

GLOSSARY OF TERMS

Term	Definition
A	
A	Ampere
AA	Federal Antiquities Act
ac-ft	acre-feet or acre-foot, the amount of water needed to cover one acre to a depth of one foot
ACHP	Advisory Council on Historic Preservation
ACSR	Aluminum conductors steel reinforced
ADA	Americans with Disabilities Act
Adit	An almost vertical pipe or short horizontal passage entering a tunnel, either to add water from a conduit, sluice or other water source, or as a maintenance access tunnel (also referred to as a portal)
AFRP	Anadromous Fish Restoration Program
Afterbay	A reservoir located immediately downstream from a powerhouse, sometimes used to re-regulate flows to the river or stream
AGC	Automatic Generation Control (the ability to control the megawatt output of a given powerhouse from remote site, such as the SMUD Power Energy Management Center or the ISO) used to support California electric regulation system
AIR	Additional Information Request issued by FERC
AIRFA	American Indian Religious Freedom Act
ALP	Alternative Licensing Process as defined by FERC regulations
APE	Area of Potential Effect as pertaining to Section 106 of the National Historic Preservation Act
APEA	Applicant-Prepared Environmental Assessment
AR	American River
AUM	Animal unit months
Automatic/semi-Automatic/manual Powerhouses	An automatic powerhouse can be started, stopped, and have its load and voltage changed from a remote or master station, via supervisory control. A semiautomatic powerhouse with SCADA may allow a remote station to change load and/or voltage, and may allow a remote shutdown, but must be started manually. A semi-automatic powerhouse without SCADA will send alarms to a remote or master station. A manual powerhouse must have all its functions performed at the powerhouse
AW	American Whitewater
B	
Baseload	Generation around-the-clock
Basin Plan	The RWQCB Water Quality Control Plan for the Sacramento and San Joaquin rivers
BC	Before Christ
BDAC	Bay-Delta Advisory Committee
Black Start Capability	The ability of a unit to start up without the use of an external transmission or distribution voltage power source
BMP	Best Management Practice
BOD	Biological oxygen demand
BP	Before Present
Brush Creek Dam	A double curvature concrete arch dam that impounds natural flows on Brush Creek to form Brush Creek Reservoir.
Brush Creek Dam Reach	The 2.2-mile-long section of Brush Creek from Brush Creek Dam to the normal high waterline of Slab Creek Reservoir

Term	Definition
Brush Creek Intake Structure	A reinforced concrete structure submerged in Brush Creek Reservoir and protected by a trashrack. Directs releases into the Brush Creek Tunnel
Brush Creek Reservoir	Reservoir located on Brush Creek with an approximate capacity of 1,530 ac-ft. Releases water through the Brush Creek Tunnel to the Camino Tunnel and Penstock
Brush Creek Tunnel	A 0.8-mile-long tunnel that conveys water from the Brush Creek Intake Structure to the Camino Tunnel
Buck Island Dam	A concrete gravity dam that impounds water from Buck Island Creek to form Buck Island Reservoir
Buck Island Dam Reach	The 3.0-mile-long section of Little Rubicon River from Buck Island Dam to the confluence with Rubicon River
Buck Island Reservoir	A reservoir located on Buck Island Creek impounded by Buck Island Dam with an approximate capacity of 1,070 ac-ft. Diverts water into Loon Lake Reservoir, located on Gerle Creek, via the Buck Island –Loon Lake Tunnel
Buck Island – Loon Lake Tunnel	An 1.6-mile-long unlined tunnel that conveys water from Buck Island Reservoir to Loon Lake Reservoir
C	
C	Celsius
c	Centigrade
Cal SPA	California Sportfishing Protection Alliance
CALFED	Interagency committee with management and regulatory responsibility for Bay-Delta Estuary
Camino Dam	A double curvature concrete arch dam that impounds natural flows on Silver Creek plus water released from Jaybird Powerhouse to form Camino Reservoir
Camino Dam Reach	The 6.2-mile-long section of Silver Creek from Camino Dam to the confluence with the South Fork American River
Camino Intake Structure	A reinforced concrete structure submerged in Camino Reservoir and guarded by a trashrack. Directs releases into the Camino Tunnel
Camino-Lake Transmission Line	A 230 kV overhead line connecting the Camino-Switchyard to SMUD's Lake Substation
Camino Penstock	A 0.3 mile-long above ground steel pipe that receives water from the Camino Tunnel for conveyance to the Camino Powerhouse
Camino Powerhouse	An above ground reinforced concrete powerhouse located on the north bank of the South Fork American River. Receives water via the Camino Tunnel and Penstock from both the Camino and Brush Creek reservoirs. Releases water to the South Fork American River. Camino Powerhouse has an installed capacity of 150 MW but is only capable of 100 MW without water from Brush Creek Reservoir
Camino Powerhouse Reach	The 0.7-mile-long section of the South Fork American River from Camino Powerhouse to the normal high waterline of Slab Creek Reservoir
Camino Reservoir	Reservoir located on Silver Creek with capability to impound 825 ac-ft that acts as the forebay for Camino Powerhouse. Receives natural flows from Silver Creek plus water released from Jaybird Powerhouse. Releases water into the Camino Tunnel and Penstock
Camino Switchyard	Switchyard located on top of Camino Powerhouse. Includes main transformers, high voltage circuit breakers, motorized and manual disconnect switches, and steel lattice pull-off structures
Camino Tunnel	A 5-mile-long tunnel that conveys water from the Camino Intake Structure to the Camino Penstock
Camino – Lake Transmission Line	A 230 kV overhead line connecting the Camino-Switchyard to SMUD's/ Lake substation.

