Application for Certification
for
WILLOW PASS GENERATING STATION
Pittsburg, California

Volume I

June 2008

Prepared for:

MIRANT℠
WILLOW PASS, LLC

Prepared by:

URS

TABLE OF CONTENTS

Page

1.0 EXECUTIVE SUMMARY 1-1
1.1 PROJECT OVERVIEW 1-1
1.2 PROJECT OBJECTIVE 1-2
1.3 PROJECT BACKGROUND 1-2
1.4 FACILITY DESCRIPTION 1-2
1.5 PROJECT OPERATIONS 1-4
1.6 PROJECT SCHEDULE 1-4
1.7 PROJECT OWNERSHIP 1-4
1.8 WATER SUPPLY 1-4
1.9 FUEL SUPPLY 1-4
1.10 ELECTRIC TRANSMISSION 1-5
1.11 PROJECT ENVIRONMENTAL FACTORS 1-5
1.11.1 Air Quality 1-5
1.11.2 Biological Resources 1-5
1.11.3 Cultural Resources 1-6
1.11.4 Land Use 1-6
1.11.5 Noise 1-6
1.11.6 Public Health 1-6
1.11.7 Worker Safety and Health 1-6
1.11.8 Socioeconomics 1-7
1.11.9 Soils 1-7
1.11.10 Traffic and Transportation 1-7
1.11.11 Visual Resources 1-8
1.11.12 Hazardous Materials Handling 1-8
1.11.13 Waste Management 1-8
1.11.14 Water Resources 1-9
1.11.15 Geologic Hazards and Resources 1-9
1.11.16 Paleontological Resources 1-9
1.12 PROJECT ALTERNATIVES 1-9

2.0 PROJECT DESCRIPTION 2-1
2.1 INTRODUCTION 2-1
2.2 WPGS SITE LOCATION 2-1
2.3 OTHER PROJECT COMPONENT LOCATIONS 2-2
2.4 SITE ACTIVITIES THAT ARE NOT PART OF THE PROPOSED PROJECT 2-3
2.5 POWER GENERATION FACILITY 2-3
2.5.1 Power Plant Site Arrangement 2-3
2.5.2 Process Description 2-3
2.5.3 Siemens Flex Plant 10 Equipment 2-5
2.5.4 Major Electrical Systems and Equipment 2-8
2.5.5 Fuel Gas Supply and Consumption Use 2-9
2.5.6 Water Supply and Treatment 2-10
2.5.7 Waste Management 2-13
2.5.8 Hazardous Material Management 2-16
2.5.9 Air Emissions Control and Monitoring 2-17
2.5.10 Fire Protection 2-18
2.5.11 Plant Auxiliary and Safety Systems 2-18

2.6 POWER PLANT CIVIL/STRUCTURAL FEATURES 2-21
2.6.1 CTGs, HRSGs, STGs, and Balance-of-Plant Equipment 2-21
2.6.2 Stacks 2-21
2.6.3 Buildings 2-21
2.6.4 Water Storage Tanks 2-22
2.6.5 Roads and Fencing 2-22
2.6.6 Sanitary Wastewater System 2-22
2.6.7 Site Drainage 2-22
2.6.8 Earthwork 2-22
2.6.9 Ammonia Storage Facility 2-23
2.6.10 Nitrogen System 2-25
2.7 PROJECT CONSTRUCTION 2-25
2.7.1 Power Generation Facility 2-25
2.7.2 Demolition Plan 2-26
2.7.3 Construction Plan 2-27
2.7.4 Offsite Construction 2-29
2.7.5 Construction Land Disturbance Control Measures 2-30
2.7.6 Construction Security Plan 2-31
2.8 FACILITY OPERATION 2-32
2.9 SAFETY AND RELIABILITY 2-32
2.9.1 Facility Safety 2-32
2.9.2 Reliability and Availability 2-33
2.10 APPLICABLE LAWS, ORDINANCES, REGULATIONS, AND STANDARDS 2-37
2.11 INVOLVED AGENCIES AND AGENCY CONTACTS 2-38
2.12 REFERENCES 2-38

3.0 FACILITY CLOSURE 3-1
3.1 TEMPORARY CLOSURE 3-1
3.2 PERMANENT CLOSURE 3-1

4.0 TRANSMISSION FACILITIES 4-1
4.1 INTERCONNECTION TO TRANSMISSION GRID 4-1
4.2 TRANSMISSION LINE CONFIGURATION 4-1
4.2.1 Structures 4-1
4.2.2 Conductors 4-1
4.2.3 Foundations 4-1
4.2.4 Ground Wires 4-2
4.2.5 Switchyard 4-2
4.2.6 Transformers 4-2
4.3 CONSTRUCTION 4-3
4.4 TRANSMISSION SYSTEM OPERATION AND MAINTENANCE 4-3
4.4.1 Inspections 4-3
4.4.2 Emergency/Safety Repairs 4-3
4.4.3 Insulator Washing 4-3
4.4.4 Transmission System Reliability Criteria 4-3
4.5 NEW GENERATION INTERCONNECTION PROCESS 4-3
4.6 TRANSMISSION LINE SAFETY AND NUISANCE 4-4
4.6.1 Electric and Magnetic Fields 4-4
4.6.2 Audible Noise and Radio and TV Interference 4-4
4.6.3 Induced Currents and Hazardous/Nuisance Shocks 4-5
4.6.4 Fire Prevention 4-5
4.6.5 Conclusion 4-5

4.7 TRANSMISSION LINE AGREEMENTS AND NECESSARY APPROVALS 4-5
4.8 LAWS, ORDINANCES, REGULATIONS, AND STANDARDS 4-5
4.8.1 Federal Authorities and Administering Agencies 4-6
4.8.2 State Authorities and Administering Agencies 4-6
4.8.3 Local Authorities and Administering Agencies 4-6
4.8.4 Industry Codes and Standards 4-6
4.8.5 WPGS Compliance with Transmission Line Safety and Nuisance LORS 4-6
4.9 INVOLVED AGENCIES AND AGENCY CONTACTS 4-6
4.10 REFERENCES 4-6

5.0 NATURAL GAS SUPPLY 5-1
5.1 GAS SUPPLY 5-1
5.2 GAS PIPELINE INTERCONNECTION 5-1
5.3 NATURAL GAS REQUIREMENTS 5-1
5.4 PIPELINE CONSTRUCTION 5-1

6.0 WATER SUPPLY 6-1
6.1 WATER SOURCE 6-1
6.2 WATER CONVEYANCE 6-1
6.3 CONSTRUCTION 6-2
6.4 LAWS, ORDINANCES, REGULATIONS, AND STANDARDS 6-3

