Original Sheet No. 300

ISO TARIFF APPENDIX A

Master Definitions Supplement

Issued by: Roger Smith, Senior Regulatory Counsel Issued on: October 13, 2000 Effective: October 13, 2000 CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION FERC ELECTRIC TARIFF

FIRST REPLACEMENT VOLUME NO. I

First Revised Sheet No. 301 Superseding Original Sheet No. 301

Access Charge A charge paid by all UDCs, MSSs and, in certain cases,

Scheduling Coordinators, delivering Energy to Gross Load, as

set forth in Section 7.1. The Access Charge includes the High

Voltage Access Charge, the Transition Charge and the Low

Voltage Access Charge. The Access Charge will recover the

Participating TO's Transmission Revenue Requirement in

accordance with Appendix F, Schedule 3.

Active Zone The Zones so identified in Appendix I to the ISO Tariff.

Actual Imbalance A deviation between scheduled Generation and metered

Generation at each UDC/ISO Controlled Grid boundary or at

each Participating Generator's delivery point or a deviation

between scheduled Load and metered Load at each UDC/ISO

Controlled Grid boundary or ISO Control Area boundary.

Adjustment Bid A bid in the form of a curve defined by (i) the minimum MW

output to which a Scheduling Coordinator will permit a resource

(Generating Unit or Dispatchable Load) included in its Schedule

or, in the case of an Inter-SC Trade, included in its Schedule or

the Schedule of another Scheduling Coordinator, to be

redispatched by the ISO; (ii) the maximum MW output to which

a Scheduling Coordinator will permit the resource included in its

Schedule or, in the case of an Inter-SC Trade, included in its

Schedule or the Schedule of another Scheduling Coordinator, to

be redispatched by the ISO; (iii) up to a specified number of MW

values in between; (iv) a preferred MW operating point; and (v)

for the ranges between each of the MW values greater than the

preferred operating point, corresponding prices (in \$/MWh) for

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which the Scheduling Coordinator is willing to increase the output of the resource and sell Energy from that resource to the ISO (or, in the case of a Dispatchable Load, decrease the Demand); and (vi) for the ranges between each of the MW values less than the preferred operating point, corresponding prices (in \$/MWh) for which the Scheduling Coordinator is willing to decrease the output of the resource and purchase Energy from the ISO at the resource's location (or, in the case of a Dispatchable Load, increase the Demand). This data for an Adjustment Bid must result in a monotonically increasing curve.

Administrative Price

The price set by the ISO in place of a Market Clearing Price when, by reason of a System Emergency, the ISO determines that it no longer has the ability to maintain reliable operation of the ISO Controlled Grid relying solely on the economic Dispatch of Generation. This price will remain in effect until the ISO considers that the System Emergency has been contained and corrected.

Affiliate

An entity, company or person that directly, or indirectly through one or more intermediaries, controls, or is controlled by, or is under common control with the subject entity, company, or person.

AGC (Automatic Generation Control)

Generation equipment that automatically responds to signals from the ISO's EMS control in real time to control the power output of electric generators within a prescribed area in response to a change in system frequency, tieline loading, or the relation of these to each other, so as to maintain the target system frequency and/or the established interchange with other areas within the predetermined limits.

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Aggregate Final Accepted Schedules

Alert Notice

ISO approved aggregated Final Schedules.

A Notice issued by the ISO when the operating requirements of

the ISO Controlled Grid are marginal because of Demand

exceeding forecast, loss of major Generation, or loss of

transmission capacity that has curtailed imports into the ISO

Control Area, or if the Hour-Ahead Market is short on

scheduled Energy and Ancillary Services for the ISO Control

Area.

<u>Ancillary Services</u> Regulation, Spinning Reserve, Non-Spinning Reserve,

Replacement Reserve, Voltage Support and Black Start

together with such other interconnected operation services as

the ISO may develop in cooperation with Market Participants to

support the transmission of Energy from Generation resources

to Loads while maintaining reliable operation of the ISO

Controlled Grid in accordance with Good Utility Practice.

Ancillary Service Provider A Participating Generator or Participating Load who is eligible

to provide an Ancillary Serviced.

Applicable Reliability

Criteria

The reliability standards established by NERC, WSCC, and

Local Reliability Criteria as amended from time to time,

including any requirements of the NRC.

<u>Applicants</u> Pacific Gas and Electric Company, San Diego Gas & Electric

Company, and Southern California Edison Company and any

others as applicable.

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Approved Credit Rating

With respect to whether security must be posted for payment of the Grid Management Charge:

- (a) A short-term taxable commercial paper debt rating of not less than any one of the following: (i) A1 by Standard and Poor's Corporation; (ii) D1 by Duff & Phelps Credit Rating Agency; (iii) F1 by Fitch IBCA Incorporated; or (iv) P1 by Moody's Investors Service. This rating shall be an issuer, or counterpart rating, without the benefit of credit enhancement.
- (b) A short-term tax exempt commercial paper debt rating of not less than any one of the following: (I) A1 by Standard and Poor's Corporation; (ii) V1 by Fitch IBCA Incorporated; or (iii) VMIG1 by Moody's Investors Service. This rating shall be an issuer, or counterparty rating, without the benefit of credit enhancement.

With respect to whether security must be posted for payment of all charges other than the Grid Management Charge:

- (c) A short-term tax exempt commercial paper debt rating of not less than any one of the following: (i) A2 by Standard and Poor's Corporation; (ii) D2 by Duff & Phelps Credit Rating Agency; (iii) F2 by Fitch IBCA Incorporated; or (iv) P2 by Moody's Investors Service. This rating shall be an issuer, or counterparty rating, without the benefit of credit enhancement.
- (d) A short-term tax exempt commercial paper debt rating of not less than any one of the following: (i) A2 by Standard and Poor's Corporation; (ii) V2 by Fitch IBCA Incorporated; or (iii) VMIG2 by Moody's Investors Service. This rating shall be an issuer, or counterparty rating, without the benefit of credit

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enhancement.