Term	Definition
Camino – Union Valley Transmission Line	A 230 kV overhead line connecting the Camino Switchyard with the Union Valley Switchyard. Also referred to as the Union Valley – Camino Transmission Line
Camino – White Rock Transmission Line	A 230 kV overhead line connecting the Camino Switchyard with the White Rock Switchyard. Also referred to as the White Rock – Camino Transmission Line
CDEC	California Data Exchange Center
CDF	California Department of Forestry and Fire Protection
CDFG	California Department of Fish and Game
CDPR	California Department of Parks and Recreation
CDSOD	California Division of Safety of Dams within the CDWR
CDWR	California Department of Water Resources
CE	A species or subspecies listed as endangered under the California Endangered Species Act
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
cf	cubic foot
CFR	Code of Federal Regulations
cfs	cubic feet per second
Chili Bar Dam/Powerhouse Reach	The 19.8-mile-long section of the South Fork American River from Chili Bar Dam/Powerhouse to the normal high waterline of Folsom Reservoir
CHRIS	California Historical Resources Information Center
CIPS	Commission Issuance Posting System
cm	Centimeter
CNDDB	California Natural Diversity Data Base
CNPPA	California Native Plant Protection Act
CNPS	California Native Plant Society
CNPS-1A	Plants presumed to be extinct in California
CNPS-1B	Species considered by the CNPS as rare or endangered in California and elsewhere
CNPS-2	Species considered by the CNPS as rare or endangered in California but more common elsewhere
CNPS-3	Species that require more information before assigning to other lists – A review list
CNPS-4	Species considered by the CNPS as plants of limited distribution
Conduit	A pipe, flume or canal used for diverting or moving water from one point to another, usually used when there is no existing streambed or waterway
CP	Species designated as protected under the CDFG sport fishing regulations as authorized by the California Code of Regulations, Title 14
CPUC	California Public Utility Commission
CR	A species or subspecies listed as rare under the California Endangered Species Act
CRMP	Cultural Resource Management Plan
CRWQCB	California Regional Water Quality Control Board
CSC	Special Concern Species, an administrative designation by CDFG
CSJWCD	Central San Joaquin Water Conservation District
CT	A species or subspecies listed as threatened under the California Endangered Species Act
cu yd	Cubic yard
CVP	Federal Central Valley Project of which the Folsom Development is a part
CVPIA	Central Valley Project Improvement Act
CWA	Federal Clean Water Act

Sacramento Municipal Utility District
Upper American River Project
(FERC Project No. 2101)

Term	Definition
D	
Dams Base Width (ft)	The width of the dam at its widest point along the foundation.
Dams Crest Elevation (ft)	The elevation of the lowest point along the crest.
Dams Crest Width (ft)	The width of the dam at the crest.
Dams Fish Release Requirement	The flow that must be released to the stream downstream of the dam; also known as Minimum Streamflow Release Requirements.
Dams Height (ft)	The height of the dam from the crest (see below) to the stream channel at the downstream toe.
Dams Low Level Outlet Control	The type of gate and/or valve that controls the release from the low level outlet.
Dams Low Level Outlet Type	A description of the low level outlet facilities.
Dams Max Low Level Outlet Capacity (cfs)	The flow that can be discharged through the low level outlet at the NMWS.
Dams Max Spillway Discharge (cfs)	The maximum flow the spillway can pass with the water surface at the crest of the dam.
Dams Slope - Upstream Face	The slope of the upstream face of the dam.
Dams Slope - Downstream Face	The slope of the downstream face of the dam.
Dams Spillway Control	The type of device that controls the spillway. Most Project spillways are uncontrolled (no gates). Ice House and Union Valley have radial (tainter) gates and Robbs Forebay and Camino have vertical lift gates.
Dams Spillway Crest Elevation (ft)	The elevation of the lowest point of the spillway.
Dams Spillway Type	The type of spillway. All Project spillways except for Camino are ogee overflow. Camino Dam has a submerged orifice type spillway.
Dams Type	A description of the type of dam. For the Project this includes concrete gravity, rockfill with center core, earthfill and double curvature arch dams.
Dams Year Placed in Service	The first calendar year water was impounded behind the dam.
dbh	diameter at breast height
DEIS	Draft Environmental Impact Statement
DE&S	Duke Engineering & Services
Distribution System	The substations, transformers and lines that convey electricity from high-power transmission lines to the consumer
District	Sacramento Municipal Utility District. See also SMUD
DO	Dissolved oxygen
DoD	Department of Defense
Draft EA	draft environmental assessment
Draft EIR	Draft Environmental Impact Report
E	
EA	Environmental Assessment
EAP	Emergency Action Plan
ECPA	Electric Consumers Protection Act

