gov.

Sincerely,

Jack P. Broadbent
Executive Officer/APCO

cc: GSR

REC'D FEB 13 2006

SAN FRANCISCO PUBLIC UTILITIES COMMISSION

1155 Market St., 11th Floor, San Francisco, CA 94103 • Tel. (415) 554-3155 • Fax (415) 554-3161 • TTY (415) 554.3488

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ADAM WERBACH
RYAN L. BROOKS

SUSAN LEAL
GENERAL MANAGER

February 10, 2006

U.S. EPA
Acid Rain Program (6204J)
Attention: Annual Program Reconciliation
1200 Pennsylvania Avenue, NW
Washington, DC 20460

To Whom It May Concern:

The City and County of San Francisco is hereby submitting Phase II Annual Compliance Certification Reports for its San Francisco Electric Reliability and San Francisco International Airport Combustion Turbine Projects for Compliance Year 2005. Because the projects have not yet received all of their construction permits, neither project has yet commenced construction and no allowance tracking system or account representative numbers have been issued.

If you have any questions regarding these filings, please call me at (415) 554-3267 or Nancy Matthews of Sierra Research at (916) 444-6666.

Sincerely,

Russell Stepp
Alternate Designated Representative

cc: Karen Kubick, SFPUC
Nancy Matthews, Sierra Research

United States
Environmental Protection Agency
Acid Rain Program

OMB No. 2060-0258

Phase II Annual Compliance Certification Report

For more information, see instructions and refer to 40 CFR 72.90

Compliance Year 2005

1) I have attached a list of all the affected units that are subject to any requirements under the Acid Rain Program, except for any units with new unit exemptions or retired unit exemptions (under 40 CFR 72.7 or 72.8) that were effective during this entire compliance year, and I certify that the listed units were in compliance with all requirements of the Acid Rain Program during this compliance year.

2) As of the allowance transfer deadline, each affected unit held allowances in its compliance subaccount (after accounting for any allowance deductions under 40 CFR 73.34(c)) not less than its total SO_2 emissions during this compliance year in accordance with 40 CFR 72.9(b) and (c).

3) Where applicable, each affected unit was in compliance with the NO_X emissions limitation for the unit under the Acid Rain Program in accordance with 40 CFR part 76.

4) The monitoring plan for each unit has been maintained to reflect the actual operation and monitoring of the unit, and the plan contains all information necessary to attribute monitored emissions to the unit, in accordance with 40 CFR part 75.

5) All emissions from each unit, or group of units (including the unit) using a common stack or pipe, were monitored or accounted for through the missing data procedures and reported in quarterly monitoring reports in accordance with 40 CFR part 75.

6) The facts that form the basis under 40 CFR part 75 for certification of each monitoring system at the unit (or group of units including the unit) using a common stack or pipe or using an Acid Rain Program excepted monitoring method or approved alternative monitoring method have not changed.

Place an X in the appropriate box in response to all of the above six items. ☑ YES ☐ NO

If the No box was checked;

1) You must attach an explanation of why you checked the No box, including, if applicable, the information required under 40 CFR 72.90(c)(5), and

2) For each unit with excess emissions of sulfur dioxide, your explanation must include the information required under 40 CFR 77.3. EPA will immediately deducted allowances to offset the unit's excess emissions, unless you demonstrate that the immediate deduction of allowances will interfere with electric reliability.

Certification

I am authorized to make this submission on behalf of the owners and operators of the affected source or affected units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

Name (of AAR) Russell Stepp	Date
Signature	AAR ID#

Attachment to Phase II Annual Compliance Certification Report
Compliance Year 2005
San Francisco International Airport Combustion Turbine Project
ORIS Code 56306

1. List of all affected units that are subject to any requirements under the Acid Rain Program:

Unit ID #1

Plant Name: San Francisco International Airport Combustion Turbine Project (SFIACTP)
State: California
Allowance Tracking System Account #: Plant has no number because it has not yet received a permit to construct, has not commenced construction, and has not commenced operation.

