8. ACRONYMS AND GLOSSARY

8.1 LIST OF ACRONYMS

ug/m³	micrograms per cubic meter
AAQS	Ambient Air Quality Standards
AB	Assembly Bill
ACAPCD	Amador County Air Pollution Control District
ACEC	Area of Critical Environmental Concern
ACM	Asbestos-Containing Materials
ACOE	Army Corps of Engineers
ACWA	Association of California Water Agencies
ADA	Americans with Disabilities Act
ADT	Average Daily Trip
AECA	Agricultural Energy Consumers Association
AEG	Agricultural Exclusive Zone
af	acre feet
AGC	Automatic Generation Control
AIR	Additional Information Request
ALJ	Administrative Law Judge
ALP	Alternative Licensing Procedure
A-Max	Analytical Maximum
AML	Abandoned Mine Land
APCD	Air Pollution Control District
APCO	Air Pollution Control Officer
APE	Area of Potential Effects
APEI	Area of Potential Environmental Impact
APN	Assessor's Parcel Number
APSES	APS Energy Service
AQMP	Air Quality Management Plan
ARA	Aggregate Resource Area
asl	Above Sea Level
ASTM	American Society for Testing and Materials
ATEIR	Air Toxic Emission Inventory Report
ATERA	Air Toxics Emission Risk Assessment
ATSDR	U.S. Agency for Toxic Substances and Disease Registry
AU	Animal Units
AWA	Amador Water Agency
BACT	Best Available Control Technology
BARCT	Best Available Retrofit Control Technology
BATF	U.S. Bureau of Alcohol, Tobacco, and Firearms
BCAG	Butte County Association of Governments
BHP	Brake Horsepower
BLM	U.S. Bureau of Land Management
BMP	Best Management Practice
BOD	Biological Oxygen Demand
BOE	State Board of Equalization
BOR	U.S. Bureau of Reclamation

BRPU	Biennial Resource Planning Update
BTA	Best Technology Available
BTU	British Thermal Unit
C&TS	Communications and Telecommunications Services
CAA	Federal Clean Air Act
CAEOB	California Electric Oversight Board
CalARP	California Accidental Release Prevention Program
CalEPA	California Environmental Protection Agency
Caltrans	California Department of Transportation
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CCR	California Code of Regulations
CDF	California Department of Forestry and Fire Protection
CDFG	California Department of Fish and Game
CDMG	California Division of Mines and Geology
CDPR	California Department of Parks and Recreation
CDWR	California Department of Water Resources
CEC	California Energy Commission
CEERT	Center for Energy Efficiency and Renewable Technologies
CEIDARS	California Emission Inventory Development and Reporting System
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CERCLA	U.S. Comprehensive Environmental Response, Compensation, and Liability Act
CESA	California Endangered Species Act
CF	Commercial Forestry
CFBF	California Farm Bureau Federation
CFCP	California Farmland Conservancy Program
CFPR	California's Forest Practice Rules of 1999
cfs	Cubic Feet Per Second
CHMIRS	California Hazardous Material Incident Report System
CHP	California Highway Patrol
CHS	California Department of Health Services
CILS	California Indian Legal Service
CIU	California Industrial Users
CMB	Combined Pumped Storage
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO	Carbon Monoxide
CO_2	Carbon Dioxide
COE	Corps of Engineers
CPGL	Conservation of Private Grazing Land Initiative
CPUC	California Public Utilities Commission
CRMP	Coordinated Resource Management Plan
CRMP	Cultural Resources Management Plan
CRP	Conservation Reserve Program
CRWQCB	California Regional Water Quality Board
CSD	Community Services District
CTC	Competition Transition Charge
CUE	Coalition of California Utility Employees
CUPA	Certified Unified Program Agency

CVP	Central Valley Project
CVPC	Crane Valley Project Committee
CVPIA	Central Valley Project Improvement Act
CVRWQCB	Central Valley Regional Water Quality Control Board
CWA	Clean Water Act
CWSC	California Water Services Company
CYA	California Youth Authority
D.O.	Dissolved Oxygen
dB	decibel
dBA	A-weighted decibel
DBW	Department of Boating and Waterways
DEIS	Draft Environmental Impact Statement
DFG	California Department of Fish and Game
DIV	Diversion
DOF	State Department of Finance
DOT	U.S. Department of Transportation
DPCA	Division of Project Compliance and Administration
DPR	California Department of Parks and Recreation
DSHA	Doyle Springs Homeowners Association
DSOD	California Division of Safety of Dams
DTSC	California Department of Toxic Substances Control
du	dwelling unit
DWR	California Department of Water Resources
EA	Environmental Assessment
EAP	Emergency Action Plan
EBMUD	East Bay Municipal Utility District
EC	Electrical Conductivity
ECAC	Energy Cost Adjustment Clause
ECPA	Electric Consumers Protection Act
ED	Environmental Defense, formerly EDF
EDCTA	El Dorado County Transit Authority
EDF	Environmental Defense Fund
Edison	Southern California Edison Company
EDR	Environmental Data Report
EDU	Equivalent Dwelling Unit
EID	El Dorado Irrigation District
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EMF	Electronic Magnetic Field
EMS	Energy Management System
Enron	Enron Corporation
EPA	U.S. Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
EPUI	Environmental and Public Use Inspection
EQIA	Environmental Quality Improvement Act of 1970
EQIP	Environmental Quality Incentives Program
ERR	Environmental Regulatory Record
ESA	Environmental Site Assessment
ESP	Electric Service Provider
ESU	Evolutionarily Significant Unit
EWG	Exempt Wholesale Generator