Term	Definition
EDC	El Dorado County
EIA	Energy Information Administration
EID	El Dorado Irrigation District
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
El Dorado Project	A 21 MW El Dorado Hydroelectric project, located upstream of SMUD’s Slab Creek Reservoir. This project is currently owned by EID (FERC No. 184)
ENF	Eldorado National Forest
ESA	Federal Endangered Species Act
EVC	Existing Visual Condition
F	
401 Certification	Water quality certification by the state agency responsible for administering Section 401 of the Clean Water Act
F	Fahrenheit
FAC	Federal Advisory Committee
FACA	Federal Advisory Committee Act
FARM	Framework for Archaeological Research and Management
FC	fecal coliform
Fe	iron
FE	A species or subspecies listed as endangered under the Federal Endangered Species Act
FESA	Federal Endangered Species Act
FEMA	Federal Emergency Management Agency
FEPD	A federally-listed endangered species currently proposed for delisting from the ESA
FERC	Federal Energy Regulatory Commission
FERC Project Boundary	The area surrounding Project facilities and features as delineated in Exhibit G or K of the FERC license
FHSA	Federal Historic Sites Act
Flashboards	Removable boards installed seasonally in reservoir spillways to temporarily increase storage capacity
FLPMA	Federal Land Policy and Management Act
Flume	A lined structure, commonly made of wood, metal or concrete, used for conveyance of water, usually where no streambed exists or the topography is not suitable for a canal or tunnel
Forebay	A reservoir upstream from the powerhouse, from which water is drawn into a tunnel or penstock for delivery to the powerhouse
FOW	Forced Oil and Water Cooled
FP	A species or subspecies designated as “fully protected” under the CDFG Code
FPA	Federal Power Act
fps	feet per second
Francis Turbine	A radial-inflow reaction turbine, where flow through the runner is radial to the turbine shaft
FS	Fecal streptococcus
FSC	Federal Species of Concern. An administrative designation by USFWS (former category 2 species)
FSS	A species or subspecies designated as “sensitive” by the USFS
FT	A species or subspecies listed as threatened under the Federal Endangered Species Act
ft	foot
FTPD	A federally listed, threatened species currently proposed for delisting from the ESA

Term	Definition
FWCA	Fish and Wildlife Coordination Act
G	
G	giga
g	gram
GDPUC	Georgetown Divide Public Utility District
Generator	A machine powered by a turbine that produces electric current
Gerle Creek Canal	A 1.9-mile-long open canal that conveys water from Gerle Creek Reservoir into Robbs Peak Reservoir. In normal operation, all flows entering Gerle Creek Reservoir are diverted into the Gerle Creek Canal, except for minimum streamflow release requirements at Gerle Creek Dam
Gerle Creek Dam	A concrete gravity dam that impounds water from the Loon Lake Tunnel and Gerle Creek to form Gerle Creek Reservoir
Gerle Creek Dam Reach	The 1.2-mile-long section of Gerle Creek from Gerle Creek Dam to the confluence with the South Fork Rubicon River
Gerle Creek Reservoir	A 1,260 ac-ft. reservoir that receives natural flows from Gerle Creek plus flows from Loon Lake Powerhouse via the Loon Lake Powerhouse Tailrace Tunnel. Water is released from Gerle Creek Reservoir into the Gerle Creek Canal for conveyance to Robbs Peak Forebay
GIS	Geographic Information System
GMP	General Management Plan
gpd	gallons per day
gpm	gallons per minute
GPS	Global Positioning System
GWh	Gigawatt hour (equals one million kilowatt hours)
H	
“H”-frame structure	A wood pole transmission structure that consists of two wood poles with a horizontal cross arm above the conductor
HABS	Historic American Building Survey
HABTAT	IFIM simulation model
HAER	Historic American Engineering Record
HCP	Habitat Conservation Plan
HEP	Habitat Evaluation Procedures
HLCTS	Hydropower License Compliance Tracking System
hp	Horsepower
hr	Hour
HREZ	Heritage Resource Emphasis Zones
HRMA	Heritage Resource Management Area
HSI	Habitat Suitability Indices
HVAC	Heating Ventilation and Air Conditioning System
Hz	Hertz (cycles per second)
I	
Ice House Dam	A rockfill with central core dam that impounds flows from the South Fork of Silver Creek to form Ice House Reservoir. Impoundment also includes two earthfill dikes
Ice House Dam Reach	The 11.5-mile-long section of the South Fork Silver Creek from Ice House Dam to the normal high waterline of Junction Reservoir
Ice House Intake Structure	Also known as the Jones Fork Powerhouse Intake Structure. A reinforced concrete structure submerged in Ice House Reservoir and guarded by trashracks. The intake structure directs releases into Jones Fork Tunnel
Ice House Reservoir	Reservoir located on the South Fork of Silver Creek with an approximate capacity of 45,960 ac-ft