(e) A long-term debt rating of not less than any one of the following: (i) A- by Standard and Poor's Corporation; (ii) A- by Duff & Phelps Credit Rating Agency; (iii) A- by Fitch IBCA Incorporated; or (iv) A3 by Moody's Investors Service. This rating shall be an issuer, or counterparty rating, without the benefit of credit enhancement.

With respect to whether security must be posted for payment of all charges:

- (f) A federal agency shall be deemed to have an Approved Credit Rating if its financial obligations under the ISO Tariff are backed by the full faith and credit of the United States.
- (g) A California state agency shall be deemed to have an Approved Credit Rating if its financial obligations under the ISO Tariff are backed by the full faith and credit of the State of California.
- (h) Another credit rating approved by the ISO Board of Governors.

Approved Load Profile

Local Regulatory Authority approved Load profiles applied to cumulative End-Use Meter Data in order to allocate consumption of Energy to Settlement Periods.

Approved Maintenance Outage

A Maintenance Outage which has been approved by the ISO through the ISO Outage Coordination Office.

Availability Measure

An indication for measuring the performance of Transmission

Owners in maintaining the reliability and availability of the

Transmission Owner's transmission system.

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Available Transfer Capacity

For a given transmission path, the capacity rating in MW of the path established consistent with ISO and WSCC transmission capacity rating guidelines, less any reserved uses applicable to the path.

Balanced Schedule

A Schedule shall be deemed balanced when Generation, adjusted for Transmission Losses equals forecast Demand with respect to all entities for which a Scheduling Coordinator schedules.

Balancing Account

An account set up to allow periodic balancing of financial transactions that, in the normal course of business, do not result in a zero balance of cash inflows and outflows.

Base Transmission
Revenue Requirements

The Transmission Revenue Requirement adjusted to reflect the Transmission Revenue Balancing Account Adjustment (TRBAA).

BEEP Interval

The time period, which may range between five (5) and thirty (30) minutes, over which the ISO's BEEP Software measures deviations in Generation and Demand, and selects Ancillary Service and Supplemental Energy resources to provide balancing Energy in response to such deviations. As of the ISO Operations Date, the BEEP Interval shall be ten (10) minutes. Following a decision, by the ISO Governing Board, the ISO may, by seven (7) days' notice published on the ISO's Home Page, at http://www.caiso.com (or such other internet address as the ISO may publish from time to time), increase or decrease the BEEP Interval within the range of five (5) to thirty (30) minutes.

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FERC ELECTRIC TARIFF First Revised Sheet No. 307

FIRST REPLACEMENT VOLUME NO. I Superseding Original Sheet No. 307

BEEP Interval Ex Post

Prices

The prices charged to or paid by Scheduling Coordinators for

Imbalance Energy in each Zone in each BEEP Interval.

BEEP Software The balancing energy and ex post pricing software which is

used by the ISO to determine which Ancillary Service and

Supplemental Energy resources to Dispatch and to calculate

the Ex Post Prices.

Black Start The procedure by which a Generating Unit self-starts without

an external source of electricity thereby restoring power to the

ISO Controlled Grid following system or local area blackouts.

Black Start Generator A Participating Generator in its capacity as party to an Interim

Black Start Agreement with the ISO for the provision of Black

Start services, but shall exclude Participating Generators in

their capacity as providers of Black Start services under their

Reliability Must-Run Contracts

Bulk Supply Point A UDC metering point.

Business Day A day on which banks are open to conduct general banking

business in California.

C.F.R. Code of Federal Regulations.

Completed Application

Date

For purposes of Section 5.7, the date on which a New Facility

Operator submits an Interconnection Application to the ISO that

satisfies the requirements of the ISO Tariff and the TO Tariff of

An Interconnection Application that meets the information

the Interconnecting PTO.

Completed Interconnection

Application requirements as specified by the ISO and posted on the ISO

Home Page.

Conditional Energy Bids A Bid for Energy to serve Demand at or below a specified

price.

Congestion A condition that occurs when there is insufficient Available

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Transfer Capacity to implement all Preferred Schedules

simultaneously or, in real time, to serve all Generation and

Demand. "Congested" shall be construed accordingly.

Congestion Management The alleviation of Congestion in accordance with Applicable

ISO Protocols and Good Utility Practice.

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FERC ELECTRIC TARIFF

Second Revised Sheet No. 308

FIRST REPLACEMENT VOLUME NO. I Superseding First Revised Sheet No. 308

Connected Entity A Participating TO or any party that owns or operates facilities that

are electrically interconnected with the ISO Controlled Grid.

Constraints Physical and operational limitations on the transfer of electrical

power through transmission facilities.

Contingency Disconnection or separation, planned or forced, of one or more

components from an electrical system.

Control Area An electric power system (or combination of electric power

systems) to which a common AGC scheme is applied in order to: i)

match, at all times, the power output of the Generating Units within

the electric power system(s), plus the Energy purchased from

entities outside the electric power system(s), minus Energy sold to

entities outside the electric power system, with the Demand within

the electric power system(s); ii) maintain scheduled interchange

with other Control Areas, within the limits of Good Utility Practice;

iii) maintain the frequency of the electric power system(s) within

reasonable limits in accordance with Good Utility Practice; and iv)

provide sufficient generating capacity to maintain operating

reserves in accordance with Good Utility Practice.