FCC	Federal Communications Commission
FDC	Fresno Dispatching Center
FEEP	Facility Environmental Emergency Plan
FEIS	Final Environmental Impact Statement
FEMA	Federal Emergency Management Agency
FER	Friends of Eel River
FERC	Federal Energy Regulatory Commission
FESA	Federal Endangered Species Act
FGC	Fish and Game Code
FHWA	Federal Highway Administration
FLPMA	Federal Land Policy and Management Act
FMMP	Farmland Mapping and Monitoring Program
FONSI	Finding of No Significant Impact
FPA	Federal Power Act of 1920
FPC	Federal Power Commission
FPP	Farmland Protection Program
FR	Foothill Recreation
FRCSD	Fall River Community Services District
ft msl	feet above mean sea level
FWCA	Fish and Wildlife Coordination Act
FWUA	Friant Water User's Association
G&A	General and Administrative
GC	General Construction
GI/LIF	Greenling Institute/Latino Issues Forum
GIS	Geographic Information System
GP	General Plan
gpd	gallons per day
gpm	gallons per minute
GRIP	Generator Real-Time Information System
GWh	Gigawatt Hour
GWMP	Ground Water Master Plan
H_2S	Hydrogen Sulfide
HAPs	Hazardous Air Pollutants
HC	Humbolt County
HCP	Habitat Conservation Plan
HMBP	Hazardous Materials Business Plan
HWIS	Hazardous Waste Information System
I	Interstate
IBEW	International Brotherhood of Electrical Workers
ICE	Internal Combustion Engine
ID	Irrigation District
IDR	Identified Deferrable Resource
IEPA	Independent Energy Producers Association
IFIM	Instream Flow Incremental Methodology
IIPP	Illness and Injury Prevention Program
IOU	Investor-owned utility
ISO	Independent System Operator
ISO	Insurance Services Office
ITE	Institute of Transportation Engineers
ITSAs	Interim Telecom Service Agreements

JTU	Jackson Turbidity Units
kaf	Thousand Acre Feet
KR-1	Kern River No. 1
KRCD	Kings River Conservation District
KRWA	Kings River Water Association
kV	kilovolt
kW	kilowatt
kWh	Kilowatt-hour
LCG	Lotus Consulting Group
L_{dn}	day-night average noise level
LE	Land Evaluation
LEA	Local Enforcement Agency
L_{eg}	energy-equivalent noise level
LESA	Land and Site Assessment
LNF	Lassen National Forest
LOS	Level of Service
LRMP	Land and Resource Management Plan
LRMP	Long Range Management Plan
LTO	Licensed Timber Operator
M&I	Municipal and Industrial
MACT	Maximum Achievable Control Technology
MB&G	Mason, Bruce and Girard
MBF	Thousand board feet
MCAB	Mountain Counties Air Basin
MCE	Maximum Credible Earthquake
MCP	Market Clearing Price
MEA	Master Environmental Assessment
MEI	Maximally Exposed Individual
MF	Middle Fork
MFCMA	Magnuson Fishery Conservation and Management Act
MFSR	Middle Fork Stanislaus River
MFTR	Middle Fork of the Tule River
MHFP	Multi-Hazard Functional Emergency Operations Plan
M.I.	Miner's Inch
MID	Madera Irrigation District (Kings Crane-Helms Watershed Region)
MID	Merced Irrigation District (Motherlode Watershed Region)
MIWPC	Mendocino County Inland Water and Power Commission
MM	Maximum Modification
MMRA	Master Multi-Run Agreement
MND	Mitigated Negative Declaration
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MPA	Market Power Analysis
MRU	Must Run Utility
MRZ	Mining Resource Zone
msl	Mean Sea Level
MVA	Mega Volt-Amperes
MW	Megawatt
MWD	Metropolitan Water District
MWh	Megawatt-Hour

NAGPRA	Native American Graves Protection and Reparation Act
NAHC	Native American Heritage Commission
NCPA	Northern California Power Agency
NCRWQCB	North Coast Regional Water Quality Control Board
NEG	National Energy Group
NEPA	National Environmental Policy Act
NERC	North American Electric Reliability Council
NF	North Fork
NFBC	North Fork Battle Creek
NFCC	North Fork Cow Creek
NFFR	North Fork Feather River
NFKR	North Fork Kings River
NFMF	North Fork of the Middle Fork
NFMFTR	North Fork of the Middle Fork of Tule River
NFMR	North Fork Mokelumne River
NFNFAR	North Fork of the North Fork American River
NGO	Non-Governmental Organization
NH_3	Ammonia Gas
NH_4OH	Ammonia in Water Solution
NHPA	National Historic Preservation Act
NID	Nevada Irrigation District
NMFS	National Marine Fisheries Service
NO_2	Nitrogen Dioxide Gas or Nitrous Oxide
NO_3	Nitrogen Trioxide Gas or Nitric Oxide
NOAA	National Oceanic and Atmospheric Administrations
NOP	Notice of Preparation
NO_x	A Mixture of Nitrogen Oxide Gases
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places
NUG	Non-utility generator
O&M	Operations and Maintenance
OASIS	Operation and Simulation of Integrated Systems
OES	Office of Emergency Services
OHV	Off Highway Vehicle
ORA	Office of Ratepayer Advocates
ORRRC	Outdoor Recreation Resources Review Commission
ORVs	Outstandingly Remarkable Values
OSHA	Occupational Safety and Health Administration
OWID	Oroville Wyandotte Irrigation District
P	Public, Quasi-Public
P&S	Purchase and Sale
PA	Programmatic Agreement
PAHs/PNAs	Polycyclic Aromatic Hydrocarbons
PAOT	People at One Time
PBX	Public Branch Exchange (telephone)
PC	Plumas County
PCBs	Polychlorinated Biphenyl Compounds
PCFFA	Pacific Coast Federation Fisheries Association