Term	Definition
Ice House Tunnel	Also known as the Jones Fork Tunnel. Diverts water from Ice House Reservoir to Jones Fork Powerhouse where it is discharged into Union Valley Reservoir
IFIM	USFWS Instream Flow Incremental Methodology
IHA	Indicators of Hydrologic Alteration
IIP	Initial Information Package
Immediate Vicinity	The area extending to about one mile out from project features
in	Inch
ISO	California Independent System Operator
ITA	Indian Trust Asset
J	
Jaybird Intake	Intake to Jaybird Tunnel is a reinforced concrete structure submerged in Junction Reservoir and guarded by trashracks
Jaybird Penstock	A 0.5-mile-long steel pipe that conveys water from the Jaybird Tunnel to the Jaybird Powerhouse
Jaybird Powerhouse	An above ground powerhouse with an installed capacity of 144 MW that receives water from Junction Dam via the Jaybird Tunnel and Penstock and releases water into Camino Reservoir
Jaybird Switchyard	Switchyard interconnected with the White Rock and Union Valley switchyards via 230 kV transmission lines. Yard contains main transformers, high voltage circuit breakers, motorized and manual disconnect switches, and pull-off structures
Jaybird Tunnel	A 4.4-mile-long tunnel that conveys water from the Jaybird Intake Structure in Junction Reservoir to Jaybird Powerhouse Penstock.
Jaybird – Union Valley Transmission Line	A 230 kV overhead line connecting the Jaybird Switchyard with the Union Valley Switchyard. Also referred to as the Union Valley – Jaybird Transmission Line
Jaybird – White Rock Transmission Line	A 230 kV overhead line connecting the Jaybird Switchyard with the White Rock Switchyard. Also referred to as the White Rock – Jaybird Transmission Line
Jones Fork Intake Structure	See Ice House Intake Structure
Jones Fork Penstock	An 1.6-mile-long above ground steel pipe that conveys water from the outlet of the Jones Fork Powerhouse Tunnel to Jones Fork Powerhouse
Jones Fork Powerhouse	An above ground powerhouse located on the southeast shore of Union Valley Reservoir with an installed capacity of 11.5 MW. Receives water from Ice House Reservoir via the Jones Fork (a.k.a. Ice House) Tunnel and Penstock
Jones Fork Powerhouse Tunnel	A 0.3-mile-long tunnel also known as Ice House Tunnel. Diverts water from Ice House Reservoir to the Jones Fork Penstock for conveyance to Jones Fork Powerhouse where it is discharged into Union Valley Reservoir
Jones Fork Switchyard	Located on top of Jones Fork Powerhouse and contains a main transformer, high voltage circuit breaker, and manually operated disconnect switches
Jones Fork – Union Valley Transmission Line	A 69 kV transmission line that connects Jones Fork Powerhouse to the Union Valley Switchyard. Also referred to as the Union Valley – Jones Fork Transmission Line
Junction Dam	A double curvature concrete arch dam that impounds natural flows on Silver Creek plus water released from Union Valley Reservoir to form Junction Reservoir
Junction Dam Reach	The 8.3-mile-long section of Silver Creek from Junction Dam to the normal high waterline of Camino Reservoir
Junction Reservoir	Reservoir located on Silver Creek with ability to impound 3,250 ac-ft. Junction Reservoir acts as the forebay for Jaybird Powerhouse and an afterbay for Union Valley Powerhouse. Receives water released from Union Valley Reservoir through the Union Valley Powerhouse

Sacramento Municipal Utility District
Upper American River Project
(FERC Project No. 2101)

Term	Definition
K	
K	kilometer: 1,000 meters
Kcfs	thousand cubic feet per second
Kg	kilogram: 1,000 grams
kg/day	kilograms per day
kg/ha	kilograms per hectare
kg/yr.	kilograms per year
km	kilometer
kV	kilovolt: 1,000 volts
kVA	kilovolt amperes
kW	kilowatt: 1,000 watts
kWh	kilowatt-hour: 1,000 watt hours
L	
l	Liter
lb	Pound
Licensee	Sacramento Municipal Utility District
Loon Lake Dam	A rockfill with center core dam that impounds water from Gerle Creek and Buck Island Creek to form Loon Lake Reservoir. An auxiliary dam and earthfill dike are also present
Loon Lake Dam Reach	The 8.5-mile-long section of Gerle Creek from Loon Lake Dam to the normal high waterline of Gerle Reservoir
Loon Lake Intake Structure	A submerged reinforced concrete intake structure for the Loon Lake Powerhouse that includes a 250 ft long open cut channel leading to the intake structure as well as a trashrack and bulkhead slot gate
Loon Lake Reservoir	A 76,200 ac-ft reservoir located on Gerle Creek that receives water diverted from Buck Island Creek via Buck Island-Loon Lake Tunnel.
Loon Lake Powerhouse	A powerhouse located approximately 1,100 ft below ground in an excavated chamber with an installed capacity of 82.0 MW that receives water from Loon Lake Reservoir and discharges to Gerle Creek Reservoir via the Loon Lake Powerhouse Tailrace Tunnel
Loon Lake Powerhouse Access Building	A reinforced concrete structure located south of the Loon Lake Auxiliary Dam. The building contains the hoisting equipment for an inclined shaft cable car that is the primary access to the powerhouse, an emergency generator, fuel storage and communications equipment
Loon Lake Powerhouse Penstock	A 0.3-mile-long concrete and steel-lined tunnel that conveys water from Loon Lake Reservoir to Loon Lake Powerhouse
Loon Lake Powerhouse Tailrace Tunnel	A 3.8-mile-long tunnel that conveys water from Loon Lake Powerhouse to Gerle Reservoir. The tunnel is also used for vehicular access to Loon Lake Powerhouse with access to the tunnel via an adit located near the downstream portal
Loon Lake Switchyard	An above ground switchyard located adjacent to the Loon Lake Powerhouse Access Building that contains a main transformer and three 69 kV circuit breakers
Loon Lake – Robbs Peak Transmission Line	A 69 kV overhead line that connects Loon Lake Powerhouse to the Robbs Peak Switchyard. Also referred to as the Robbs Peak – Loon Lake Transmission Line
Loon Lake – Union Valley Transmission Line	A 69 kV overhead line that connects Loon Lake Switchyard to the Union Valley Switchyard. Also referred to as the Union Valley – Loon Lake Transmission Line
LOP	Limited operating periods
LRMP	Land and Resource Management Plan
M	
μ	micro