7.0 ENVIRONMENTAL INFORMATION 7-1
7.1 AIR QUALITY 7.1-1
7.1.1 Affected Environment 7.1-1
7.1.2 Environmental Consequences 7.1-7
7.1.3 Cumulative Impacts Analysis and Protocol 7.1-21
7.1.4 Mitigation Measures 7.1-21
7.1.5 Best Available Control Technology Analysis 7.1-22
7.1.6 Laws, Ordinances, Regulations, and Standards 7.1-24
7.1.7 Involved Agencies and Agency Contacts 7.1-32
7.1.8 Permits Required and Permitting Schedule 7.1-32
7.1.9 References 7.1-33
7.2 BIOLOGICAL RESOURCES 7.2-1
7.2.1 Affected Environment 7.2-2
7.2.2 Environmental Consequences 7.2-18
7.2.3 Cumulative Impacts 7.2-25
7.2.4 Avoidance and Minimization Measures 7.2-26
7.2.5 Laws, Ordinances, Regulations, and Standards 7.2-30
7.2.6 Involved Agencies and Agency Contacts 7.2-33
7.2.7 Permits Required and Permit Schedule 7.2-33
7.2.8 References 7.2-34
7.3 CULTURAL RESOURCES 7.3-1
7.3.1 Affected Environment 7.3-1
7.3.2 Environmental Consequences 7.3-12
7.3.3 Cumulative Impacts 7.3-15
7.3.4 Mitigation Measures 7.3-15
7.3.5 Laws, Ordinances, Regulations, and Standards 7.3-16
7.3.6 Involved Agencies and Agency Contacts 7.3-19
7.3.7 Permits Required and Permit Schedule 7.3-19
7.3.8 References 7.3-19
7.4 LAND USE AND AGRICULTURE 7.4-1

7.4.1 Affected Environment 7.4-1
7.4.2 Environmental Consequences 7.4-6
7.4.3 Cumulative Impacts 7.4-10
7.4.4 Mitigation Measures 7.4-10
7.4.5 Laws, Ordinances, Regulations, and Standards 7.4-10
7.4.6 Involved Agencies and Agency Contacts 7.4-11
7.4.7 Permits Required and Permit Schedule 7.4-11
7.4.8 References 7.4-11
7.5 NOISE 7.5-1
7.5.1 Affected Environment 7.5-1
7.5.2 Environmental Consequences 7.5-7
7.5.3 Cumulative Impacts and Indirect Effects 7.5-12
7.5.4 Noise Control Measures 7.5-12
7.5.5 Applicable Laws, Ordinances, Regulations, and Standards 7.5-14
7.5.6 Involved Agencies and Agency Contacts 7.5-20
7.5.7 Permits Required and Permit Schedule 7.5-20
7.5.8 References 7.5-20
7.6 PUBLIC HEALTH 7.6-1
7.6.1 Affected Environment 7.6-1
7.6.2 Environmental Consequences 7.6-3
7.6.3 Cumulative Impacts 7.6-8
7.6.4 Mitigation Measures 7.6-9
7.6.5 Laws, Ordinances, Regulations, and Standards 7.6-9
7.6.6 Involved Agencies and Agency Contacts 7.6-10
7.6.7 Permits Required and Permit Schedule 7.6-10
7.6.8 References 7.6-10
7.7 WORKER SAFETY AND HEALTH 7.7-1
7.7.1 Workplace Description 7.7-1
7.7.2 Occupational Safety and Health 7.7-2
7.7.3 Injury and Illness Prevention Programs 7.7-2
7.7.4 Safety Training Programs 7.7-6
7.7.5 Fire Protection 7.7-8
7.7.6 Laws, Ordinances, Regulations, and Standards 7.7-11
7.7.7 Involved Agencies and Agency Contacts 7.7-12
7.7.8 Permits Required and Permit Schedule 7.7-12
7.7.9 References 7.7-12
7.8 SOCIOECONOMICS 7.8-1
7.8.1 Affected Environment 7.8-1
7.8.2 Environmental Consequences 7.8-13
7.8.3 Cumulative Impacts 7.8-21
7.8.4 Mitigation Measures 7.8-21
7.8.5 Laws, Ordinances, Regulations, and Standards 7.8-21
7.8.6 Involved Agencies and Agency Contacts 7.8-22
7.8.7 Permits Required and Permit Schedule 7.8-23
7.8.8 References 7.8-23
7.9 SOILS 7.9-1
7.9.1 Affected Environment 7.9-1
7.9.2 Environmental Consequences 7.9-4
7.9.3 Mitigation Measures 7.9-6
7.9.4 Laws, Ordinances, Regulations, and Standards 7.9-7
7.9.5 Involved Agencies and Agency Contacts 7.9-7
7.9.6 Permits Required and Permit Schedule 7.9-8

7.9.7 References 7.9-8
7.10 TRAFFIC AND TRANSPORTATION 7.10-1
7.10.1 Affected Environment 7.10-1
7.10.2 Environmental Consequences 7.10-5
7.10.3 Cumulative Impacts 7.10-12
7.10.4 Mitigation Measures 7.10-12
7.10.5 Laws, Ordinances, Regulations, and Standards 7.10-13
7.10.6 Involved Agencies and Agency Contacts 7.10-13
7.10.7 Permits Required and Permit Schedule 7.10-13
7.10.8 References 7.10-14
7.11 VISUAL RESOURCES 7.11-1
7.11.1 Affected Environment 7.11-1
7.11.2 Environmental Consequences 7.11-7
7.11.3 Cumulative Impacts 7.11.18
7.11.4 Mitigation Measures and Design Features to Reduce Impacts 7.11.19
7.11.5 Laws, Ordinances, Regulations, and Standards 7.11.19
7.11.6 Involved Agencies and Agency Contacts 7.11.23
7.11.7 Permits Required and Permit Schedule 7.11.23
7.11.8 References 7.11.24
7.12 HAZARDOUS MATERIALS HANDLING 7.12-1
7.12.1 Affected Environment 7.12-1
7.12.2 Environmental Consequences 7.12-3
7.12.3 Cumulative Impacts 7.12-13
7.12.4 Mitigation Measures 7.12-14
7.12.5 Applicable Laws, Ordinances, Regulations, and Standards 7.12-18
7.12.6 Involved Agencies and Agency Contacts 7.12-23
7.12.7 Permits Required and Permit Schedule 7.12-23
7.12.8 References 7.12-23
7.13 WASTE MANAGEMENT 7.13-1
7.13.1 Affected Environment 7.13-1
7.13.2 Environmental Consequences 7.13-3
7.13.3 Cumulative Impacts 7.13-10
7.13.4 Mitigation Measures 7.13-10
7.13.5 Laws, Ordinances, Regulations, and Standards 7.13-11
7.13.6 Involved Agencies and Agency Contacts 7.13-12
7.13.7 Permits Required and Permit Schedule 7.13-12
7.13.8 References 7.13-12
7.14 WATER RESOURCES 7.14-1
7.14.1 Affected Environment 7.14-1
7.14.2 Environmental Consequences 7.14-9
7.14.3 Cumulative Impacts 7.14-14
7.14.4 Mitigation Measures 7.14-14
7.14.5 Laws, Ordinances, Regulations, and Standards 7.14-15
7.14.6 Involved Agencies and Agency Contacts 7.14-20
7.14.7 References 7.14-21
7.15 GEOLOGIC HAZARDS AND RESOURCES 7.15-1
7.15.1 Affected Environment 7.15-1
7.15.2 Environmental Consequences 7.15-11
7.15.3 Cumulative Impacts 7.15-12
7.15.4 Mitigation Measures 7.15-12
7.15.5 Laws, Ordinances, Regulations, and Standards 7.15-13
7.15.6 Involved Agencies and Agency Contacts 7.15-13