PCT	Pacific Crest Trail
PCWA	Placer County Water Agency
PDV	Pumped Diversion
PE	Power Economics
PEA	Proponent's Environmental Assessment
PFCs	Production Flexibility Contracts
PG&E Co.	Pacific Gas and Electric Company
PG&E Gen	PG&E Generating Company
PG&E NEG	PG&E National Energy Group
PH	Powerhouse
PM10	Particulate Matter, less than 10 microns in diameter
PM-2.5	Particulate Matter, less than 2.5 microns in diameter
PMF	Probable Maximum Flood
PMP	Pumped Storage
PNF	Plums National Forest
POTW	Publicly Owned Treatment Works
PPA	Power Purchase Agreement
ppm	parts per million
PSEA	Pacific Service Employees Association
PSP	Public Safety Plan
PUC	California Public Utilities Commission
PUHCA	Public Utility Holding Company Act of 1935
PURPA	Public Utility Regulatory Policies Act of 1978
PVID	Potter Valley Irrigation District
PVP	Potter Valley Project
PVPH	Potter Valley Powerhouse
PX	California Power Exchange
QF	Qualifying Facility, under PURPA
RA	Resource Agency
RACT	Reasonable Available Control Technology
RC	Resource Conservation
RCRA	U.S. Resource Conservation and Recovery Act
Redding	City of Redding
RHS	Regional Highway System
RIG	Remote Intelligence Gateway
RMP	Risk Management Plan
RMR	Reliability Must Run
RMRA	Reliability Must Run Agreement
ROC	reactive organic compounds
ROR	Run-of-the-River
RPF	Registered Professional Forester
RTA	Regional Transmission Association
RTE	Rare, Threatened, or Endangered
RTIP	Regional Transportation Improvement Program
RTP	Regional Transportation Plan
RTPA	Regional Transportation Planning Agency
RTU	Remote Terminal Unit
RV	Recreational Vehicle
RVD	Recreation Visitor Day
RVIT	Round Valley Indian Tribe
RWMP	Recycled Water Master Plan

RWQCB	Regional Water Quality Control Board
SA	Site Assessment
SARA	Superfund Amendments and Reauthorization Act
SBE	State Board of Equalization
SC	Schedule Coordinators
SCADA	Supervisory Control and Data Acquisition
SCE	Southern California Edison Company
SCR	selective catalytic reduction
SCWA	Sonoma County Water Agency
SDG&E Co.	San Diego Gas and Electric Company
SFAR	South Fork American River
SFARMP	South Fork American River Management Plan
SFBC	South Fork Battle Creek
SFCC	South Fork Cow Creek
SFGO	San Francisco General Office
SFSR	South Fork Stanislaus River
SHPO	State Historic Preservation Office
SIC	Standard Industrial Code
SID	Solano Irrigation District
SIP	State Implementation Plans
SLC	State Lands Commission
SMARA	Surface Mining and Reclamation Act
SMUD	Sacramento Municipal Utility District
SNF	Sequoia National Forest
SNF	Sierra National Forest
SO_2	Sulfur Dioxide Gas
SO_3	Sulfur Trioxide Gas
SOP	Standard Operating Procedure
SOx	A Mixture of Sulfur Oxide Gases
SPCC	Spill Prevention Countermeasure and Control
SPI	Sierra Pacific Industries
SR	State Route
SRA	State Responsibility Area
SSWDU	Supplemental Statement of Water Diversion and Use
STG	Storage
STIP	State Transportation Improvement Program
SUP	Special Use Permit
SVAB	Sacramento Valley Air Basin
SVP	Silicon Valley Power
SWDU	Statement of Water Diversion and Use
SWP	State Water Project
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
SYRCL	South Yuba River Citizens League
T&D	Transmission and Distribution
TAC	Toxic Air Contaminants
TAF	Thousand acre feet
TANC	Transmission Agency of Northern California
TCAG	Tulare County Association of Governments
TCAPCD	Tuolumne County Air Pollution Control District

TCFD	Tuolumne County Fire Department
TDM	Transportation Demand Management
TES	Threatened, Endangered, or Sensitive
THP	Timber Harvest Plan
TID	Turlock Irrigation District
TM	Timber Management
TPCA	State Toxic Pits Cleanup Act
TPH	total petroleum hydrocarbons
TPZ	Timber Production Zone
Tri-Dam	Oakdale and South San Joaquin Irrigation Districts/Tri-Dam Power Authority
TSAs	Telecommunications Service Agreements
TSCA	Federal Toxic Substance Control Act
TSD	Hazardous Waste Treatment, Storage, or Disposal Facility
TUD	Tuolumne Utilities District
TURN	The Utility Reform Network
U	Unclassified
U.S.C.	United States Code
UDC	Utility Distribution Company
UEG	Utility Electric Generator
UNT	UnoCal, NEC, and Thermal Power
UP	Union Pacific
UPLAN	UPLAN Network Power Model
USACE	U.S. Army Corps of Engineers
USBR	U.S. Bureau of Reclamation
USCOE	United States Army Corps of Engineers
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UST	Underground Storage Tank
VAFS	Van Arsdale Fisheries Station
VMT	Vehicle Miles Traveled
VOC	Volatile Organic Compound
VQO	Visual Quality Objective
VSD	Variable Speed Drive
WAN	Wide Area Network
WAPA	Western Area Power Administration
WBFR	West Branch Feather River
WCB	Wildlife Conservation Board
WDR	Waste Discharge Requirement
Wh	Watt-hour
WHIP	Wildlife Habitat Improvement Plan
WHI	Wildlife Habitat Incentives
WHR	Wildlife Habitat Relationships
WP	Watershed Protection Overlay
WPCP	Water Pollution Control Plants
WPTF	Western Power Trading Forum
WRMI	Water Resources Management, Inc.
WRP	Wetlands Reserve Program
WRTA	Western Regional Transmission Association

WSCC	Western System Coordinating Council
WSPP	Western System Power Pool
WSRA	Wild and Scenic Rivers Act
WUA	Weighted Usable Area
WYC	Water Year Classifications
YCWA	Yuba County Water Agency

8.2 GLOSSARY OF TERMS

AB 1890 – Assembly Bill 1890, which was signed into law as Chapter 854 of the Statutes of 1996 by Governor Pete Wilson on September 23, 1996, relating to electric restructuring.