Control Area Gross Load For the purpose of calculating and billing the Grid Management

Charge, Minimum Load Costs, Emission Costs Charge and Start-

Up Fuel Costs Charge, Control Area Gross Load is all Demand for

Energy within the ISO Control Area. Control Area Gross Load shall

not include Energy consumed by:

(a) generator auxiliary Load equipment that is dedicated to the

production of Energy and is electrically connected at the

same point as the Generating Unit (e.g., auxiliary Load

equipment that is served via a distribution line

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that is separate from the switchyard to which the

Generating Unit is connected will not be considered to

be electrically connected at the same point); and

(b) Load that is isolated electrically from the ISO Control Area (i.e., Load that is not synchronized with the ISO Control Area).

<u>Control Area Services</u> Charge

The component of the Grid Management Charge that provides for recovery of the ISO's costs of ensuring safe, reliable operation of the transmission grid and dispatch of bulk power supplies in accordance with regional and national reliability standards, including, but not limited to:

- performing operation studies;
- system security analyses;
- transmission maintenance standards;
- system planning to ensure overall reliability;
- integration with other Control Areas;
- emergency management;
- outage coordination;
- · transmission planning; and
- scheduling generation, imports, exports, and wheeling in the Day-Ahead and Hour-Ahead of actual operations.

<u>Converted Rights</u> Those transmission service rights as defined in Section

2.4.4.2.1 of the ISO Tariff.

Cost Shifting A transfer of costs from one group of customers to another or

from one utility to another.

CPUC The California Public Utilities Commission, or its successor.

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FERC ELECTRIC TARIFF

<u>Critical Protective System</u>

First Revised Sheet No. 309 Superseding Original Sheet No. 309

FIRST REPLACEMENT VOLUME NO. I Sup

Facilities and sites with protective relay systems and Remedial

Action Schemes that the ISO determines may have a direct

impact on the ability of the ISO to maintain system security and

over which the ISO exercises Operational Control.

CTC (Competition Transition Charge)

A non-bypassable charge that is the mechanism that the

California Legislature and the CPUC mandated to permit

recovery of costs stranded as a result of the shift to the new

market structure.

Curtailable DemandDemand from a Participating Load that can be curtailed at the

direction of the ISO in the real time dispatch of the ISO

Controlled Grid. Scheduling Coordinators with Curtailable

Demand may offer it to the ISO to meet Non-spinning or

Replacement Reserve requirements.

Data Adequacy Requirement Any applicable minimum data requirements of the state agency

responsible for generation siting or of any Local Regulatory

Authority.

<u>Day-Ahead</u> Relating to a Day-Ahead Market or Day-Ahead Schedule.

Day-Ahead Market The forward market for Energy and Ancillary Services to be

supplied during the Settlement Periods of a particular Trading

Day that is conducted by the ISO, the PX and other Scheduling

Coordinators and which closes with the ISO's acceptance of

the Final Day-Ahead Schedule.

<u>Day-Ahead Schedule</u> A Schedule prepared by a Scheduling Coordinator or the ISO

before the beginning of a Trading Day indicating the levels of

Generation and Demand scheduled for each Settlement Period

of that Trading Day.

Default GMM Pre calculated GMM based on historical Load and interchange

levels.

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FERC ELECTRIC TARIFF
FIRST REPLACEMENT VOLUME NO. I

First Revised Sheet No. 310 Superseding Original Sheet No. 310

Delivery Point The point where a transaction between Scheduling

Coordinators is deemed to take place. It can be either the

Generation input point, a Demand Take-Out Point, or a

transmission bus at some intermediate location.

Delivery Upgrade The transmission facilities, other than Direct Assignment

Facilities and Reliability Upgrades, necessary to relieve

constraints on the ISO Controlled Grid and to ensure the

delivery of energy from a New Facility to Load.

DemandThe rate at which Energy is delivered to Loads and Scheduling

Points by Generation, transmission or distribution facilities. It is

the product of voltage and the in-phase component of

alternating current measured in units of watts or standard

multiples thereof, e.g., 1,000W=1kW, 1,000kW=1MW, etc.

Demand BidA bid into the PX indicating a quantity of Energy that an Eligible

Customer wishes to purchase and, if relevant, the maximum

price that the customer is prepared to pay for that Energy. This

bid will only be accepted in the PX auction process if the

Market Clearing Price is at or below the price of the Demand

Bid. A Buyer may state, for each hour, a different price

preference for each demand quantity in each location, i.e., the

maximum price in each hour at which it is prepared to take a

specified amount of Energy in the Day-Ahead Schedule. If a

bid is submitted without a price, it is assumed that the bidder is

prepared to pay the Market-Clearing Price.

<u>Demand Forecast</u> An estimate of Demand over a designated period of time.

Demand Market Participant

Any Eligible Customer on behalf of whom Demand and

Ancillary Services are scheduled pursuant to the ISO Tariff.

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CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION FERC ELECTRIC TARIFF

FIRST REPLACEMENT VOLUME NO. I

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Designated Contact

<u>Person</u>

The person designated by each Participating TO to coordinate

with the ISO on the processing and completion of all

Interconnection Applications.

<u>Direct Access Demand</u> The Demand of Direct Access End-Users.

<u>Direct Access End-User</u> An Eligible Customer located within the Service Area of a UDC

who purchases Energy and Ancillary Services through a

Scheduling Coordinator.

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FERC ELECTRIC TARIFF

FIRST REPLACEMENT VOLUME NO. I Superseding Second Revised Sheet No. 311

<u>Direct Access Generation</u> An Eligible Customer who is selling Energy or Ancillary

Services through a Scheduling Coordinator.

Direct Assignment Facility The transmission facilities necessary to physically and

electrically interconnect a New Facility Operator to the ISO

Third Revised Sheet No. 311

Controlled Grid at the point of interconnection.