7.15.7 Permits Required and Permit Schedule 7.15-13
7.15.8 References 7.15-13
7.16 PALEONTOLOGICAL RESOURCES 7.16-1
7.16.1 Affected Environment 7.16-1
7.16.2 Environmental Consequences 7.16-6
7.16.3 Cumulative Impacts 7.16-6
7.16.4 Mitigation Measures 7.16-6
7.16.5 Laws, Ordinances, Regulations and Standards 7.16-7
7.16.6 Agencies and Agency Contacts 7.16-10
7.16.7 Permits Required and Permitting Schedule 7.16-10
7.16.8 References 7.16-11

8.0 ALTERNATIVES 8-1
8.1 INTRODUCTION 8-1
8.2 PROJECT OBJECTIVES 8-1
8.3 NO PROJECT ALTERNATIVE 8-2
8.4 PROPOSED AND ALTERNATIVE SITES 8-2
8.4.1 Alternative Site Selection Criteria 8-2
8.4.2 Onsite Alternative Configurations Considered 8-2
8.4.3 Offsite Areas Considered 8-3
8.5 WATER SUPPLY 8-6
8.6 WASTEWATER DISCHARGE 8-6
8.7 ELECTRIC TRANSMISSION LINES 8-7
8.8 NATURAL GAS SUPPLY LINE 8-7
8.9 ALTERNATIVE AIR POLLUTION EMISSION CONTROL ANALYSIS 8-7
8.9.1 Combustion Modifications 8-8
8.9.2 Alternatives to Ammonia-Based Emission Control Systems 8-9
8.10 ALTERNATIVE TECHNOLOGIES 8-10
8.10.1 Oil, Coal, and Conventional and Supercritical Boiler/Steam Turbine 8-10
8.10.2 Nuclear 8-10
8.10.3 Water 8-10
8.10.4 Biomass 8-11
8.10.5 Solar 8-11
8.10.6 Wind Generation 8-11
8.11 REFERENCES 8-11

9.0 LIST OF CONTRIBUTORS 9-1

APPENDICES

Appendix A	Civil Engineering Design Criteria
Appendix B	Structural Engineering Design Criteria
Appendix C	Mechanical Engineering Design Criteria
Appendix D	Electrical Engineering Design Criteria
Appendix E	Chemical Engineering Design Criteria
Appendix F	Preliminary Drainage Calculations
Appendix G	Draft Stormwater Pollution Prevention Plan for Construction
Appendix H	Transmission System Engineering
Appendix H1	Transmission Interconnection Request
Appendix H2	Mirant Motion to Intervene and Answer
Appendix I	Water Supply and Wastewater (Will Serve Letter with DDSD)
Appendix J	Air Quality Data and Modeling Protocol
Appendix J1	Air Quality Modeling Protocol for the Willow Pass Generating Station
Appendix J2	Wind Roses and Frequency Distributions
Appendix J3	Construction Emissions
Appendix J4	Operating Emissions
Appendix J5	Greenhouse Gas Emissions
Appendix K	Biological Resources
Appendix K1	Federal Endangered and Threatened Species in Honker Bay and Antioch North
Appendix K2	CNPS Special-Status Species in Honker Bay and Antioch North
Appendix K3	Agency Communication
Appendix K4	Wetland Delineation Forms
Appendix L	Cultural Resources Technical Reports
Appendix L1	Archaeological Reconnaissance, Willow Pass Generating Station, Contra Costa County, California (Submitted Separately Under the Rules of Confidentiality)
Appendix L2	Historical Resources Inventory and Evaluation Report WPGS
Appendix L3	Cultural Resources Record Search (Submitted Separately Under the Rules of Confidentiality)
Appendix M	Assessor's Parcel Numbers/Ownership Information
Appendix N	Equipment Sound Power Levels
Appendix O	Public Health Data
Appendix O1	Sensitive Receptors within 3 Miles and Nearby Residents
Appendix O2	Toxic Air Contaminant Emission Calculations
Appendix P	Traffic Analyses
Appendix P1	Existing Traffic Volumes
Appendix P2	Existing Conditions – Level of Service Analysis
Appendix P3	Accident Data
Appendix P4	Near-Term Conditions – Level of Service Analysis
Appendix P5	Near-Term Plus Project Conditions – Level of Service Analysis
Appendix P6	Projected Future Conditions – Level of Service Analysis
Appendix P7	Projected Future Plus Project Conditions – Level of Service Analysis
Appendix Q	Hazardous Materials Handling – Summary of Model Results
Appendix R	Phase I Environmental Site Assessment
Appendix S	Paleontological Resources Technical Report (Submitted Separately Under the Rules of Confidentiality)
Appendix T	Leadership in Energy and Environmental Design (LEED) Preliminary Score Sheet