Abandoned Mine Lands (AML) - Sites of historic mining operations.

Acre Foot (af) - Acre foot is a volumetric measure equal to one acre covered to the depth of one foot. Acre foot per day is the number of cfs multiplied by 1.9835. To convert acre feet to cfs, multiply af by 0.504.

Afterbay - A body of water that captures the water released from a powerhouse**.**

Ancillary Service – Among the services needed to maintain system reliability and meet WSCC/NERC operating criteria, including spinning, non-spinning, and replacement reserves, regulation, voltage control and black start capability.

Associated Watershed Lands - Associated Watershed Lands include all lands in the Supplemental PEA (March 27, 2000), except for 1,267 acres of linear features that are inside FERC boundaries. The Associated Watershed Lands generally include no FERC hydroelectric facilities or features or very minor FERC facilities or features.

Average Water Year - The average annual flow of water available for hydropower generation calculated over a long period, usually 10 to 50 years.

Baseload - The sustainable load, dependent on water availability, produced by a powerhouse during a season or a year.

Binding Agreements and Practices - Agreements or practices Pacific Gas and Electric Company has entered in to with another party, or the operating practices that are written and legally binding. Binding may also be referred to as formal.

Bioaccumulative – Pertaining to a chemical (e.g. a toxic substance such as lead or arsenic) that gradually builds up in living body tissue after a prolonged or repeated ingestion, inhalation, or other exposure.

Black Start Capability - The ability of a unit to start up without use of an external transmission or distribution voltage power source.

Block Loading - Operation of a powerhouse at a fixed output for long periods of time.

Bundled Service – The provision of all services associated with the production and delivery of electric energy to an individual customer – including generation, transmission, distribution, and ancillary services – under one rate charged to the customer.

Bypass – The acquisition of energy services from an alternative source without using the facilities of the supplier that previously provided the service.

Bypass Reach - A section of stream with altered flow resulting from the upstream diversion of water out of the natural stream channel.

California Energy Commission (CEC) - The state agency responsible for energy policy and planning, and ensuring a reliable and affordable energy supply. Duties include forecasting energy needs, keeping historical data, siting and licensing power plants, promoting energy efficiency, developing energy technologies, and planning for and directing the state response to energy emergencies. The CEC is overseen by an appointed five person board.

California Public Utilities Code – California statutory law that governs the regulation of public utilities.

California Public Utilities Commission – An independent agency responsible for regulating investor-owned electric, natural gas, water and telecommunication utilities, and some transportation service industries. The CPUC is overseen by five commissioners appointed by the governor.

Capacity - The greatest load that a generating unit or power plant can safely generate.

Capacity Factor – A measure of the degree to which the capacity of a generating unit or utility is being used during a certain period of time. The ratio of power actually produced by a generating unit to the maximum power it could possibly produce (that is, its rated generating capacity) in the same time period. The annual capacity factor of an individual unit (or, collectively, a plant) is a function of both the amount of time that the unit is operating and the level at which the unit is operating. For instance, if a hypothetical unit were on and operating 100 percent of the time at 50 percent of its rated capacity, it would have a 50 percent capacity factor. Similarly, if a hypothetical unit were on and operating 50 percent of the time, but at 100 percent of its rated capacity, it would also have a 50 percent capacity factor. Combining these two concepts, if a hypothetical unit were on and operating 50 percent of the hours of the year and at a 50 percent level for each of the hours it was on, it would have an annual capacity factor of 25 percent.

ISO Terminal Server - The ISO terminal servers are centralized servers (at least one per watershed region) interconnected with the ISO via MCI's Energy Communications Network. The servers gather generation revenue metering data from each powerhouse. The revenue meters are connected to the servers over the microwave transmission network or leased circuits.

Certificate of Public Convenience and Necessity – A permit that a utility must apply for and obtain from appropriate regulatory bodies prior to constructing a major utility plant, system addition, or gas pipeline.

Coffer Dam – A water excluding enclosure within which excavation is done.

Cogeneration – A type of power plant that produces electric energy and heat energy simultaneously from the same fuel(s) in the same facility. Cogeneration facilities typically produce both electricity and steam or heat that is used for industrial processes.

Competition Transition Charge (CTC) – A non-bypassable charge paid by California electricity customers designated to recover uneconomic, or stranded costs.

Conduit - A structure used for the conveyance of water. Includes canals, ditches, tunnels, and flumes.

Contiguous Watershed Lands – Contiguous watershed lands are from the PEA (September 30, 1999). These lands are in parcels that have land inside FERC boundaries and outside FERC boundaries. Contiguous watershed lands are the portion of the parcel that is outside the FERC license area.

Cost of Service – The reasonable costs incurred by a utility in providing utility service.

Cost-of-Service Regulation - A method of regulation used to set rates for utility services. Rates under cost-of-service regulation were based principally on the reasonable costs of generating and delivery electricity as determined by regulators.

Criteria Air Pollutants – Air pollutants that are pervasive in urban environments and for which state or national ambient air quality standards have been established.