2. Unit holds no allowances because unit has not commenced construction or operation.

3. 40 CFR Part 76 NOx emissions limitation is not applicable to this proposed pipeline natural gas-fired turbine unit.

4. Monitoring plan is not required because unit has not commenced construction or operation.

5. Emissions are not required to be reported because unit has not commenced construction or operation.

6. Monitoring system has not yet been certified because unit has not commenced construction or operation.

United States
Environmental Protection Agency
Acid Rain Program

OMB No. 2060-0258

Phase II Annual Compliance Certification Report

For more information, see instructions and refer to 40 CFR 72.90

Compliance Year 2005

1) I have attached a list of all the affected units that are subject to any requirements under the Acid Rain Program, except for any units with new unit exemptions or retired unit exemptions (under 40 CFR 72.7 or 72.8) that were effective during this entire compliance year, and I certify that the listed units were in compliance with all requirements of the Acid Rain Program during this compliance year.

2) As of the allowance transfer deadline, each affected unit held allowances in its compliance subaccount (after accounting for any allowance deductions under 40 CFR 73.34(c)) not less than its total SO_2 emissions during this compliance year in accordance with 40 CFR 72.9(b) and (c).

3) Where applicable, each affected unit was in compliance with the NO_X emissions limitation for the unit under the Acid Rain Program in accordance with 40 CFR part 76.

4) The monitoring plan for each unit has been maintained to reflect the actual operation and monitoring of the unit, and the plan contains all information necessary to attribute monitored emissions to the unit, in accordance with 40 CFR part 75.

5) All emissions from each unit, or group of units (including the unit) using a common stack or pipe, were monitored or accounted for through the missing data procedures and reported in quarterly monitoring reports in accordance with 40 CFR part 75.

6) The facts that form the basis under 40 CFR part 75 for certification of each monitoring system at the unit (or group of units including the unit) using a common stack or pipe or using an Acid Rain Program excepted monitoring method or approved alternative monitoring method have not changed.

Place an X in the appropriate box in response to all of the above six items. ☑ YES ☐ NO

If the No box was checked;

1) You must attach an explanation of why you checked the No box, including, if applicable, the information required under 40 CFR 72.90(c)(5), and

2) For each unit with excess emissions of sulfur dioxide, your explanation must include the information required under 40 CFR 77.3. EPA will immediately deducted allowances to offset the unit's excess emissions, unless you demonstrate that the immediate deduction of allowances will interfere with electric reliability.

Certification

I am authorized to make this submission on behalf of the owners and operators of the affected source or affected units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

Name (of AAR) Russell Stepp	Date
Signature	AAR ID#

Attachment to Phase II Annual Compliance Certification Report
Compliance Year 2005
San Francisco Electric Reliability Project
ORIS Code 56305

1. List of all affected units that are subject to any requirements under the Acid Rain Program:

Unit ID #1
Unit ID #2
Unit ID #3

Plant Name: San Francisco Electric Reliability Project (SFERP)
State: California
Allowance Tracking System Account #: Plant has no number because it has not yet received a permit to construct, has not commenced construction, and has not commenced operation.

2. Units hold no allowances because they have not commenced construction or operation.

3. 40 CFR Part 76 NOx emissions limitation is not applicable to this proposed pipeline natural gas-fired turbine unit.

4. Monitoring plan is not required because units have not commenced construction or operation.

5. Emissions are not required to be reported because units have not commenced construction or operation.

6. Monitoring systems have not been certified because units have not commenced construction or operation.

Acid Rain Program

Instructions for Phase II Annual Compliance Certification Report (40 CFR 72.90)

The Acid Rain Program regulations in 40 CFR part 72 ,subpart I require the designated representative to submit an Annual Compliance Certification Report that includes each unit that is subject to an Acid Rain emissions limitation in a calendar year (referred to as the "compliance year"). The report must be submitted by March 1 (or February 29 in a leap year) of the year after the compliance year.