LIST OF TABLES

Table 2.5-1 Heat and Material Balance Case Descriptions – Flex Plant 10 Power Blocks
Table 2.5-2 Major Mechanical Equipment
Table 2.5-3 Projected Water Quality Relative to Pertinent Specifications
Table 2.5-4 Daily and Annual Average Water Consumption and Wastewater Discharge Requirements
Table 2.5-5 WPGS Process Wastewater Composition
Table 2.5-6 Summary of Waste Construction Waste Streams and Management Methods
Table 2.5-7 Summary of Anticipated Operating Waste Streams and Management Methods
Table 2.5-8 Fire Protection Systems Design Conditions
Table 2.6-1 Major Structures
Table 2.7-1a Construction Staff by Trade
Table 2.7-1b Construction Contractor Staff by Trade
Table 2.7-2 Expected Construction Deliveries
Table 2.7-3 Average Construction Equipment on Site Per Month
Table 2.7-4 Construction Water Requirements
Table 2.8-1 Plant Operation Workforce
Table 2.9-1 Major Equipment Redundancy for One Flex Plant 10 Combined-Cycle Unit
Table 2.9-2 List of Potential LEED-NC Credits Applicable to the WPGS
Table 2.10-1 Applicable Laws, Ordinances, Regulations, and Standards
Table 2.11-1 Involved Agencies and Agency Contacts

Table 5-1 Natural Gas Analysis

Table 7.1-1 Temperature and Precipitation Data for Antioch, California
Table 7.1-2a Concentration Data Summary for Ozone at Pittsburg Station
Table 7.1-2b Concentration Data Summary for Ozone at Concord Station
Table 7.1-2c Concentration Data Summary for Ozone at Bethel Island
Table 7.1-3a Concentration Data Summary for PM_{10} at Pittsburg Station
Table 7.1-3b Concentration Data Summary for PM_{10} at Concord Station
Table 7.1-3c Concentration Data Summary for PM_{10} at Bethel Island Station
Table 7.1-4 Concentration Data Summary for $PM_{2.5}$ at Concord Station
Table 7.1-5a Concentration Data Summary for Carbon Monoxide at Pittsburg Station
Table 7.1-5b Concentration Data Summary for Carbon Monoxide at Concord Station
Table 7.1-5c Concentration Data Summary for Carbon Monoxide at Bethel Island Station
Table 7.1-6a Concentration Data Summary for Nitrogen Dioxide at Pittsburg Station
Table 7.1-6b Concentration Data Summary for Nitrogen Dioxide at Concord Station
Table 7.1-6c Concentration Data Summary for Nitrogen Dioxide at Bethel Island Station
Table 7.1-7a Concentration Data Summary for Sulfur Dioxide at Pittsburg Station
Table 7.1-7b Concentration Data Summary for Sulfur Dioxide at Concord Station
Table 7.1-7c Concentration Data Summary for Sulfur Dioxide at Bethel Island Station
Table 7.1-8 Concentration Data Summary for Lead at San Francisco-Hunters Point Station
Table 7.1-9 Estimated Construction Equipment Usage Schedule for Willow Pass Generating Station
Table 7.1-10 Daily Maximum Construction Emissions of Criteria Pollutants
Table 7.1-11 Maximum Annual Construction Emissions of Criteria Pollutants
Table 7.1-12 Maximum Operating Schedule and Stack Parameters
Table 7.1-13 1-Hour Operating Emission Rates for FP10 Combustion Turbines
Table 7.1-14 Criteria Pollutant Emission Rates During FP10 Startup and Shutdown
Table 7.1-15 Estimated Stack Parameters and Emission Rates for WPGS Fuel Gas Heater

Table 7.1-16 Criteria Pollutant Sources and Emission Totals for the Worst-Case Project Emissions Scenarios for All Averaging Times
Table 7.1-17 Total Project Annual Emissions of Criteria Pollutants
Table 7.1-18 Duration and Criteria Pollutant Emissions for Commissioning of a Single FP10 Unit (20 ppm ULN) on Natural Gas at 62°F
Table 7.1-19 Estimated Greenhouse Gas Emissions from the Project
Table 7.1-20 Surface Moisture Conditions for Years 2002-2005
Table 7.1-21 Land Use Characteristics used in AERMET
Table 7.1-22 WPGS Turbine Screening Results FP10 Combined-Cycle Units
Table 7.1-23 NO_x and CO Emission Parameters for Turbine Startup Hours
Table 7.1-24 Maximum Modeled Criteria Pollutant Impacts Due to Willow Pass Site Demolition, Grading, Laydown, Building, and Pipeline Excavation Emissions (Short-Term Impact Estimates Based on Month 6 Construction Activities)
Table 7.1-25 AERMOD Modeling Results for WPGS Operations (All Project Sources Combined)
Table 7.1-26 Turbine Commissioning Modeling Results
Table 7.1-27 Emission Reduction Credit Certificates Owned by Mirant California
Table 7.1-28 Estimated Emission Credit Requirements to Offset Project Emissions
Table 7.1-29 BACT Determination for the WPGS Emission Sources
Table 7.1-30 Summary of Proposed Best Available Control Technology
Table 7.1-31 National and California Ambient Air Quality Standards
Table 7.1-32 Attainment Status of Contra Costa County with Respect to Federal and California Ambient Air Quality Standards
Table 7.1-33 PSD Emission Threshold Triggers for New Stationary Sources
Table 7.1-34 Allowable PSD Increments for SO_2, NO_2, and PM_{10}
Table 7.1-35 Applicable Air Quality Laws, Ordinances, Regulations, and Standards
Table 7.1-36 Involved Agencies and Contacts
Table 7.1-37 Permits Required

Table 7.2-1 Special-Status Species Reported Within a 10-Mile Radius and Potential for Occurrence
Table 7.2-2 Plant Species Observed in the Local Study Area
Table 7.2-3 Wildlife Species Observed in the Project Vicinity
Table 7.2-4 Applicable Biological Resources Laws, Ordinances, Regulations, and Standards
Table 7.2-5 Involved Agencies and Agency Contacts
Table 7.2-6 Permits Required

Table 7.3-1 Previous Surveys
Table 7.3-2 Recorded Cultural Resources
Table 7.3-3 Applicable Laws, Ordinances, Regulations, and Standards
Table 7.3-4 Involved Agencies and Agency Contacts

Table 7.4-1 City of Pittsburg Land Uses
Table 7.4-2 Sensitive Receptors in the Vicinity of the WPGS Site
Table 7.4-3 General Plan Designations Within 1 Mile of the WPGS Site and 1/4 Mile of Project Linear Facilities
Table 7.4-4 Zoning Districts Within 1 Mile of the WPGS Site and 1/4 Mile of Project Linear Facilities
Table 7.4-5 Recent and Proposed Zoning and General Plan Amendments and Discretionary Reviews in the Project Vicinity
Table 7.4-6 Applicable Land Use Laws, Ordinances, Regulations, and Standards
Table 7.4-7 Involved Agencies and Agency Contacts
Table 7.4-8 Permits Required