Cubic Feet per Second (cfs) - A common unit of measure in describing the flow rate of water. One cfs is 448 gallons of water per minute, which equals 646,317 gallons per day.

Dam - A barrier built across a waterway, designed to control flow or store water in a lake or reservoir. Dams containing tunnel intakes or penstocks are commonly used with hydroelectric powerhouses, so the water can flow through the tunnel or penstock to the powerhouse for production of energy.

Decibel (dB) – A standard unit of sound energy intensity. Sound waves, traveling outward from a source, exert a sound pressure level (commonly called "sound level") measured in dB. An A-weighed decibel (dBA) is a decibel corrected for the variation in frequency response of the typical human ear at commonly encountered noise levels.

Decommissioning - The removal from operation of hydroelectric facilities. This may include some combination of abandoning facilities in-place, physical dismantling of facilities, restoration of the sites, etc.

Demand – The amount of a commodity or service requested at a specific time. The demand on a utility system is the amount of energy drawn by customers at a specific time. Demand may also be referred to as load.

Direct Access Transaction – A contract between one or more electrical generator(s), marketer(s) or broker(s) of electric power and one or more retail customer(s) providing for the direct purchase and sale of electric power or any ancillary service(s).

Direct Connect – A service arrangement in which a customer receives electricity through a conductor that connects directly to a given power plant, rather than through a transmission and distribution (T&D) system, thus avoiding T&D charges.

Dispatch – The operating control of an integrated electric system to: (1) assign generation of specific generating units and other power sources to maintain the most reliable and economical supply as area loads rise and fall; (2) control operations and maintenance of high-voltage lines,

substations and equipment, including administration of safety procedures; (3) operate the interconnection; and (4) schedule energy transactions with other interconnected electric utilities.

Dispatching Protocol – The method used in determining when to operate a particular generating unit. Utilities primarily follow an economic dispatching protocol, which requires operators to use the least expensive unit available, then the second least expensive unit, and so forth. However, some units are operated under a different dispatching protocol because of unique environmental or permitting conditions. For example, a thermal discharge requirement under a Waste Discharge Requirement Order or an NPDES permit may require operators to dispatch certain generating units in order to minimize the thermal impacts of the combined operations, even when other, less expensive units are available.

Displacement Oil – A lighter grade oil used to displace comparatively heavy fuel oil in pipes and tanks, generally used when a power plant operators switch fuel sources; also used to remove fuel oil from unused fuel pipelines so the fuel oil does not form tar-like plugs that block the lines.

Distillate Fuel Oil – A power plant fuel similar to Jet A fuel oil used in airplanes. Distillate fuel refers to a class of fuels that is more refined (less crude) and remains fluid over a wider range of temperatures than residual fuel oil, which generally must be heated before it can be pumped through a pipeline or into a broiler.

Distribution System - The substations, transformers, and lines that convey electricity from high-power transmission lines to the consumer.

Diversion Dam - A barrier or structure built to divert water into a canal, flume, or tunnel, typically with no storage.

Divestiture – The transfer of title or disposal of assets or interests, such as physical property or stock in a company. In the case of utilities, it is the stripping off of one utility function from the others by selling (spinning off) or in some other way changing ownership of the assets related to that function. Most commonly associated with the spinning-off generation assets so they are no longer owned by shareholders that own the transmission lines and distribution assets.

Electric Capacity - The maximum contiguous load-carrying ability of electric equipment, including transmission lines, generators and substations.

Electric Energy Storage – The storage of surplus or low-cost electric energy during periods of low energy demand so that it will be available when needed.

Electric Service Provider (ESP) – An entity that provides electric products and services to a retail or end-use customer but does not fall within the definitions of an electrical utility under Section 218 of the Public Utilities Code.

Electricity – The class of physical phenomena arising from the existence and interaction of electric charges.

End-Use Customer - A residential, commercial, industrial or agricultural customer that buys electric power for consumption as a final product (i.e., that does not resell the power to another entity).

Energy Reliability Index – An indicator of electric system reliability often used to assess the value of generating capacity.

Entrainment – The process of aquatic organisms passing through cooling water intake screens.

Environmental Regulatory Record (ERR) - A database record from one of several federal, state, and local databases relating to environmental conditions and incidents.

Even Aged Forest Management - Forest management technique where a forest is grown to a final harvest age (between 50 and 80 years), and is then regenerated after harvest by either planting or natural sprouting or seeding.

Facility Upgrade - Replacement or addition of electrical equipment resulting in increased generation.

Federal Energy Regulatory Commission (FERC) - An independent regulatory commission within the U.S. Department of Energy. One of the FERC's many responsibilities is the licensing of Federal hydropower projects.

Fee Land - This term is used to describe land the Pacific Gas and Electric Company owns.

FERC Licensed Lands – Lands that are necessary or appropriate for the operations or maintenance of the hydroelectric facilities and are within the actual FERC license boundaries.

Flashboard – A plank or slab generally held horizontally by end girders or by other supports on the crest of a dam, check structure, or in a spillway to control the water level.

Flume - A lined structure, commonly made of wood, steel, or concrete, used for conveyance of water, usually where no streambed exists or the topography is not suitable for a canal or tunnel.

Forced Outage - The number of hours that a power generating unit is forced out of service by equipment failure or other unexpected event.

Forebay - A reservoir upstream from the powerhouse from which water is drawn into a tunnel or penstock for delivery to the powerhouse.

Fossil fuel – A burnable fuel created through the fossilization of organic matter; includes coal, oil, and natural gas.

Francis Turbine - A radial-inflow reaction turbine, where the flow through the runner is radial to the shaft.

General Plan - A state-mandated comprehensive, long-term planning document required of every local planning agency to guide physical development within a county or city and its related surrounding land area, or sphere of influence.