<u>Dispatch</u> The operating control of an integrated electric system to:

i) assign specific Generating Units and other sources of supply

to effect the supply to meet the relevant area Demand taken as

Load rises or falls; ii) control operations and maintenance of

high voltage lines, substations, and equipment, including

administration of safety procedures; iii) operate

interconnections; iv) manage Energy transactions with other

interconnected Control Areas; and v) curtail Demand.

<u>Dispatch Instruction</u> An instruction by the ISO to a resource for increasing or

decreasing its energy supply or demand from the Hour-Ahead

Schedule to a specified operating point.

Dispatch Operating Point The expected operating point of a resource that has received a

Dispatch Instruction. The resource is expected to operate at

the Dispatch Operating Point after completing the Dispatch

Instruction, taking into account any relevant ramp rate and time

delays. Energy expected to be produced or consumed above

or below the Final Hour-Ahead Schedule in response to a

Dispatch Instruction constitutes Instructed Imbalance Energy.

For resources that have not received a Dispatch Instruction,

the Dispatch Operating Point defaults to the corresponding

Final Hour-Ahead Schedule.

<u>Dispatchable Loads</u> Load which is the subject of an Adjustment Bid.

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CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION FERC ELECTRIC TARIFF

FIRST REPLACEMENT VOLUME NO. I Original Sheet No. 311A

<u>Distribution System</u> The distribution assets of a TO or UDC.

EEP (Electrical Emergency Plan)

A plan to be developed by the ISO in consultation with UDCs to address situations when Energy reserve margins are forecast

to be below established levels..

Effective Price The price, applied to undelivered Instructed Imbalance Energy,

calculated by dividing the absolute value of the total payment

or charge for Instructed Imbalance Energy by the absolute

value of the total Instructed Imbalance Energy, for the

Settlement Period; provided that, if both the total payment or

charge and quantity of Instructed Imbalance Energy for the

Settlement Period are negative, the Effective Price shall be

multiplied by -1.0 (minus one).

Electric Capacity The continuous demand-carrying ability for which a Generating

Unit, or other electrical apparatus is rated, either by the user or

by the manufacturer.

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FERC ELECTRIC TARIFF FIRST REPLACEMENT VOLUME NO. I Substitute First Revised Sheet No. 312 Superseding Original Sheet No. 312

Eligible Customer

(i) any utility (including Participating TOs, Market Participants and any power marketer), Federal power marketing agency, or any

person generating Energy for sale or resale; Energy sold or

produced by such entity may be Energy produced in the United

States, Canada or Mexico; however, such entity is not eligible for

transmission service that would be prohibited by Section

212(h)(2) of the Federal Power Act; and (ii) any retail customer

taking unbundled transmission service pursuant to a state retail

access program or pursuant to a voluntary offer of unbundled

retail transmission service by the Participating TO.

Eligible Intermittent

Resource

A Generating Unit that is powered solely by 1) wind, 2) solar

energy, or 3) hydroelectric potential derived from small conduit

water distribution facilities that do not have storage capability.

Eligible Regulatory Must-

Take Generation

Regulatory Must-Take Generation which (i) has been approved

as Regulatory Must-Take Generation by a Local Regulatory

Authority within California, and (ii) is owned or produced by a

Participating TO or UDC which has provided direct access to its

End-Use Customers and serves load in the ISO Control Area.

Eligible Regulatory Must-

Run Generation

Regulatory Must-Run Generation which (i) has been approved as

Regulatory Must-Run Generation by a Local Regulatory Authority

within California, and (ii) is owned or produced by a Participating

TO or UDC which has provided direct access to its End-Use

Customers and serves load in the ISO Control Area.

Emergency Startup A startup order from the ISO delivered to a Generator in

response to a System Emergency.

Emissions Cost Charge

The charge determined in accordance with Section 2.5.23.3.6

Emissions Cost Demand

The level of Demand specified in Section 2.5.23.3.6.3

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FIRST REPLACEMENT VOLUME NO. I

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Emissions Cost Invoice The invoice submitted to the ISO in accordance with Section

2.5.23.3.6.6.

Emissions Cost Trust

Account

The trust account established in accordance with Section

2.5.23.3.6.2.

Emissions Costs The mitigation fees, excluding capital costs, assessed against a

generating unit by a state or federal agency, including air quality

districts, for exceeding applicable NOx emissions limitations.

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EMS (Energy Management System)

A computer control system used by electric utility dispatchers to monitor the real time performance of the various elements of an electric system and to control Generation and transmission facilities.

Encumbrance

A legal restriction or covenant binding on a Participating TO that affects the operation of any transmission lines or associated facilities and which the ISO needs to take into account in exercising Operational Control over such transmission lines or associated facilities if the Participating TO is not to risk incurring significant liability. Encumbrances shall include Existing Contracts and may include: (1) other legal restrictions or covenants meeting the definition of Encumbrance and arising under other arrangements entered into before the ISO Operations Date, if any; and (2) legal restrictions or covenants meeting the definition of Encumbrance and arising under a contract or other arrangement entered into after the ISO Operations Date.

End-Use Customer or End-User

A purchaser of electric power who purchases such power to satisfy a Load directly connected to the ISO Controlled Grid or to a Distribution System and who does not resell the power.

End-Use Meter Data

Meter Data that measures the Energy consumption in respect of End-Users gathered, edited and validated by Scheduling Coordinators and submitted to the ISO in Settlement quality form.

End-Use Meter

A metering device collecting Meter Data with respect to the Energy consumption of an End-User.