Table 7.5-1 Sound Levels of Typical Noise Sources and Noise Environments (A-Weighted Sound Levels)
Table 7.5-2 Hourly Long-Term Results (Location LT-1) in dBA
Table 7.5-3 Hourly Long-Term Results (Location LT-2) in dBA
Table 7.5-4 Estimated Construction Noise Levels (dBA)
Table 7.5-5 Existing L_{eq} Sound Level and WPGS L_{eq} Sound Level
Table 7.5-6 Existing CNEL Sound Level and WPGS CNEL Sound Level
Table 7.5-7 Existing L_{90} Sound Level and WPGS L_{90} Sound Level
Table 7.5-8 Applicable Noise Laws, Ordinances, Regulations, and Standards
Table 7.5-9 Contra Costa County Allowable Exterior Noise Levels
Table 7.5-10 Involved Agencies

Table 7.6-1 Toxicity Values Used to Characterize Health Risks
Table 7.6-2 Emission Rates from the Operation of Each FP10 CTG/HRSG
Table 7.6-3 Emission Rates from the Operation of Each WPGS Fuel Gas Heater
Table 7.6-4 Estimated Cancer Risk and Acute and Chronic Noncancer Total Hazard Indices Due to WPGS Emissions of TACs
Table 7.6-5 Emission Rates from PPP Units 5, 6, and 7 Natural-Gas–Fired Boilers
Table 7.6-6 Health Risk Assessment Estimated Cancer Risk and Acute and Chronic Noncancer Total Hazard Indices Due to WPGS and PPP Operational Emissions of TACs
Table 7.6-7 Applicable Public Health Laws, Ordinances, Regulations, and Standards
Table 7.6-8 Involved Agencies and Agency Contacts

Table 7.7-1 Construction, Operation and Maintenance Hazard Analysis
Table 7.7-2 Construction Training Program
Table 7.7-3 Operations and Maintenance Training Program
Table 7.7-4 Construction Safety Injury and Illness Prevention Plan Example Outline 8 CCR 1509
Table 7.7-5 Protective Equipment Guide
Table 7.7-6 Construction Safety Personal Protection Equipment Program Example Outline 8 CCR 1514 1522
Table 7.7-7 Operations Injury and Illness Prevention Program Example Outline 8 CCR 3203
Table 7.7-8 WPGS Operations Emergency Action Outline 8 CCR 3220
Table 7.7-9 Operations Personal Protective Equipment Program Example Outline 8 CCR 3401 3411
Table 7.7-10 Construction Safety Fire Protection and Prevention Plan Example Outline 8 CCR 1920
Table 7.7-11 Operations Fire Prevention Plan Example Outline 8 CCR 3221
Table 7.7-12 Fire Protection Systems Design Conditions
Table 7.7-13 Natural Gas Analysis – Willow Pass Generating Station
Table 7.7-14 Applicable Worker Safety and Health Laws, Ordinances, Regulations, and Standards
Table 7.7-15 Involved Agencies and Agency Contacts
Table 7.7-16 Permits Required

Table 7.8-1 Five-County Study Area Employment and Unemployment Statistics for 2006
Table 7.8-2 Unemployment Rate Trends and Projections
Table 7.8-3 Population Trends and Projections
Table 7.8-4 Housing, 2006
Table 7.8-5 Pittsburg Unified School District Enrollment and Capacity Levels
Table 7.8-6 Contra Costa County Major Revenue Categories
Table 7.8-7 Contra Costa County Expenditures
Table 7.8-8 City of Pittsburg Major Revenue Categories
Table 7.8-9 City of Pittsburg Expenditures

Table 7.8-10 Contra Costa County Allocation of Property Taxes for Tax Rate Area 86006, Fiscal Year 2007/2008
Table 7.8-11 Race and Poverty Data within a 6-Mile Radius of the Project Site
Table 7.8-12 Construction Staff by Trade
Table 7.8-13 Plant Operation Workforce
Table 7.8-14 Recent and Proposed Zoning and General Plan Amendments and Discretionary Reviews in the Project Vicinity
Table 7.8-15 Applicable Socioeconomic Laws, Ordinances, Regulations, and Standards
Table 7.8-16 Involved Agencies and Contacts

Table 7.9-1 Soil Mapping Units Surrounding WPGS Site – Description and Properties
Table 7.9-2 Applicable Soils Laws, Ordinances, Regulations, and Standards
Table 7.9-3 Involved Agencies and Agency Contacts
Table 7.9-4 Permits Required

Table 7.10-1 Level of Service Description
Table 7.10-2 Signalized Intersection Level of Service
Table 7.10-3 Level of Service Criteria for Unsignalized Intersections
Table 7.10-4 Level of Service Thresholds for Two-Lane Roadway Segments (Class I)
Table 7.10-5 Level of Service Criteria for Multi-Lane Highways
Table 7.10-6 Peak-Hour Intersection Levels of Service – Existing Conditions
Table 7.10-7 Peak-Hour Roadway Segment Levels of Service – Existing Conditions
Table 7.10-8 Projected Average Daily Traffic Volumes
Table 7.10-9 Projected Construction Workforce and Deliveries
Table 7.10-10 Trip Generation During Peak Construction Month
Table 7.10-11 Peak-Hour Intersection Levels of Service – Near-Term Conditions
Table 7.10-12 Roadway Segment Levels of Service – Near-Term Conditions
Table 7.10-13 Trip Generation During Plant Operation
Table 7.10-14 Potential Improvement Projects at the Vicinity of the WPGS Project
Table 7.10-15 Peak-Hour Intersection Levels of Service – Projected Future Conditions (2035)
Table 7.10-16 Roadway Segment Levels of Service – Projected Future Conditions (2035)
Table 7.10-17 Applicable Traffic and Transportation Laws, Ordinances, Regulations, and Standards
Table 7.10-18 Involved Agencies and Agency Contacts

Table 7.11-1 Visual Impact Significance Matrix
Table 7.11-2 Visibility Potential Levels
Table 7.11-3 Visual Modification Levels
Table 7.11-4 Viewer Impact Levels
Table 7.11-5 Major Structures
Table 7.11-6 Visual Impact Summary
Table 7.11-7 Applicable Visual Resources Laws, Ordinances, Regulations, and Standards
Table 7.11-8 Involved Agencies and Agency Contacts

Table 7.12-1 Willow Pass Generating Station Sensitive Land Uses Within 3 Miles
Table 7.12-2 Existing Hazardous Materials Used at PPP
Table 7.12-3 Summary of Construction Waste Streams and Management Methods
Table 7.12-4 Hazardous Materials to be Added at WPGS During Operational Phase
Table 7.12-5 Dispersion Modeling Parameters
Table 7.12-6 Predicted Ammonia Concentrations at Sensitive Receptor Locations
Table 7.12-7 Predicted Distances to Ammonia Levels of Concern
Table 7.12-8 Applicable Hazardous Materials Laws, Ordinances, Regulations, and Standards
Table 7.12-9 Involved Agencies and Agency Contacts