Term	Definition
µg	microgram
µg/l	micrograms per liter
µmho/cm	micromohos per centimeter, a measurement of conductivity
M	mega
m	meter
m	milli
mbf	million board feet
MBTA	Migratory Bird Treaty Act
MFAR	Middle Fork of the American River
mg	milligram
mg/l	milligrams per liter
mgC/m ²	miligrams of carbon per square meter
mi.	Mile
mills/kWh	0.1 cent per kilowatt hour, equivalent to \$\$/mwh
MIR	Minimal implementation requirement, a USFS system
MIS	USFS Management Indicator Species
mm	millimeters
MNBMC	Species designated by the USFWS as a Migratory Bird of Management Concern because of: (1) Documented or apparent population declines; (2) small or restricted populations; or (3) dependence on restricted or vulnerable habitats.
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
mps	meters per second
MSL	mean sea level
Must-Run	Energy or ancillary services necessary to maintain system reliability
MVA	Megavolt-ampere
MW	Megawatt=1,000 kW
MWh	Megawatt-hours=1,000 kWh
N	
n	nano
NAGPRA	Native American Graves Protection and Reparition Act
ND	no data available
NDT	Northrop, Devine & Tarbell, predecessor to DE&S
NEPA	National Environmental Policy Act
NEPAct	National Energy Policy Act
NFAR	North Fork of the American River
NFMA	National Forest Management Act
NGO	Non-Governmental Organizations
NGVD	National Geodetic Vertical Datum
NHA	National Hydropower Association
NHI	Natural Heritage Institute
NHPA	National Historic Preservation Act
NMFS	Department of Commerce, National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intent
NPDES	National Pollution Discharge Elimination System
NPS	National Parks Service
NRCS	Natural Resource Conservation Act
NRHP	National Register of Historical Places
NTU	Nephelometric turbidity unit
NWI	National Wetlands Inventory

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Term	Definition
NWS	National Weather Service
O	
O&M	Operation and Maintenance
OEP	FERC Office of Energy Projects (Formerly Office of Hydropower Licensing)
OS	Office of the Solicitor
oz	ounce
P	
P	phosphorus
PA	Programmatic Agreement
PAC	Protected activity center
PAOT	People at one time
PCWA	Placer County Water Agency
PDEA	Preliminary Draft Environmental Assessment
Peaking	Operation of generating facilities to meet maximum instantaneous electrical demands
PETS	Proposed, Endangered, Threatened and Sensitive
Penstock	An inclined pipe through which water flows from a forebay or tunnel to the powerhouse turbine
Penstock Capacity (cfs)	The maximum design flow in the penstock.
Penstock Connections	The type of connections in the penstock both within the cans themselves and between cans.
Penstock Diameter (ft)	The nominal diameter of the penstock.
Penstock Length (ft)	The length of the penstock from the tunnel (see above) or upstream inlet to the turbine shut off valve (TSV). For Union Valley, the length is measured from the beginning of the steel lining in the tunnel to the TSV.
Penstock Max. Penstock Velocity (fps)	The maximum velocity in the penstock at the "capacity" as defined above. This will occur at the smallest penstock diameter.
Penstock Supports	The type of supports for the penstock.
Penstock Type	A description of the type of pipe and whether the pipe is surface or buried.
pf	power factor
PG&E Company	Pacific Gas and Electric Company, regulated utility subsidiary of PG&E Corporation
pH	The measure of the acidity or alkalinity of a substance or liquid
PH	powerhouse
PH Maximum Capability	Maximum megawatt output generated by the specific powerhouse. For powerhouses with 2 units, this value is the maximum simultaneous total output generated.
PHABSIM	Physical Habitat Simulation Models
PME	Protection, Mitigation & Enhancement
PMF	Probable maximum flood
PMP	Probable Maximum Precipitation
POAOR	California Public Opinion and Attitudes in Outdoor Recreation Survey
Power Factor	The ratio of actual power to apparent power. Power factor is the cosine of the phase angle difference between the current and voltage of a given phase. Unity power factor exists when the voltage and current are in phase
ppb	parts per billion
ppm	parts per million
Project Area	Area within the FERC Project Boundary