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Energy The electrical energy produced, flowing or supplied by

generation, transmission or distribution facilities, being the

integral with respect to time of the instantaneous power,

measured in units of watt-hours or standard multiples thereof,

e.g., 1,000 Wh=1kWh, 1,000 kWh=1MWh, etc.

Energy Bid The price at or above which a Generator has agreed to

produce the next increment of Energy.

Energy Efficiency

<u>Services</u>

Services that are intended to assist End-Users in achieving

savings in their use of Energy or increased efficiency in their

use of Energy.

Entitlements The right of a Participating TO obtained through contract or

other means to use another entity's transmission facilities for

the transmission of Energy.

Environmental Dispatch Dispatch designed to meet the requirements of air quality and

other environmental legislation and environmental agencies

having authority or jurisdiction over the ISO.

Environmental Quality In relation to Energy, means Energy which involves production

sources that reduce harm to the environment.

Equipment Clearances The process by which the ISO grants authorization to another

party to connect or disconnect electric equipment

interconnected to the ISO Controlled Grid.

Ex Post GMM GMM that is calculated utilizing the real time Power Flow Model

in accordance with Section 7.4.2.1.2.

Ex Post Price The Hourly Ex Post Price or the BEEP Interval Ex Post Price.

Ex Post Transmission

Loss

Transmission Loss that is calculated based on Ex Post GMM.

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FERC ELECTRIC TARIFF Second Revised Sheet No. 315

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Existing ContractsThe contracts which grant transmission service rights in

existence on the ISO Operations Date (including any contracts

entered into pursuant to such contracts) as may be amended in

accordance with their terms or by agreement between the

parties thereto from time to time.

Existing Rights Those transmission service rights defined in Section 2.4.4.1.1

of the ISO Tariff.

Expedited Interconnection

Agreement

A contract between a party which has submitted a Request for

Expedited Interconnection Procedures and an Interconnection

PTO under which the ISO and an Interconnecting PTO agree

to process, on an expedited basis, the Interconnection

Application of a New Facility Operator and which sets forth the

terms, conditions, and cost responsibilities for such

interconnection.

Facility Owner An entity owning transmission, Generation, or distribution

facilities connected to the ISO Controlled Grid.

Facility Study An engineering study conducted by a Participating TO to

determine required modifications to the Participating TO's

transmission system, including the cost and scheduled

completion date for such modifications that will be required to

provide needed services.

Facility Study Agreement An agreement between a Participating TO and either a Market

Participant, Project Sponsor, or identified principal beneficiaries

pursuant to which the Market Participants, Project Sponsor,

and identified principal beneficiaries agree to reimburse the

Participating TO for the cost of a Facility Study.

For all electric current carrying facilities, all applicable capacity

or electric limits to be observed during normal, short-term

emergencies, and long-term emergency operating conditions.

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FERC ELECTRIC TARIFF First Revised Sheet No. 315A
FIRST REPLACEMENT VOLUME NO. I Superseding Original Sheet No. 315A

TINGTINE FLACEINENT VOLONE NO. 1 Supersealing Original Sheet No. 313

FERC The Federal Energy Regulatory Commission or its successor.

FERC Annual ChargesThose charges assessed against a public utility by the FERC

pursuant to 18 C.F.R. § 382.201 and any related statutes or

regulations, as they may be amended from time to time.

FERC Annual Charge Recovery Rate

The rate to be paid by Scheduling Coordinators for recovery of

FERC Annual Charges assessed against the ISO for

transactions on the ISO Controlled Grid.

FERC Annual Charge Trust Account An account to be established by the ISO for the purpose of

maintaining funds collected from Scheduling Coordinators for

FERC Annual Charges and disbursing such funds to the

FERC.

Final Day-Ahead Schedule The Day-Ahead Schedule which has been approved as

feasible and consistent with all other Schedules by the ISO

based upon the ISO's Day-Ahead Congestion Management

procedures.

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FIRST REPLACEMENT VOLUME NO. I

Original Sheet No. 316

Final Hour-Ahead

Schedule

The Hour-Ahead Schedule of Generation and Demand that has been approved by the ISO as feasible and consistent with all other Schedules based on the ISO's Hour-Ahead Congestion

Management procedures.

Final Schedule A Schedule developed by the ISO following receipt of a

Revised Schedule from a Scheduling Coordinator.

Final Settlement

Statement

The restatement or recalculation of the Preliminary Settlement

Statement by the ISO following the issue of that Preliminary

Settlement Statement.

Flexible Generation Generation that is capable of, and for which the Generator has

agreed to, adjust operating levels in response to real time

market price or ISO control signals.

Forced Outage An Outage for which sufficient notice cannot be given to allow

the Outage to be factored into the Day-Ahead Market or Hour-

Ahead Market scheduling processes.

FPA Parts II and III of the Federal Power Act, 16 U.S.C. § 824 et

seq., as they may be amended from time to time.

FTR (Firm Transmission

Right)

A contractual right, subject to the terms and conditions of the

ISO Tariff, that entitles the FTR Holder to receive, for each

hour of the term of the FTR, a portion of the Usage Charges

received by the ISO for transportation of energy from a specific

originating Zone to a specific receiving Zone and, in the event

of an uneconomic curtailment to manage Day-Ahead

congestion, to a Day-Ahead scheduling priority higher than that

of a schedule using Converted Rights capacity that does not

have an FTR.

FTR Bidder An entity that submits a bid in an FTR auction conducted by the

ISO in accordance with Section 9.4 of the ISO Tariff.

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FTR Holder The owner of an FTR, as registered with the ISO.

FTR Market A transmission path from an originating Zone to a contiguous

receiving Zone for which FTRs are auctioned by the ISO in

accordance with Section 9.4 of the ISO Tariff.