Generating capacity – The maximum amount of power a generating unit can produce for a sustained period of time.

Generating facility – A power plant, normally consisting of several generating units that produce electrical energy.

Generating unit – Generally refers to the combustion of a steam or combustion turbine and electrical generator, which together produce electrical energy.

Generator - A machine powered by a turbine that produces electric current.

Generator Real-Time Information System (GRIP) - The GRIP is a network of servers that gathers operational data from the SCADA computers, and assembles it for user-defined viewing on Microsoft Windows platforms. The GRIP servers are connected to the WAN.

Geothermal Plant – A generating facility that uses geothermal power to produce electrical energy.

Gigawatt - A common unit of measurement in evaluating energy. Equal to 1,000 megawatts.

Green Power – Generally refers to renewable power resources, including thermal and photovoltaic solar, hydroelectric, wind, geothermal, and biomass power plants.

Grid – A system of interconnected power lines and generators that is managed so that the generators are dispatched as needed to meet the requirements of the customers connected to the grid at various points. The grid is interconnected to ensure reliability of the system when generating units fail.

Groundwater - The supply of water under the earth's surface; not surface water.

Hazardous Air Pollutants – Air pollutants that occur at relatively low concentrations and are believed to have carcinogenic or other health effects, but for which no ambient air quality standards have been established under Federal law. Similar to State toxic air contaminants.

Head - See definition of normal maximum gross head.

Headwater Benefits – The additional energy (i.e., energy gains) derived from the flow-regulating activities of preexisting diversions, storage, or conveyance facilities located on upstream portions of a river system.

Headworks – A hydraulic structure built at the upstream end of the diversion canal (or tunnel) for controlling the discharge and preventing silt, debris, and ice from entering the diversion.

Hydroelectric Plants – A generating facility that uses kinetic energy of flowing water to produce electrical energy.

Hydroelectric Power – Electric power generated by using the gravitational energy available when water flows from a higher to a lower elevation. Hydroelectric power is produced when water generally stored behind a dam, is allowed to run downhill through a penstock and then directed to spin the blades of a turbine. The rotating blades cause the turbine shaft to rotate, and then the shaft turns an electric generator.

Hydroelectric Pumped Storage – Surplus or low-cost energy can be stored by means of a hydroelectric pumped storage facility, which uses this energy to pump water from a reservoir at a lower elevation to a reservoir at a higher elevation.

Hydro Spill – The release of stored water past a hydroelectric facility without using the water's potential to generate electric energy.

Impoundment - A body of water confined by a dam or other artificial barrier.

Independent System Operator (ISO) – A private, non-profit corporation called for in AB 1890. The ISO is responsible for the operation, control, and reliability of the statewide transmission system under restructuring.

Inframarginal – Describes plants that have operating costs below the market clearing price and therefore their operations are insensitive to how the market clearing price may change.

Intake - A structure built at the upstream end of a diversion canal (or tunnel) for controlling water and preventing silt, debris, and ice from entering the diversion.

Intake Header Box – See definition of headworks.

Investor-owned utility (IOU) – An electrical utility company owned by individual and institutional stockholders, such as Pacific Gas and Electric Company, as compared to municipal utilities, which are owned by public entities, such as the City of Santa Clara.

Islanding – Term used to describe a temporary separation or isolation of transmission grid areas due to system disturbances, such as outages or current fluctuations. Islanding can occur automatically or manually by the operator. Islanded areas must generate their own electricity as long as they remain cut off from the grid.

Kilowatt - A unit of measure of the amount of electricity needed to operate given equipment. Equals 1,000 watts.

Kilowatt-hour (kWh) - One kilowatt of electricity supplied for one hour.

Level of Service - A measurement of traffic congestion, with LOS A being free flow, LOS D being maximum operational capacity, LOS E being theoretical capacity, and LOS F considered over capacity.

Load (electric) – The amount of electric power delivered or required at any specific point or points on a system. The requirement originates at the energy consuming equipment of the consumers. Load may also be referred to as demand.

Load-Following – (or "cyclical") A manner of power plant operation that roughly follows the daily and seasonal electrical demand; i.e., at highest output levels during daytime peaks, and at lowest or zero level output levels during nighttime lows (in contrast to "baseline" operation).

Loop-Flow - The difference between scheduled and actual power flows on electric transmission lines.

Maintenance Outage - The number of hours that an individual unit is removed from service to make equipment repairs that are planned in advance.

Market Power – The ability of one or a few entities to manipulate or control the market by, for example, withholding generation from the market in order to artificially inflate the price of power.

Megawatt - A common unit of measurement in evaluating energy. Equals 1,000 kilowatts.

Megawatt-hour - One thousand kilowatt-hours.

Microwave, Fiber Optic and Leased Circuit Network - The network consists of interconnected point-to-point analog microwave links and digital microwave links. The analog and digital microwave links operate primarily in the 2 GHz and 6 GHz bands, with band widths up to 600 channels for the analog links, and up to 45 megabits for the digital links. The network also consists of fiber optic cables with fiber terminals, multiplexers and channel banks. Circuits leased from local telephone service providers are also utilized, where available.

Miner's Inch - A measurement of water. Forty miner's inches equal one cfs.

Mitigation Measures – Actions that would eliminate or reduce environmental impacts.

Must Run Unit – The designation given to a power plant or generating unit that must remain on-line during specific times in order to maintain local area system reliability.

Must-Take - Refers to generation that, for a variety of reasons, must be purchased.

Negative Declaration - A document that satisfies the CEQA requirement if no significant environmental impacts would result from a project.

Net Generation - The gross amount of energy produced by a unit minus the amount of energy the unit consumes. Typically measured in megawatt-hours (MWh) or gigawatt hours (GWh).