Term	Definition
Project Region	An area on the order of County or National Forest size
Protection	All of the relays and other equipment which are used to open the necessary circuit breakers to separate pieces of equipment from each other when trouble develops
Protective Relay	A device whose function is to detect defective lines or apparatus, or other power system conditions of an abnormal or dangerous nature, and to initiate appropriate control circuit action
psi	pounds per square inch
PSR	Pacific Southwest Region of USFS
PURPA	Public Utilities Regulatory Policies Act
PWD	Persons with Disabilities
PX	California Power Exchange
Q	
QF	A qualifying facility, a cogenerator or small power producer that sells its excess power to a utility
R	
ramping	The act of increasing or decreasing stream flows from a powerhouse, dam or diversion structure
relicensing	The process of acquiring a new license for a project that has an existing license from FERC
Reservoir Drainage Area (sq. mi)	The area that drains into the reservoir.
Reservoir Max Storage Capacity (ac-ft)	The gross volume of water that can be stored in the reservoir.
Reservoir NMWS Elevation (ft)	Normal Maximum Water Surface - The elevation of the lowest spill crest if uncontrolled, the top of the gates for gates at the top of the dam, or the maximum design water surface for submerged gates (Camino Dam).
Reservoir Surface Area (acres)	The surface area of the reservoir at the normal maximum water surface.
Reservoir Useable Capacity	A volume measurement of the amount of water that can be stored for generation, down to a minimum level
RIMS	Records & Information Management System
Riparian	Relating to the bank of a natural course of water
Riparian Vegetation	The vegetation immediately adjacent to a body of water. Typically a structurally diverse community consisting of herbaceous shrub, and woody components.
RM	River mile as measured along the river course
RNA/ACEC	Research Natural Area/Area of Critical Environmental Concern
Robbs Peak Dam Reach	The South Fork Rubicon River downstream of Robbs Peak Dam
Robbs Peak Dam	A concrete gravity dam that impounds natural flows from the South Fork Rubicon River plus water received from the Gerle Canal to form Robbs Peak Reservoir. In normal operation, the dam diverts all flows into the Robbs Peak Tunnel, except for minimum flow release requirements at the dam
Robbs Peak Intake	A reinforced concrete structure in Robbs Peak Reservoir that directs water into Robbs Peak Tunnel. Equipped with a trashrack.
Robbs Peak Penstock	A 0.4-mile-long steel penstock that conveys water from the outlet of the Robbs Peak Tunnel to Robbs Peak Powerhouse
Robbs Peak Powerhouse	A 29.0 MW above ground powerhouse located on the northeast shore of Union Valley Reservoir. The powerhouse receives water from the Robbs Peak Tunnel and the Robbs Peak Penstock and discharges this water into Union Valley Reservoir

Term	Definition
Robbs Peak Reservoir	A small impoundment with a storage capacity of 30 ac-ft that receives natural flows from the South Fork Rubicon River plus water from Gerle Reservoir via the Gerle Canal
Robbs Peak Switchyard	Located adjacent to the Robbs Peak Powerhouse and includes a main transformer, high voltage circuit breakers, and manually operated disconnect switches
Robbs Peak Tunnel	A 3.2-mile-long tunnel that conveys water released through Loon Lake Powerhouse to the Robbs Peak Powerhouse Penstock. In normal operation, Robbs Peak Dam diverts all flows into the Tunnel, except for minimum flow release requirements at the dam
Robbs Peak – Loon Lake Transmission Line	A 69 kV overhead line that connects Loon Lake Switchyard to the Robbs Peak Switchyard. Also referred to as the Loon Lake – Robbs Peak Transmission Line
Robbs Peak – Union Valley Transmission Line	A 69 kV overhead line that connects Robbs Peak Switchyard to the Union Valley Switchyard. Also referred to as the Union Valley – Robbs Peak Transmission Line
Rockbound Dam Reach	The 0.3-mile-long section of Rockbound Creek from Rockbound Dam to the normal high waterline of Buck Island Reservoir
Rockbound Lake	A non-project lake that receives water from the Rubicon Tunnel and conveys water through spilling into Buck Island Creek
ROD	Record of Decision
rpm	revolutions per minute
RTD	Resistance temperature detector
RTE	Rare, Threatened and Endangered
RTU	Remote terminal unit OR Remote telemetry unit. A remotely located piece of equipment used for collecting data and/or for operating equipment via SCADA
Rubicon – Buck Island Tunnel	An 0.2-mile-long unlined tunnel that conveys water from Rubicon Reservoir and Dam into Rockbound Lake (non-project)
Rubicon Dam	A concrete gravity diversion dam in the upper reaches of the Rubicon River that forms Rubicon Reservoir and serves to divert water through the Rubicon Tunnel into Rockbound Lake (non-project)
Rubicon Dam Reach	The Rubicon River downstream of Rubicon Dam
Rubicon Reservoir	Reservoir located in the headwaters of the Rubicon River with capability to impound 1,450 ac-ft
Run-of-the-River	A hydro project that uses the flow of a stream with little or no reservoir capacity for storing water
RVD	Recreation Visitor Days
RWQCB	Regional Water Quality Control Board, Central Valley Region
S	
SC	Sacramento County
SCADA	Supervisory Control And Data Acquisition system
SCORP	State Comprehensive Outdoor Recreation Plan
Secchi	A method of measuring surface transparency in a reservoir
Section 106	Refers to section 106 of the National Historic Preservation Act
SFAR	South Fork of the American River
SFAR Reach	The 2.6-mile-long section of the South Fork American River from the confluence with Silver Creek to Camino Powerhouse
SFRR	South Fork of the Rubicon River
SFSC	South Fork of Silver Creek
SHPO	California Department of Parks and Recreation, Office of Historic Preservation, State Historic Preservation Officer