Table 7.12-10 Required Permits

Table 7.13-1 Candidate Landfills, TSDFs, and Transfer Stations
Table 7.13-2 Recycling/Transfer Centers
Table 7.13-3 Applicable Waste Management Laws, Ordinances, Regulations, and Standards
Table 7.13-4 Involved Agencies and Agency Contacts
Table 7.13-5 Required Permits

Table 7.14-1 Water Analyses for Potable Water Supply Sources
Table 7.14-2 Climate Summary for Antioch, California
Table 7.14-3 Average and Peak Flows at DDSD Facilities (June through September 2006)
Table 7.14-4 Applicable Water Resources Laws, Ordinances, Regulations, and Standards
Table 7.14-5 Involved Agencies and Agency Contacts
Table 7.14-6 Permits Required

Table 7.15-1 Major Faults in WPGS Site Vicinity
Table 7.15-2 Applicable Geologic Laws, Ordinances, Regulations, and Standards
Table 7.15-3 Involved Agencies and Agency Contacts
Table 7.15-4 Required Permits

Table 7.16-1 Applicable Paleontological Resources Laws, Ordinances, Regulations, and Standards
Table 7.16-2 Involved Agencies and Agency Contacts

LIST OF FIGURES

Figure 1-1 Site Vicinity Map
Figure 1-2 View of Existing Pittsburg Power Plant Facility
Figure 1-3 Visual Simulation of Willow Pass Generating Station

Figure 2.1-1 Project Location Map
Figure 2.1-2 Site Plan
Figure 2.2-1 Site Vicinity Map
Figure 2.3-1 Flex Plant 10 Site Layout
Figure 2.5-1 Plot Plan
Figure 2.5-2 Elevation Views
Figure 2.5-3 Flex Plant 10 Heat and Material Balance
Figure 2.5-4 Flex Plant 10 Overall Single-Line Diagram
Figure 2.5-5 Water Balance Diagram
Figure 2.5-6 Firewater Loop and Potable Water Main
Figure 2.6-1 Existing Site Topographic Survey
Figure 2.6-2 Site Grading and Drainage Plan
Figure 2.6-3 Aqueous Ammonia Storage and Spill Containment Schematic
Figure 2.7-1 Project Schedule
Figure 2.7-2 Construction Staff by Month
Figure 2.7-3 Demolition Area
Figure 2.7-4 Construction Office, Parking, and Laydown Areas
Figure 2.7-5 Heavy Vehicle Delivery Trips

Figure 4-1 Electrical Interconnection to the PG&E Switchyard
Figure 4-2 Typical High Voltage Monopole Towers

Figure 7.1-1 General Vicinity and Project Boundary
Figure 7.1-2 Annual Windrose for 2002–2005
Figure 7.1-3 Near-Field Model Receptor Grid
Figure 7.1-4 Far-Field Model Receptor Grid
Figure 7.1-5 Locations of Maximum Predicted Ground Level Pollutant Concentrations for the Operational Project Area

Figure 7.2-1 Regional Overview of Special-Status Species and Areas of Significant Biological Resources, 5-mile Radius (CNDDB)
Figure 7.2-2 Vegetation Types
Figure 7.2-3 Potential Jurisdictional Wetlands
Figure 7.2-4 Local Map of Biological Resources

Figure 7.3-1 Archaeological Area of Potential Effects
Figure 7.3-2 Historic Architectural Area of Potential Effects
Figure 7.3-3 Ethnographic Tribal Territory of the Bay Miwok
Figure 7.3-4 Oblique Image of Pittsburg Power Plant after 1972

Figure 7.4-1 Jurisdictional Boundaries in the Project Vicinity
Figure 7.4-2 Existing Land Uses in the Project Vicinity
Figure 7.4-3 General Plan Land Use Designations
Figure 7.4-4 Zoning Districts

Figure 7.5-1 Noise Measurement Site Locations
Figure 7.5-2 Area of 5 dBA Increase in L_{90}
Figure 7.5-3 California Land Use Compatibility Guidelines

Figure 7.6-1 Sensitive Receptors Located within 3 Miles of the Project Site

Figure 7.8-1 Five-County Study Area
Figure 7.8-2 Race and Poverty by Census Tract within a 6-mile Radius of the Project Site

Figure 7.9-1 Soil Mapping Units in the Vicinity of the Willow Pass Generating Station

Figure 7.10-1 Regional Vicinity
Figure 7.10-2 Project Location Map
Figure 7.10-3 Existing Conditions Lane Geometrics
Figure 7.10-4 Existing Conditions Daily Average and Peak-Hour Turning Movement Volumes
Figure 7.10-5 Trip Distribution
Figure 7.10-6 Near-Term Conditions Project Only Trips
Figure 7.10-7 Near-Term Conditions Peak Hour Turning Movement Volumes
Figure 7.10-8 Near-Term Plus Project Conditions Peak Hour Turning Movement Volumes
Figure 7.10-9 Future Conditions Lane Geometries
Figure 7.10-10 Future Conditions Peak Hour Turning Movement Volumes
Figure 7.10-11 Future Conditions Project Only Trips
Figure 7.10-12 Future Conditions Plus Project Conditions Peak Hour Turning Movement Volumes

Figure 7.11-1 Key Observation Points and Other Viewing Areas
Figure 7.11-2 KOP 1: View from Marina Breakwater – Existing Conditions
Figure 7.11-3 KOP 2: View from Stewart Memorial Methodist Church – Existing Conditions
Figure 7.11-4 KOP 3: View from Bay Side Drive and St. Peter Martyr School – Existing Conditions