Net Generating Capacity - The amount of power a generating unit can put into the electric grid; a plant's net generating capacity is equal to the rated generating capacity of the generators in the plant minus the amount of power needed for the various electric components of the plant, such as pumps and heaters.

Non-Binding Agreements and Practices - Agreements or practices Pacific Gas and Electric Company has entered into with another party, or the operating practices that are not written or legally binding. Non-binding may also be referred to as informal.

Non-Spinning Reserve - The portion of idle generating capacity (controlled by the ISO) capable of being loaded in 10 minutes and operated for at least two hours, or load that can be interrupted (de-energized) in 10 minutes.

Non-Utility Generator (NUG) - A generation facility owned and operated by an entity that does not meet the definition of a utility company in Section 218 of the state utility code.

Normal Maximum Gross Head - The difference in elevation, measured in feet, between the forebay and tailrace water levels.

Normal Operating Capacity - A constant value which shows the amount of service a particular unit typically operates at or provides.

North American Electric Reliability Council (NERC) - An organization made up of electric utilities and other electricity providers. NERC coordinates operations of utilities and other suppliers, reviewing the past for lessons learned, monitoring the present for compliance with policies, standards, principles and guides, and assessing the future reliability of the bulk electric systems.

Northern California Power Agency (NCPA) – A nonprofit California public agency composed of 11 municipal electric utilities, a rural electric corporative, an irrigation district, and a public utility district.

OASIS - Proprietary computer model used to simulate water release decisions.

Off-Peak - The time of day and week when the demand for electricity is low.

Office of Ratepayer Advocates (ORA) - An independent division within the California Public Utilities Commission that represents public utility customers and subscribers in proceedings before the commission.

Operating Reserve - The combination of spinning and non-spinning reserve required to meet WSCC and NERC requirements for reliable operation of the grid.

Peak Loading - Variance of a powerhouse's output over short periods of time (usually hourly), depending upon grid system demand.

Phase I Environmental Assessment - A field study that depends upon existing records and site documentation to determine whether a property or parcel might have impaired environmental conditions. Typically performed prior to, or as due diligence for, a transfer of ownership or refinancing.

Phase II Environmental Assessment - A field study that employs sampling and testing of soils, water, or other materials to determine whether a property has impaired environmental conditions. Typically performed as a follow-up to a Phase I Environmental Assessment.

Photovoltaic Energy - Electrical energy converted directly from sunlight using solar photoelectric cells.

Peaking Unit - A power generating unit used to produce electricity during peak load times with the capability of changing megawatt output quickly in response to system demands.

Penstock - A pressurized pipe that conveys water to the powerhouse turbine

Power Exchange (PX) - The State private, non-profit corporation called for in AB 1890 that establishes a market for electric power through electronic day- and hour-ahead auctions that match generation and demand bids.

Power Grid - see "Grid."

Project Area - The portion of a hydroelectric project within the project boundaries as defined by the project's FERC license.

Project Lands – For the purposes of this EIR, Project Lands are defined as all the lands and waters that Pacific Gas and Electric Company is proposing to sell as part the Hydrodivestiture Project (Application 99-09-053).

Pumped Storage Project - A combined pumping and generating plant. During off-peak times, power from the transmission network is used to pump water to a reservoir. During peak times, the reservoir releases water to operate the powerhouse as a generator

Public Utilities Regulatory Powers Act of 1978 (PURPA) - A Federal law that, among other things, requires utilities to purchase electric power from plants designated as "qualifying facilities" (QFs).

Public Utility – An entity that supplies the public with an essential commodity or service.

Qualifying Facility - A designation under PURPA that allows the designated plant to sell output to the local utility at avoided cost rates. To become a QF, the independent power supplier has to produce electricity with a specified fuel type (cogeneration or renewables) and meet certain ownership, size, and efficiency criteria established by the Federal Energy Regulatory Commission.

Radio - The private mobile radio system consists of base stations, mobile radios and radio control units. The radio control units are interconnected with the base stations over the microwave transmission network. Each system provides geographic coverage for specific work groups based upon the frequencies used. Personnel involved in hydroelectric generation normally utilize 450 MHz frequencies.

Ramping - Changing the loading level of a generator in a constant manner over a fixed time (e.g. "ramping up" or "ramping down"), directed by computer or manual control.

Recognized Environmental Condition - The presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property (American Society for Testing and Materials standard designation E1527-94).

Reliability - Electric system reliability is defined by several criteria: the availability of sufficient electric power generation to meet growing customer demand; the time required to restore power to customers following an outage; and the ability of the system to withstand sudden disturbances such as electric short circuits or unanticipated loss of system facilities (which relates to the degree of built-in system redundancy to handle such unexpected problems).

Remote Intelligence Gateway (RIG) - The RIGs are servers that are being installed at those powerhouses capable of providing Automatic Generation Control (AGC) services. These devices will allow the ISO to control the output of these powerhouses directly. The RIGs are interconnected with the SCADA master stations and communicate with the ISO via the MCI Energy

Communications Network. Locations that do not have direct access to the MCI system will utilize the microwave transmission network to the nearest MCI point of presence.

Renewable Energy or Power - Any source of electric generation that uses naturally replenishable resources. They are virtually inexhaustible in duration but limited in the amount of energy that is available per unit of time. Some (such as geothermal and biomass) may be stock-limited in that stocks are depleted by use, but on a time scale of decades, or perhaps centuries, they can probably be replenished. Renewable energy resources include biomass, hydro, geothermal, solar, and the wind. In the future they could also include ocean thermal, wave, and tidal action technologies.

Repowering - The process of replacing or refurbishing a power plant unit using new or updated technology.