Each designated representative must submit one report covering every affected unit for which he or she is the designated representative and that is subject to any requirements under the Acid Rain Program, except for units with new unit exemptions or retired unit exemptions (under 40 CFR 72.7 or 72.8) that were effective during the entire compliance year.

Specific Instructions:

Enter the Compliance Year.

Prepare and attach a list of all affected units for which you are the designated representative and that are subject to any requirements under the Acid Rain Program (as defined in 40 CFR 72.2), except for:

1) Any unit with a new unit exemption (under 40 CFR 72.7).

2) Any unit with a retired unit exemption (under 40 CFR 72.8) that was effective during the entire compliance year.

The list must include the Plant Name, State, and Allowance Tracking System Account Number.

Read item numbers one through six.

If you can answer yes to all six items for every affected unit, place an X in the Yes box and proceed to the certification section below.

Otherwise, place an X in the "No" box and attach an explanation that describes why you checked the "No" box. For each unit that did not meet all the requirements of the Acid Rain Program during the compliance year, identify the plant name, state, and the Allowance Tracking System (ATS) unit account number. Also, if applicable, include the information required under 40 CFR 72.90(c)(5) (which concerns changes in the basis for certification of a monitor at any unit or units using a common stack or using an excepted monitoring method or approved alternative monitoring method).

For each unit with excess emissions of sulfur dioxide (i.e., that did not hold enough allowances for the year), the explanation must include the information requested under 40 CFR 77.3 (this explanation will be the proposed offset plan under 40 CFR 77.3). EPA will immediately deduct allowances from the unit's ATS account to offset the excess emissions, unless you request a later date for deduction and provide a demonstration that the immediate deduction will interfere with electric reliability. Such a request and demonstration will be subject to review under 40 CFR 77.4(c) through (k), which includes public review and comment. You may identify specific allowances in the unit's account that you want to offset the excess emissions by submitting an Allowance Deduction Form. Otherwise, allowances will be deducted on a first-in, first-out basis.

Certification:

Read the Certifications, type your name, AAR ID Number, sign, and date.

Mailing Instructions Mail this form to EPA at one of the following addresses:

for regular or certified mail:

U.S. EPA
Acid Rain Program (6204J)
Attention: Annual Reconciliation
1200 Pennsylvania Avenue, NW
Washington, DC 20460

for overnight mail:

U.S. EPA
Acid Rain Program (6204J)
Attention: Annual Reconciliation
1310 L Street, NW
Washington, DC 20005
Phone: 202-343-9150

Paperwork Burden Estimate

The public reporting and recordkeeping burden for this collection of information is estimated to average 5.5 hours per response annually. Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number.

Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques to the Director, Collection Strategies Division, U.S. Environmental Protection Agency (2822T), 1200 Pennsylvania Ave., NW., Washington, D.C. 20460. Include the OMB control number in any correspondence. Do not send the completed form to this address.

APPENDIX D

Resumes for Anne Eng and Jim Bushnell

ANNE LEE ENG
(415) 355-3735
anne.eng@sfgov.org

EDUCATION

1988 Juris Doctorate Degree
Columbia University School of Law, New York, New York
Honors: Jane Marks Murphy Prize for Clinical Advocacy Work

1978 Baccalaureate of Social Work
Rutgers University, New Brunswick, New Jersey
Honors: Dolores Yorba Social Work Scholarship, 1976 and 1977

BAR ADMISSION

State Bar of California, admitted in December 1988

EMPLOYMENT

2003-Present ***Environmental Justice Program Manager***
City and County of San Francisco, Department of the Environment

Manage the Environmental Justice program of the agency. Responsibilities include: prepare budget; supervise staff; oversee environmental justice grant program; develop projects serving low-income communities; represent the City in administrative proceedings and public meetings; draft legislative framework to promote environmental justice in San Francisco.