Term	Definition
Slab Creek Dam	A double curvature arch dam that impounds natural flows on the South Fork American River plus water released from the Camino Powerhouse to form Slab Creek Reservoir
Slab Creek Dam/Powerhouse Reach	The 8.0-mile-long section of the South Fork American River from Slab Creek Dam/Powerhouse to White Rock Powerhouse
Slab Creek Reservoir	A 16,600 ac-ft storage facility located on the South Fork American River. Receives water released from the Camino Powerhouse and releases water through the White Rock Tunnel and Penstock to White Rock Powerhouse and to the Slab Creek Powerhouse via instream releases from Slab Creek Dam
Slab Creek Penstock	A 40 ft steel pipe through Slab Creek Dam that conveys water from Slab Creek Reservoir to Slab Creek Powerhouse
Slab Creek Powerhouse	A reinforced concrete structure built on the downstream face of Slab Creek Dam. Utilizes instream releases from Slab Creek Dam through the Slab Creek Penstock. However, the powerhouse was damaged in a 1997 flood event and is currently not in service
Slab Creek Switchyard	Located on top of the White Rock Tunnel Valve House and consists of a 500 KVA, 12 kV-480 kV transformer located near the generator in the dam structure
Slab Creek Transmission Line	A 12 kV overhead circuit owned by PG&E that connects Slab Creek generator output to the PG&E system.
Sluice	An artificial channel for conducting water, with a valve or floodgate to regulate the flow
SMUD	Sacramento Municipal Utility District
SMZ	Streamside Management Zone as defined by ENF
SNEP	Sierra Nevada Ecosystem Project
SNFPA	Sierra Nevada Forest Plan Amendment
SNTMP	USFWS' Stream Temperature Model
SOHA	Spotted owl habitat areas
Special Status Species	Species or subspecies listed under the FESA or CESA as endangered or threatened, or by a Federal or State agency as a species of special concern, sensitive species, fully protected species or management indicator species.
Spill Channel	Property down gradient from a conduit for which an easement over private property or withdrawal under FERC license has been granted. A spill channel is used when it becomes necessary to release water from a section of conduit.
Spillway	A passage for releasing surplus water from a reservoir
sq. ft	square foot
sq. mi.	square mile
SR	Sacramento River
State	State of California
Station Use	Energy used to operate the generating facility's auxiliary equipment
Stoplogs	Removable logs installed seasonally in reservoir spillways to temporarily increase storage capacity.
STORET	USEPA's computerized water quality data storage system
Study Area	The geographic area covered by a specific study
SUP	Special Use Permit issued by the Forest Service
Surge Chamber	A structure, similar to a holding tank, located on a tunnel or penstock which is used to absorb and attenuate the overflow and prevent any disruption due to a sudden change in water pressure through a tunnel or penstock.
SWDU	Statement of Water Diversion and Use
Switching Center	The main control center for any given river system, which is responsible for operation of the automatic, semiautomatic and manual powerhouses on that river system. The Switching Center is staffed 24 hours a day

Term	Definition
SWRCB	State Water Resources Control Board
T	
Tailrace	Channel through which water is discharged from the powerhouse turbines
TC	total coliform
TDS	total dissolved solids
TES	Threatened, Endangered or Sensitive Species
Three-winding Transformer	A transformer with a primary, secondary and tertiary winding which may be used to connect generation with two different voltage transmission circuits, or with both distribution and transmission circuits, without the use of additional transformers
TMDL	total maximum daily load
TN	total nitrogen
TP	total phosphorous
TPN	total persulfate nitrogen
Trash Rack	A mechanism, found on a dam or intake structure, which clears the water of debris before the water passes through the structure
TRP	Traditional Relicensing Procedure as defined by FERC regulations
TSP	total soluble phosphorus
TSS	total suspended solids
Tunnels Capacity (cfs)	The maximum design flow in the tunnel.
Tunnels Diameter (ft)	The nominal design size of the tunnel.
Tunnels Length (ft)	The length of the tunnel from the upstream portal to the downstream portal.
Tunnels Lining	The type of lining in the tunnel, if any.
Tunnels Max. Tunnel Velocity (fps)	The maximum velocity in the tunnel at the "capacity" and at the nominal diameter as defined above.
Tunnels Type	Either pressure or free flow.
Turbine	A machine that converts the energy of a stream of water into the mechanical energy of rotation. This energy is then used to turn an electrical generator or other device. Also called a "water wheel"
U	
UARP	Upper American River Project
Union Valley Dam	A zoned earthfill dam that impounds water from 82 square miles of watershed plus releases from Robbs Peak and Jones Fork powerhouses to form Union Valley Reservoir
Union Valley Intake	A reinforced concrete structure submerged in Union Valley Reservoir. Intake is guarded by trashracks.
Union Valley Reservoir	A large reservoir located on Silver Creek with a capacity of about 277,290 ac-ft.
Union Valley Penstock	A 0.3-mile-long steel penstock that conveys water from the outlet of the Union Valley Tunnel to the Union Valley Powerhouse
Union Valley Powerhouse	An above ground facility located at the toe of Union Valley Dam with a maximum capability of 46.7 MW. Water is received from Union Valley Reservoir via the Union Valley Tunnel and Penstock and discharged into Junction Reservoir
Union Valley Switchyard	Divided into a 69 kV yard and a 230 kV yard. Contains main transformers, high voltage circuit breakers, motor-operated and manual disconnect switches, lattice structures for transmission line take-offs, 69 kV transmission lines connecting to Loon Lake, Robbs Peak and Jones Fork powerhouses, and 230 kV lines connecting to Jaybird and Camino powerhouses