Reservoir Usable Capacity - A volume measurement of the amount of water that can be stored for generation in any given reservoir, down to a minimum level.

Riparian - Relating to the bank of a natural course of water.

Run-of-the-River - A hydroelectric generating project that uses the flow of a stream and little or no reservoir capacity for storing water.

SERASYM™ - Chronological Production Costing Model to simulate the power markets.

Special Status Species - Several species known to occur within the general region of the project area are accorded "special status" because of their recognized rarity or vulnerability to habitat loss or population decline. Some of these species receive specific protection in Federal and/or State endangered species legislation. Others have been designated as "sensitive species" or "species of special concern" on the basis of adopted policies of Federal, State, or local resource agencies. These species are referred to collectively as "special status species."

Spillway - A passage used for running surplus water over or around a dam.

Spinning Reserve - The portion of unloaded but running generating capacity (controlled by the ISO) that can be loaded in 10 minutes and run for at least two hours.

Statute – A legislative action that affirms, commands, or prohibits a certain action by specific people, the public at large, agencies, or a corporation.

Storage Reservoir (Storage Lake) - A body of water used for the storage and regulation of water either before or after it is used for power production in a hydroelectric powerhouse.

Substation - An electric utility system component generally consisting of one or more step-down transformers, which convert the high voltages carried over the transmission system to the lower voltages used in the distribution system, and switching equipment that isolates problems and routes electric energy to the desired portion of the distribution system.

Supervisory Control and Data Acquisition (SCADA) and Energy Management System (EMS): The SCADA and EMS systems consist of master stations and remote terminal units (RTUs). The RTUs have status inputs for monitoring binary devices (e.g., open or close status), analog inputs

for variable values, and control outputs for controlling generation and switchyard devices. The master stations are connected with the RTUs over the microwave transmission network, fiber optic cables, or leased circuits.

Surge Tank - A hydraulic structure constructed in the conduit of projects between the pressure tunnel and the penstock to relieve pressure and store water for sudden load demand.

Switching Center - The main control center for any given river system, which is responsible for operation of the automatic, semi-automatic, and manual powerhouses on that river system. The Switching Center is staffed 24 hours a day.

Synchronous Condenser - An electrical device that increases the power factor on the grid by reducing circulating currents. (Circulating currents are created by the expanding and collapsing of magnetic fields within electric motors and transformers, and do not produce real work. They are called circulating because they merely run back and forth between generators and loads, creating heat and limiting the amount of real power than is transmitted over a conductor.) A synchronous condenser generally consists of a generator that has been converted to a motor by disconnecting it from the turbine shaft. Operators reduce circulating currents by adjusting the field excitation to the condenser.

Tailrace - The channel downstream from the powerhouse that carries the water discharged from the turbine.

Telephone - The network consists of private branch exchanges (PBX) for local dial tone type service, interconnected to regional tandems for system wide service. The PBX provides local telephone service for the facility, as well as service for nearby facilities via off premise lines connected over the microwave transmission network, fiber optic cable or leased circuits. The PBX generally provides access to the public telephone network as well.

Thermal Discharge - Waste heat from power plant operations that is released into the environment. Usually refers to water that is pumped from a nearby body, such as the San Francisco Bay or the San Joaquin River, for use as condenser cooling water, where it picks up heat and then is discharged back into the water body. The heated water thus adds thermal energy to the water body, which may have an effect on the local ecosystem.

Thermal Plant - A generating facility that uses a heat source to generate electrical energy.

Transformer - A device that transforms alternating or intermittent electric energy from one or more other circuits at the same frequency, usually with changes in value of voltage and current.

Transmission - Transporting bulk power over long distances.

Transmission Congestion - An operating condition reached when too many generators attempt to use a portion of the grid and power flows cannot be physically accommodated by the system.

Transmission System - A network of high voltage circuits that carry power from electricity generating plants to distribution substations, where voltage is reduced for delivery through the distribution system to homes, businesses, and farms.

Tunnel - An underground channel used for the movement, transfer, or diversion of water.

Turbine - A mechanism that produces power by diverting water through blades of a rotating wheel, which in turn spins a generator shaft.

Unbundled Services - Separation of generation, transmission, distribution, and other services and programs, as opposed to bundled service, where all needed electric services are provided in one package at one rate.

UPLAN Network Power Model - Proprietary computer model simulating the western U.S. transmission grid; includes data bases on electrical generation and electric load.

Uneven-Aged Forest Management - Forest management technique whereby a forest is harvested periodically (10 to 30 years), promoting an array of age and size of trees that is generally accomplished naturally.

Utility Distribution Companies (UDCs) - Entities that to provide regulated services to end users.

Valve House – A protective covering for equipment, typically built for valves used for the operation of penstocks, siphons, or other pipes.

Water Year - The 12-month period, October 1 through September 30. The water year is designated by the calendar year in which it ends and which includes nine of the 12 months. Thus, the year ending September 30, 1992 is called the "1992 water year."

Watershed Lands – For the purpose of this EIR, Watershed Lands are the lands that Pacific Gas and Electric Company is proposing to sell that are outside of the FERC license boundaries. In total, what is referred to as Watershed Lands in this EIR is the combination of the Contiguous Watershed Lands and the Associated Watershed Lands. For more explanation, see Table 2-1 and maps in Chapter 2, Project Description.

Wide Area Network (WAN) - The private WAN is used to interconnect local area networks, and consists mainly of routers connected over the microwave transmission system and, in some cases, leased circuits.

Western Systems Coordinating Council (WSCC) - One of ten regional reliability councils in the North American Electric Reliability Council (NERC), responsible for maintaining the reliability of the electric system in the Western half of North America (including parts of Mexico and Canada).