1994-2001 ***Supervising Staff Attorney and Associate Professor***
Environmental Law and Justice Clinic
Golden Gate University School of Law, San Francisco, California

Provided legal services to non-profit and community-based organizations in administrative proceedings and litigation. These services included: analyzing remedial action plans for toxic sites and preparing comments for submittal to the California Department of Toxic Substances Control; representing community groups as intervenors in administrative proceedings before the California Energy Commission regarding the development of a new power plant in San Francisco; representing local groups in administrative hearings before the California Public Utilities Commission regarding PG&E's divestiture of existing local power plants; monitoring Southern California Edison's compliance with a consent decree regarding $15 million in mitigation measures to address Clean Water Act violations by the San Onofre Nuclear Generation Facility; and representing local community groups in environmental review of development projects pursuant to

EMPLOYMENT (continued)

the California Environmental Quality Act. Provided educational services to local neighborhood groups in right-to-know and hazard communication workshops. Also, as Associate Professor, I was responsible for co-teaching a weekly seminar class and supervising law students in a clinical setting.

1993-97 ***Project Attorney***
Urban Habitat Program, San Francisco, California

Represented a non-profit, environmental organization in monitoring and enforcing Southern California Edison's compliance with a consent decree and provided educational and legal services for an educational program in Southern California.

1991-93 ***Project Attorney***
Natural Heritage Institute, San Francisco, California

Represented governmental agencies and public interest organizations in connection with land use and environmental permit proceedings. Analyzed and interpreted federal, state and local environmental statutes. Assisted a Native American tribe develop a hazardous waste regulatory program.

1990-91 ***Associate Attorney***
McCutchen, Doyle, Brown and Enersen, San Francisco, California

Researched and interpreted federal and state environmental laws; evaluated potential environmental liabilities and permit requirements for operators of hazardous waste management facilities; counseled clients on enforcement and permitting matters; and monitored remediation of hazardous substance release sites (state and federal "Superfund" sites).

1988-90 ***Associate Attorney***
Orrick, Herrington & Sutcliffe, San Francisco, California

Researched and interpreted federal and state environmental laws; analyzed land use and environmental permit requirements; assisted in performing environmental assessments for financing of energy generation facilities; provided pro bono legal services to disabled persons in litigation against wheelchair manufacturer.

CIVIC ACTIVITIES

1993-99 Member and officer, San Francisco Commission on the Environment
Assisted in the planning and development of a new local agency, the Department of the Environment; established and evaluated environmental policies and programs; prepared Commission by-laws and budgets.

James P Bushnell

Regional Health, Safety and Environmental Protection Program Manager

Education

B.S., Ch. E., Chemical Engineering, University of Washington, 1981
49 graduate credits in Industrial Hygiene and Safety, Environmental Health Department, University of Washington, 1987

Professional Registrations

Certified Industrial Hygienist: No. 3872, expires 12/2001, American Board of Industrial Hygiene
Certified Safety Professional: No. 14036, Board of Certified Safety Professionals

Distinguishing Qualifications

- Developed, implemented, and managed effective health and safety programs with a proven track record of reducing injuries and illnesses
- Developed audit programs and managed a comprehensive Confined Space Entry program for a large industrial maritime operation (>10,000 employees)
- Successfully negotiated and resolved technical H&S issues with labor union representatives
- Wrote and implemented the Health and Safety Plan for the largest privately funded Superfund cleanup in EPA Region 10

Relevant Experience

Mr. Bushnell is the Northwest Region Health Safety & Environmental Protection (HS&E) Program Manager responsible for delivering HS&E programs for CH2M HILL NWR operations. He oversees the NWR HS&E staff and budgets and is responsible for field implementation of HS&E as well as program implementation. Mr. Bushnell has extensive experience in planning and managing health and safety programs at hazardous waste sites.