Scheduling Point location to determine the effect on total

system Transmission Losses of injecting an increment of

Generation at each such location to serve an equivalent

incremental MW of Demand distributed proportionately

throughout the ISO Control Area.

Generating Unit

An individual electric generator and its associated plant and

apparatus whose electrical output is capable of being

separately identified and metered or a Physical Scheduling

Plant that, in either case, is:

(a) located within the ISO Control Area;

(b) connected to the ISO Controlled Grid, either directly or

via interconnected transmission, or distribution

facilities; and

(c) that is capable of producing and delivering net Energy

(Energy in excess of a generating station's internal

power requirements).

<u>Generation</u> Energy delivered from a Generating Unit.

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FIRST REPLACEMENT VOLUME NO. I

Generation Dispatch Constraints

Details of any mandatory Generating Unit commitment requirements (e.g., Must-Run Generation) or dispatch limits (minimum output or maximum output) that must be observed due to system operating constraints (e.g., thermal, voltage, or stability limits). These limits are in addition to limits that may be specified by Generators in their Energy or Ancillary Service bids to the ISO or PX.

Generation Scheduling

The ISO's planned hourly pattern of Generation.

Generator

The seller of Energy or Ancillary Services produced by a Generating Unit.

GMM (Generation Meter Multiplier)

A number which when multiplied by a Generating Unit's Metered Quantity will give the total Demand to be served from that Generating Unit.

Good Faith Deposit

The deposit paid to the ISO by a New Facility Operator with submission of its Interconnection Application in accordance with Section 5.7.3.2, in an amount equal to \$10,000, including any interest that accrues on the original amount, less any bank fees or other charges assessed on the escrow account. A New Facility Operator may satisfy its deposit obligation through any commercially available financial instrument determined to be satisfactory by the ISO.

Good Utility Practice

Any of the practices, methods, and acts engaged in or approved by a significant portion of the electric utility industry during the relevant time period, or any of the practices, methods, and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the.

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desired result at a reasonable cost consistent with good business practices, reliability, safety, and expedition. Good Utility Practice is not intended to be any one of a number of the optimum practices, methods, or acts to the exclusion of all others, but rather to be acceptable practices, methods, or acts generally accepted in the region

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CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION

FERC ELECTRIC TARIFF

First Revised Sheet No. 319

FIRST REPLACEMENT VOLUME NO. I

Superseding Original Sheet No. 319

Grid Management Charge

The ISO monthly charge on all Scheduling Coordinators and other appropriate parties that provides for the recovery of the ISO's costs through the three service charges described in Section 8.3: 1) the Control Area Services Charge, 2) the Inter-Zonal Scheduling Charge, and 3) the Market Operations Charge. The three component charges are formula rates.

Grid Operations Charge

An ISO charge that recovers redispatch costs incurred due to Intra-Zonal Congestion in each Zone. These charges will be paid to the ISO by the Scheduling Coordinators, in proportion to their metered Demand within, and metered exports from, the Zone to a neighboring Control Area.

Gross Load

For the purposes of calculating the transmission Access Charge, Gross Load is all Energy (adjusted for distribution losses) delivered for the supply of Loads directly connected to the transmission facilities or Distribution System of a UDC or MSS, and all Energy provided by a Scheduling Coordinator for the supply of Loads not directly connected to the transmission facilities or Distribution System of a UDC or MSS. Gross Load shall exclude Load with respect to which the Wheeling Access Charge is payable and the portion of the Load of an individual retail customer of a UDC, MSS, or Scheduling Coordinator that is served by a Generating Unit that: (a) is located on the customer's site or provides service to the customers site through over-the-fence arrangements as authorized by Section 218 of the California Public Utilities Code; (b) is a qualifying small power production facility or qualifying cogeneration facility, as those terms are defined in the FERC's regulations implementing Section 201 of the Public Utility Regulatory Policies Act of 1978; (c) was serving the customer's

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Original Sheet No. 320

Load on or before March 31, 2000; and (d) secured Standby
Service from a Participating TO under terms approved by a
Local Regulatory Authority or FERC, as applicable, as of March
31, 2000 and continues to secure Standby Service from the
Participating TO or can be curtailed concurrently with an
outage of the Generating Unit serving the Load. Gross Load
forecasts consistent with filed TRR will be provided by each
Participating TO to the ISO.

High Voltage Access Charge

The Access Charge applicable under Section 7.1 to recover the High Voltage Transmission Revenue Requirements of each Participating TO in a TAC Area.

High Voltage Transmission Facility

A transmission facility that is owned by a Participating TO or to which a Participating TO has an Entitlement that is represented by a Converted Right and that operates at a voltage at or above 200 kilovolts, and supporting facilities, and the costs of which are not directly assigned to one or more specific customers.

High Voltage Transmission Revenue Requirement

The portion of a Participating TO's TRR associated with and allocable to the Participating TO's High Voltage Transmission Facilities and Converted Rights associated with High Voltage Transmission Facilities.

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FIRST REPLACEMENT VOLUME NO. I

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High Voltage Transmission Standby Serve Service provided by a Participating TO which allows a Standby Service Customer to utilize the Participating TO's High Voltage Transmission Facilities as a backup to ensure that Energy may be reliably delivered to the Standby Service Customer in the event of an outage of a Generating Unit located on or near the customer's premise.

<u>High Voltage Wheeling</u> Access Charge The Wheeling Access Charge associated with the recovery of a Participating TO's High Voltage Transmission Revenue

Requirements in accordance with Section 7.1.

Hour-AheadRelating to an Hour-Ahead Market or an Hour-Ahead
Schedule.