Figure 7.11-5 KOP 4: View from Gazebo in a Residential Boat Channel Community – Existing Conditions
Figure 7.11-6 KOP 5: View from Residences on Mayport Court – Existing Conditions
Figure 7.11-7 KOP 6: View from Willow Pass Road – Existing Conditions
Figure 7.11-8 KOP 7: View from Wedgewood Reception Hall and Delta View Golf Course – Existing Conditions
Figure 7.11-9 KOP 8: View from Residences on Encinal Place – Existing Conditions
Figure 7.11-10 KOP 9: View from Collinsville Road – Existing Conditions
Figure 7.11-11 Other Viewing Areas (OVA)
Figure 7.11-12 KOP 1: View from Marina Breakwater – Simulation Showing Project
Figure 7.11-13 KOP 2: View from Stewart Memorial Methodist Church – Simulation Showing Project
Figure 7.11-14 KOP 3: View from Bay Side Drive and St. Peter Martyr School – Simulation Showing Project
Figure 7.11-15 KOP 4: View from Gazebo in a Residential Boat Channel Community – Existing Conditions – Simulation Showing Project
Figure 7.11-16 KOP 5: View from Residences on Mayport Court – Simulation Showing Project
Figure 7.11-17 KOP 6: View from Willow Pass Road – Simulation Showing Project
Figure 7.11-18 KOP 7: View from Wedgewood Reception Hall and Delta View Golf Course – Simulation Showing Project
Figure 7.11-19 KOP 8: View from Residences on Encinal Place – Simulation Showing Project
Figure 7.11-20 KOP 9: View from Collinsville Road – Simulation Showing Project

Figure 7.12-1 Locations of Hazardous Materials
Figure 7.12-2 Worst-Case Scenario Predicted Ammonia Concentration
Figure 7.12-3 Alternative Scenario Predicted Ammonia Concentration

Figure 7.14-1 Regional Hydrologic Setting
Figure 7.14-2 Surface Water Features
Figure 7.14-3 Existing PPP Drainage
Figure 7.14-4 Floodplains in Vicinity of the Site

Figure 7.15-1 Regional Geologic Map
Figure 7.15-2 Regional Seismicity Data
Figure 7.15-3 Mineral Resource Zones and Resource Sectors

Figure 7.16-1 Site Vicinity Map
Figure 7.16-2 Project Location Map
Figure 7.16-3 Areas of Native Sediment

Figure 8-1 Potential Alternative Sites

ACRONYMS

3D	three-dimensional
AAQS	Ambient Air Quality Standard
AARG	Average Annual Rate of Growth
ABAG	Association of Bay Area Governments
AC	alternating current
ACHE	air-cooled heat exchanger
ACHP	Advisory Council on Historic Preservation
ACM	asbestos-containing material
AFC	Application for Certification
AFY	acre-feet per year
AMR	American Medical Response
ANSI	American National Standards Institute
AP	Alquist-Priolo
APE	Area of Potential Effects
APN	Assessor's Parcel Number
AQCR	Air Quality Control Regions
AQMP	air quality management plan
ARP	Accidental Release Program
ASCE	American Society of Civil Engineers
ASME	American Society for Mechanical Engineers
AST	aboveground storage tank
AT&SF	Atchison, Topeka and Santa Fe Railroad
ATC	Authority to Construct
BAAQMD	Bay Area Air Quality Management District
BACT	Best Available Control Technologies
BART	Bay Area Rapid Transit
BLM	U.S. Bureau of Land Management
BMP	Best Management Practice
BNSF	Burlington Northern Santa Fe Railroad
BPIP-Prime	Building Profile Input Program – Prime
Btu	British thermal unit
Btu/ft^3	British thermal units per cubic foot
°C	Celsius
CAA	Clean Air Act
CAAA	Clean Air Act Amendments
CAAQS	California Ambient Air Quality Standards
CAD	computer-aided design
CAISO	California Independent System Operator
Cal/EPA	California Environmental Protection Agency
Cal/OSHA	California Occupational Safety and Health Administration
CalARP	California Accidental Release Prevention
CARB	California Air Resources Board
CAS	Chemical Abstracts Service
CATEF	California Air Toxics Emission Factor
CBC	California Building Code
CCCFPD	Contra Costa County Fire Protection District
CCCHSD-HMP	Contra Costa County Health Services Department Hazardous Materials Program
CCR	California Code of Regulations
CCTA	Contra Costa Transportation Authority
CCTS	Central California Taxonomic System

CCWD	Contra Costa Water District
CDFG	California Department of Fish and Game
CDM	Camp Dresser and McKee
CDOF	California Department of Finance
CEC	California Energy Commission
CEMS	continuous emissions monitoring system
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response and Liability Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CH_4	methane
CHRIS	California Historical Resources Information System
CIP	Capital Improvement Program
CIWMA	California Integrated Waste Management Act
CIWMB	California Integrated Waste Management Board
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	carbon monoxide
CO_2	carbon dioxide
CPM	compliance project manager
CPUC	California Public Utilities Commission
CRHR	California Register of Historical Resources
CRSB	Coast Range-Sierra–Block
CSLC	California State Lands Commission
CT	Census Tract
CTG	combustion turbine-generator
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
cy	cubic yard
dB	decibel
dBA	A weighted decibel
DC	direct current
DCS	Distributed control system
DDSD WTP	Delta Diablo Sanitation District Wastewater Treatment Plant
DDSD	Delta Diablo Sanitation District
DEC	Delta Energy Center
DEM	digital elevation model
DOC	Determination of Compliance
DPM	diesel particulate matter
DPR	Department of Parks and Recreation
DTSC	Department of Toxic Substances Control
DWR	Department of Water Resources
DWST	Demineralized-Water Storage Tank
EAC	Early Action Compact
EAF	Equivalent Availability Factor
EB	Eastbound
EMF	electromagnetic fields
EPC	engineering, procurement, construction
EPRI	Electric Power Research Institute
ERPG-2	Emergency Response Planning Guideline Level 2
ESA	Endangered Species Act

ESA	Environmental Site Assessment
°F	Fahrenheit
FAR	floor area ration
FDG	Fluor Daniel GTI
FEMA	Federal Emergency Management Agency
FERC	Federal Energy Regulatory Commission
FIRM	Flood Insurance Rate Map
FP10	Flex Plant 10
fps	feet per second
FSNL	Full Speed No Load
ft/sec	feet per second
ft^2	square feet
GBACR	Greater Bay Area Cancer Registry
GIPR	Generator Interconnection Process Reform
GO	General Order
gpm	gallons per minute
GPS	global positioning systems
Gr S	grains of sulfur
GSU	generator step-up
HAPs	hazardous air pollutants
HARP	Hotspots Analysis and Reporting Program
HCM	Highway Capacity Manual
HCP	Habitat Conservation Plan
HDPE	high-density polyethylene
HHV	higher heating value
HMBP	Hazardous Materials Business Plan
HOV	High-Occupancy Vehicle
HP	high-pressure
HRSA	Health Risk Screening Analysis
HRSG	heat recovery steam generator
HSC	Health and Safety Code
HSP	Health and Safety Plan
HUD	U.S. Department of Housing and Urban Development
HV	high voltage
HWCL	Hazardous Waste Control Law
Hz	Hertz
I&C	instrumentation and control
I/O	input/output
IBC	International Building Code
IC	Incident Command
IDLH	Immediately Dangerous to Life and Health
IEEE	Institute of Electrical & Electronics Engineers
IEPR	Integrated Energy Policy Report
IFC	International Fire Code
IG	General Industrial
IIPP	Injury and Illness Prevention Program
JHA	job hazard analysis
JRP	JRP Historical Consulting, LLC
km	kilometer
KOP	key observation point
kV	kilovolt
kW	kilowatt