Prior to joining CH2M HILL, Mr. Bushnell served seven years as Northwest District Health and Safety Manager for a major remediation firm managing the health and safety programs for the Northwest division and providing technical support for all Western divisions. He prepared health and safety plans, monitored and managed the environmental compliance aspects of major projects, and worked closely with both regulatory agencies and the technical staff of the company's clients to develop effective health and safety programs. Projects range from demolition of major contaminated structures to small jobs involving laboratory wastes. Mr. Bushnell has a working knowledge of RCRA, CERCLA, SARA, OSHA, WISHA, and related regulations and current practices for underground storage tanks, confined space entry, asbestos abatement, air monitoring and medical surveillance, right-to-know, and many other health and safety issues.

Representative Projects

CH2M HILL Health and Safety Manager; Long-Term Compliance Monitoring and Phytoremediation Operation and Maintenance (O&M); Naval Undersea Warfare Center; EFA NW; Keyport, Washington; Ongoing. H&S manager of this $910,000, long-term O&M LTM project that included risk analysis for VOC site contamination. Wrote, reviewed, and approved site H&S plans. Assigned and supervised field H&S personnel during implementation of the project, and conducted evaluation of air monitoring requirements and review of task order H&S field forms. This project is incident free.

Health and Safety Manager; OU E Remedial Investigation; Fort Richardson; USACE-Alaska District; Professional Services: 1997; Constructon: 1997. Wrote and implemented H&S plans including worker exposure, air monitoring, personal protection equipment (PPE) programs, and training, for the OU E Remedial Investigations, which was performed incident free, as were all projects under this contract.

Health and Safety Manager; Fairchild Air Force Base, Air Force Center for Environmental Excellence (AFCEE); Spokane, Washington; 1997-Ongoing. As H&S Manager, implemented the H&S programs for this project that included removal and reinstallation a new power plant fuel system. Additional management responsibilities included oversight of POL excavation and chlorinated hydrocarbon contaminated soil from various onsite locations and demolishing one building. Current H&S manager responsibilities include the Craig Road Landfill project. Fairchild AFB projects have all been performed incident and injury free.

HTRW IDIQ, USACE, Alaska. Involved in implementing health and safety plans and programs, including worker exposure, air monitoring, personal protection equipment (PPE) programs, and training, for delivery orders including OUE Remedial Investigations and Fort Wainwright Groundwater Sampling.

Health and Safety Manager, Alaska FAA Remedial Action Contract 1998-Present. H&S manager for current Alaska FAA RAC contracts. Projects under this contract include environmental assessment and clean up of Alaska FAA sites.

Health and Safety Manager, Alaska FAA Remedial Action Contracts, 1996-1998. H&S manager with OHM remediation services and then for CH2M HILL after 1997. Projects included environmental assessment and clean up of Alaska FAA sites.

Memberships in Professional Organizations

Diplomat, American Board of Industrial Hygiene
Diplomat, American Board of Certified Safety Professionals
Member, American Industrial Hygiene Association

Specialized Training

OSHA Health and Safety Training, 29 CFR 1910.120
First Aid & CPR Training
40-Hour HAZWOPER Training

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

APPLICATION FOR CERTIFICATION FOR THE SAN FRANCISCO ELECTRIC RELIABILITY PROJECT

Docket No. 04-AFC-01
PROOF OF SERVICE
Revised 2/17/06

DOCKET UNIT

Instructions: *Send an original signed document plus 12 copies* ***or*** *an electronic copy plus one original paper copy to the address below:*

CALIFORNIA ENERGY COMMISSION
Attn: Docket No. 04-AFC-01
DOCKET UNIT, MS-4
1516 Ninth Street
Sacramento, CA 95814-5512

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DECLARATION OF SERVICE

I, Jeannette Harris declare that on April 17, 2006, I deposited copies of the attached City and County of San Francisco Testimony in the United States mail at Sacramento, California with first class postage thereon fully prepaid and addressed to those identified on the Proof of Service list above. Transmission via electronic mail was consistent with the requirements of California Code of Regulations, title 20, sections 1209, 1209.5, and 1210. I declare under penalty of perjury that the foregoing is true and correct.

Jeannette Harris

[signature]

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APPENDIX C

Air Quality Correspondence