Term	Definition
Union Valley Tunnel	A 268 ft concrete-lined and tunnel that conveys water from Union Valley Reservoir Intake Structure to the Union Valley Penstock
Union Valley – Camino Transmission Line	A 230 kV overhead line connecting Union Valley Switchyard with the Camino Switchyard. Also referred to as the Camino – Union Valley Transmission Line
Union Valley – Jaybird Transmission Line	A 230 kV overhead line connecting Union Valley Switchyard with the Jaybird Switchyard. Also referred to as the Jaybird – Union Valley Transmission Line
Union Valley – Jones Fork Transmission Line	A 69 kV overhead line that connects Union Valley Powerhouse to the Jones Fork Switchyard. Also referred to as the Jones Fork - Union Valley Transmission Line
Union Valley – Loon Lake Transmission Line	A 69 kV overhead line that connects Loon Lake Switchyard to the Union Valley Switchyard. Also referred to as the Loon Lake – Union Valley Transmission Line
Union Valley - Robbs Peak Transmission Line	A 69 kV overhead line that connects Robbs Peak Powerhouse to the Union Valley Switchyard. Also referred to as the Robbs Peak - Union Valley Transmission Line
US	United States
USACE	U.S. Department of Defense, Army Corps of Engineers
USBIA	U.S. Department of Interior, Bureau of Indian Affairs
USBLM	U.S. Department of Interior, Bureau of Land Management
USBR	U.S. Department of Interior, Bureau of Reclamation
USC	United States Code
USDA	US Department of Agriculture
USDOJ	U.S. Department of Interior
USEPA	U. S. Environmental Protection Agency
USFS	U.S. Department of Agriculture, Forest Service
USFWS	U.S. Department of Interior, Fish and Wildlife Service
USGS	U.S. Department of Interior, Geological Survey
UVR	Union Valley Reservoir
V	
V	volts
VQO	Visual Quality Objectives, a USFS visual classification system
VQI	Visual Quality Index, a USFS visual classification system
W	
W	watts
WBWG	Bat species designated by the Western Bat Working Group as High Priority because they are imperiled or at high risk of imperilment
WHR	California Wildlife Habitat Relationships Database
White Rock Intake Structure	A submerged, reinforced concrete structure located in Slab Creek Reservoir and protected by a trashrack. Intake directs flows into the White Rock Tunnel
White Rock Penstock	A 0.3-mile-long above ground steel pipe that conveys water from the White Rock Tunnel to the White Rock Powerhouse
White Rock Powerhouse	An above ground reinforced concrete facility located on the south bank of the South Fork American River with a total maximum capability of 224.0 MW. Receives water from Slab Creek Reservoir via the White Rock Tunnel and Penstock
White Rock Switchyard	Located in a separate yard adjacent to White Rock Powerhouse. Includes two main transformers, circuit breakers, motorized and manual disconnect switches and steel lattice take-off structures
White Rock Tunnel	A 4.9-mile-long tunnel that diverts water released from Slab Creek Reservoir on the South Fork American River to White Rock Powerhouse Penstock

Sacramento Municipal Utility District
 Upper American River Project
 (FERC Project No. 2101)

Term	Definition
White Rock – Camino Transmission Line	A 230 kV overhead line connecting the White Rock and Camino Switchyards. Also referred to as the Camino – White Rock Transmission Line
White Rock – Hedge Transmission Line	A 230 kV line feeding power from the White Rock Powerhouse to the Hedge Substation.
White Rock – Jaybird Transmission Line	A 230 kV overhead line connecting the Jaybird Switchyard with the White Rock Switchyard. Also referred to as the Jaybird – White Rock Transmission Line
White Rock – Orangevale Transmission Line	A 230 kV line feeding power from the White Rock Powerhouse to the Orangevale Substation
WSEL	Water surface elevation
WSR	Wild and Scenic River
WSRA	Wild & Scenic Rivers Act
WUA	Weighted Usable Area
X	
Y	
yd	yard
YOY	young-of-the-year
Z	
zn	zinc
ZPE	Zone of Potential Effect. Physical area in which the project has a potential for influence on resources. May be different for each resource area.