$L_{\#}$	x percentile distribution of sound level
lb	pound
lb/day	pounds per day
lbs/hr	Pounds per hour
L_{dn}	Day-Night Average Sound Level
LEED	Leadership in Energy and Environmental Design
LEPC	local emergency planning committee
L_{eq}	equivalent sound level
LHV	lower heating value
L_{max}	maximum equivalent sound level
LMEC	Los Medanos Energy Center
L_{min}	minimum equivalent sound level
LO/TO	Lockout/tagout
LORS	laws, ordinances, regulations and standards
LOS	Level of Service
LT	long-term
M	Magnitude
m	meter
m/s	meters per second
MACT	Maximum Achievable Control Technology
MCC	motor control center
MCL	Maximum Contaminant Level
mg/kg	milligram per kilogram
$\mu g/m^3$	micrograms per cubic meter
mg/m^3	milligrams per cubic meter
mgd	million gallons per day
M_L	Local Magnitude
mm/yr	millimeters per year
MMBtu	million British Thermal Units
mmBtu/hr	million British Thermal units per hour
MMI	Modified Mercalli Intensity
mph	miles per hour
µs/cm	microsiemens per centimeter
MSDS	material safety data sheet
msl	mean sea level
MUTCD	Manual of Uniform Traffic Control Devices
MW	megawatt
M_W	Moment Magnitude
n/a	not available
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NB	Northbound
NEPA	National Environmental Policy Act
NESHAPs	National Emission Standards for hazardous air pollutants
NFPA	National Fire Protection Association
NIOSH	National Institute of Occupational Safety and Health
NMFS	National Marine Fisheries Service
NO	nitric oxide
NO_2	nitrogen oxides
NOAA	National Oceanic and Atmospheric Administration
NO_x	nitrogen oxides

NPDES	National Pollutant Discharge Elimination System
NPOC	non-precursor organic compound
NPS	National Park Service
NRCS	National Resources Conservation Service
NSCR	Non-selective catalytic reduction
NSPS	New Source Performance Standards
NTU	Nephelometric Turbidity Units
NWIC	National Register of Historic Places
NWS	National Weather Service
NWST	Nitrified Water Storage Tank
O_2	oxygen
O_3	ozone
OA&E	Oakland, Antioch and Eastern Railway
OAC	open air cooled
OCA	offsite consequence analysis
OEHHA	Office of Health Hazard Assessment
OHP	Office of Historic Preservation
OLM	ozone limiting method
OSHA	Occupational Safety and Health Administration
OVA	other viewing area
OWS	oil-water separator
PAH	polycyclic aromatic hydrocarbons
PCB	polychlorinated biphenyl
PG&E	Pacific Gas and Electric Company
PKHF	Pittsburg-Kirby Hills fault
PL	Public Law
PM_{10}	particulate matter less than or equal to 10 microns in diameter
$PM_{2.5}$	particulate matter less than 2.5 microns in diameter
POC	precursor organic compound
PPD	Pittsburg Police Department
PPE	personal protective equipment
ppm	parts per million
ppmv	parts per million by volume
ppmvd	parts per million by volume, dry basis
PPP	Pittsburg Power Plant
ppt	parts per thousand
PRC	Public Resources Code
PSD	Prevention of Significant Deterioration
psig	pounds per square inch gauge
PTO	Permit to Operate
PUSD	Pittsburg Unified School District
PWL	Sound Power Level
RCRA	Resource Conservation and Recovery Act
REC	Recognized Environmental Condition
REL	reference exposure level
RFI	RCRA Facility Investigation
RMP	Risk Management Plan
RO	Reverse Osmosis
ROPST	Reverse-Osmosis Permeate Storage Tank
rpm	revolution per minute
RQ	Reportable Quantities
RWF	Recycled Water Facility

RWQCB	Regional Water Quality Control Board
SAM	Social Accounting Matrices
SARA	Superfund Amendments and Reauthorization Act
SB	Senate Bill
SB	Southbound
SCAQMD	South Coast Air Quality Management District
scf	standard cubic feet
SCR	selective catalytic reduction
SD	shutdown
SERC	state emergency response commission
SF&SJV	San Francisco and San Joaquin Valley Railway
SF_6	sulfur hexafluoride
SHPO	State Historic Preservation Office
SILs	significant impact levels
SIS	System Impact Study
SLM	sound level meter
SNCR	Selective non-catalytic reduction
SO_2	sulfur dioxide
SO_x	sulfur oxides
SPCC	Spill Prevention, Control, and Countermeasures
SPL	Sound Pressure Level
SPRR	Southern Pacific Railroad
SR	State Route
STG	steam turbine generator
STPEL	Short-Term Public Emergency Limit
SU	startup
SVP	Society of Vertebrate Paleontology
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminants
TBACT	Toxic Best Available Control Technologies
TCA	trichloroethane
TCE	trichloroethene
TDS	total dissolved solids
THI	total hazard index
TIBL	thermal internal boundary layer
TPH	total petroleum hydrocarbons
TPQ	threshold planning quantity
tpy	tons per year
TQ	Threshold Quantity
TSDF	treatment, storage, and disposal facility
TSP	total suspended particulate
TWA	time-weighted average
U.S. DOT	U.S. Department of Transportation
U.S. EPA	U.S. Environmental Protection Agency
U2A	Urea to Ammonia
UCMP	University of California Museum of Paleontology at Berkeley
UFC	Uniform Fire Code
ULN	ultra low nitrogen oxides
UPRR	Union Pacific Railroad
UPS	uninterruptible power supply
USACE	United States Army Corps of Engineers

USC	United States Code
USFWS	United States Fish and Wildlife Service
USGS	U.S. Geological Survey
UTM	Universal Transverse Mercator
VAC	visual absorption capability
VOC	volatile organic compound
VSOI	visual sphere of influence
WB	Westbound
WDR	Waste Discharge Requirements
WGCEP	Working Group on California Earthquake Probabilities
WGNCEP	Working Group on Northern California Earthquake Potential
WPCF	Water Pollution Control Facility
WPGS	Willow Pass Generating Station
WRCC	Western Regional Climate Center
WTP	Wastewater Treatment Plant
WWST	wastewater storage tank