<u>Hour-Ahead Market</u> The forward market for Energy and Ancillary Services to be

supplied during a particular Settlement Period that is conducted

by the ISO, the PX and other Scheduling Coordinators which

opens after the ISO's acceptance of the Final Day-Ahead

Schedule for the Trading Day in which the Settlement Period

falls and closes with the ISO's acceptance of the Final Hour-

Ahead Schedule.

before the beginning of a Settlement Period indicating the

changes to the levels of Generation and Demand scheduled for

that Settlement Period from that shown in the Final Day-Ahead

Effective: October 13, 2000

Schedule.

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Issued on: October 13, 2000

FERC ELECTRIC TARIFF
FIRST REPLACEMENT VOLUME NO. I

Substitute Second Revised Sheet No. 322 Superseding First Revised Sheet No. 322

Hourly Ex Post Price The Energy-weighted average of the BEEP Interval Ex Post

Prices in each Zone during each settlement period. The Hourly

Ex Post Price will vary between Zones if Congestion is present.

This price is used in the Regulation Energy Payment

Adjustment and in RMR settlements.

<u>Hydro Spill Generation</u> Hydro-electric Generation in existence prior to the ISO

Operations Date that: i) has no storage capacity and that, if

backed down, would spill; ii) has exceeded its storage capacity

and is spilling even though the generators are at full output, or

iii) has inadequate storage capacity to prevent loss of hydro-

electric Energy either immediately or during the forecast period,

if hydro-electric Generation is reduced; iv) has increased

regulated water output to avoid an impending spill.

Identification Code An identification number assigned to each Scheduling

Coordinator by the ISO.

<u>Imbalance Energy</u> Imbalance Energy is Energy from Regulation, Spinning and

Non-spinning Reserves, or Replacement Reserve, or Energy

from other Generating Units, System Units, System Resources,

or Loads that are able to respond to the ISO's request for more

or less Energy.

Inactive Zone All Zones which the ISO Governing Board has determined do

not have a workably competitive Generation market and as set

out in Appendix I to the ISO Tariff.

Issued by: Charles F. Robinson, Vice President and General Counsel

Issued on: October 29, 2002

Effective: Upon Written Notice Provided By The ISO To FERC and Market Participants

Original Sheet No. 323

<u>Incremental Change</u> The change in dollar value of a specific charge type from the

Preliminary Settlement Statement to the Final Settlement

Statement including any new charge types or Trading Day

charges appearing for the first time on the Final Settlement

Statement.

Instructed Imbalance Energy

The real time change in Generation output or Demand (from

dispatchable Generating Units, System Units, System

Resources or Loads) which is instructed by the ISO to ensure

that reliability of the ISO Control Area is maintained in

accordance with Applicable Reliability Criteria. Sources of

Imbalance Energy include Spinning and Non-Spinning

Reserves, Replacement Reserve, and Energy from other

dispatchable Generating Units, System Units, System

Resources or Loads that are able to respond to the ISO's

request for more or less Energy.

Inter-Scheduling Coordinator Ancillary Service Trades

Ancillary Service transactions between Scheduling

Coordinators.

Inter-Scheduling Energy
Coordinator Trades

Energy transactions between Scheduling Coordinators.

<u>Inter-Zonal Congestion</u> Congestion across an Inter-Zonal Interface.

Issued by: Roger Smith, Senior Regulatory Counsel

Inter-Zonal Interface

The (i) group of transmission paths between two adjacent Zones of the ISO Controlled Grid, for which a physical, non-simultaneous transmission capacity rating (the rating of the interface) has been established or will be established prior to the use of the interface for Congestion Management; (ii) the group of transmission paths between an ISO Zone and an adjacent Scheduling Point, for which a physical, non-simultaneous transmission capacity rating (the rating of the interface) has been established or will be established prior to the use of the interface for Congestion Management; or (iii) the group of transmission paths between two adjacent Scheduling Points, where the group of paths has an established transfer capability and established transmission rights.

Inter-Zonal Scheduling Charge

The component of the Grid Management Charge that provides for the recovery of the ISO's costs of operating the Congestion Management process.

Interconnection

Transmission facilities, other than additions or replacements to existing facilities that: i) connect one system to another system where the facilities emerge from one and only one substation of the two systems and are functionally separate from the ISO Controlled Grid facilities such that the facilities are, or can be, operated and planned as a single facility; or ii) are identified as radial transmission lines pursuant to contract; or iii) produce Generation at a single point on the ISO Controlled Grid; provided that such interconnection does not include facilities that, if not owned by the Participating TO, would result in a reduction in the ISO's Operational Control of the Participating TO's portion of the ISO Controlled Grid.

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FERC ELECTRIC TARIFF
First Revised Sheet No. 325

FIRST REPLACEMENT VOLUME NO. I Superseding Original Sheet No. 325

Interconnecting PTO For purposes of Section 5.7, the Participating TO that will

supply the connection to the New Facility.

Interconnection Agreement A contract between a party requesting interconnection and the

Participating TO that owns the transmission facility with which

the requesting party wishes to interconnect.

Interconnection Application

An application that requests interconnection of a New Facility

to the ISO Controlled Grid and that meets the information

requirements as specified by the ISO and posted on the ISO

Home Page.

Interest shall be calculated in accordance with the methodology

specified for interest on refunds in the regulations of FERC at

18 C.F.R. §35.19(a)(2)(iii) (1996). Interest on delinquent

amounts shall be calculated from the due date of the bill to the

date of payment. When payments are made by mail, bills shall

be considered as having been paid on the date of receipt.

<u>Interruptible Imports</u> Energy sold by a Generator or resource located outside the

ISO Controlled Grid which by contract can be interrupted or

reduced at the discretion of the seller.

Intra-Zonal Congestion Congestion within a Zone.

IOU An investor owned electric utility.

ISO (Independent System

Operator)

The California Independent System Operator Corporation, a

state chartered, nonprofit corporation that controls the

transmission facilities of all Participating TOs and dispatches

certain Generating Units and Loads.

ISO Account The ISO Clearing Account, the ISO Reserve Account or such

other trust accounts as the ISO deems necessary or

convenient for the purpose of efficiently implementing the funds

transfer system under the ISO Tariff.

Issued by: Roger Smith, Senior Regulatory Counsel

CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION FERC ELECTRIC TARIFF

FIRST REPLACEMENT VOLUME NO. I

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ISO ADR Committee

The Committee appointed by the ISO ADR Committee

pursuant to Article IV, Section 3 of the ISO bylaws to perform

functions assigned to the ISO ADR Committee in the ADR

process in Section 13 of the ISO Tariff.

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FIRST REPLACEMENT VOLUME NO. I Original Sheet No. 326

ISO ADR ProceduresThe procedures for resolution of disputes or differences set out

in Section 13 of the ISO Tariff, as amended from time to time.

ISO Audit Committee A Committee of the ISO Governing Board appointed pursuant

to Article IV, Section 5 of the ISO bylaws to (1) review the

ISO's annual independent audit (2) report to the ISO Governing

Board on such audit, and (3) to monitor compliance with the

ISO Code of Conduct.

ISO Authorized Inspector A person authorized by the ISO to certify, test, inspect and

audit meters and metering facilities in accordance with the

procedures established by the ISO pursuant to the ISO

Protocols on metering.

ISO Bank The bank appointed by the ISO from time to time for the

purposes of operating the Settlement process.

ISO Clearing Account The account in the name of the ISO with the ISO Bank to which

payments are required to be transferred for allocation to ISO

Creditors in accordance with their respective entitlements.

ISO Code of Conduct For employees, the code of conduct for officers, employees

and substantially full-time consultants and contractors of the

ISO as set out in exhibit A to the ISO bylaws; for Governors,

the code of conduct for governors of the ISO as set out in

exhibit B to the ISO bylaws.

ISO Control Area

Balancing Function

The real time Dispatch of Generation (and Curtailable

Demand), directed by the ISO, to balance with actual Demand

during the current operating hour to meet operating reliability

criteria.

<u>ISO Control Center</u> The Control Center established, pursuant to Section 2.3.1.1 of

the ISO Tariff.

Issued by: Roger Smith, Senior Regulatory Counsel

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ISO Controlled Grid The system of transmission lines and associated facilities of

the Participating TOs that have been placed under the ISO's

Operational Control.

ISO Creditor (i) A Scheduling Coordinator to which amounts are payable

pursuant to the terms of the ISO Tariff with respect to the

amounts standing to the credit of its account; or amounts owing

to it by another Scheduling Coordinator; or

(ii) A Participating TO to which amounts are payable pursuant

to the terms of the ISO Tariff with respect to Access Charges or

Wheeling Access Charges.

<u>ISO Debtor</u> A Scheduling Coordinator or a Participating TO that is required

to make a payment to the ISO under the ISO Tariff.

ISO Default Interest Rate The rate which is equal to 2% above the average rate of

interest which the ISO Bank charges to the ISO in respect of its

borrowings.

<u>ISO Documents</u> The ISO Tariff, the ISO Protocols, ISO bylaws, and any

agreement entered into between the ISO and a Scheduling

Coordinator, a Participating TO or any other Market Participant

pursuant to the ISO Tariff.

ISO Governing BoardThe Board of Governors established to govern the affairs of the

ISO.

<u>ISO Home Page</u> The ISO internet home page at http://www.caiso.com/ or such

other internet address as the ISO shall publish from time to

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time.

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FERC ELECTRIC TARIFF
FIRST REPLACEMENT VOLUME NO. I

First Revised Sheet No. 328 Superseding Original Sheet No. 328

ISO Market Any of the markets administered by the ISO under the ISO

Tariff, including, without limitation, Imbalance Energy, Ancillary

Services, and FTRs.

ISO Memorandum
The memorandum account established by each California IOU
Account

pursuant to California Public Utility Commission Order

D. 96-08-038 date August 2, 1996 which records all ISO

startup and development costs incurred by that California IOU.

ISO Metered Entity

a) any one of the following entities that is directly

connected to the ISO Controlled Grid:

i. a Generator other than a Generator that sells all of its

Energy (excluding any Energy consumed by auxiliary load

equipment electrically connected to that Generator at the

same point) and Ancillary Services to the UDC in whose

Service Area it is located;

ii. an Eligible Customer; or

iii. an End-User other than an End-User that purchases all of

its Energy from the UDC in whose Service Area it is

located; and

(b) any one of the following entities:

a Participating Generator;

ii. a Participating TO in relation to its Tie Point Meters with

other TOs or Control Areas;

iii. a Participating Load; or

iv. a Participating Intermittent Resource.

ISO Operations Date

The date on which the ISO first assumes Operational Control of

the ISO Controlled Grid.

ISO Outage Coordination

Office

The office established by the ISO to coordinate Maintenance

Outages in accordance with Section 2.3.3 of the ISO Tariff.

Issued by: Charles F. Robinson, Vice President and General Counsel

Issued on: January 31, 2002 Effective: April 1, 2002

ISO Payments Calendar A calendar published by the ISO showing the dates on which

Settlement Statements will be published by the ISO and the

Payment Dates by which invoices issued under the ISO Tariff

must be paid.

ISO Protocols The rules, protocols, procedures and standards attached to the

ISO Tariff as Appendix L, promulgated by the ISO (as

amended from time to time) to be complied with by the ISO

Scheduling Coordinators, Participating TOs and all other

Market Participants in relation to the operation of the ISO

Controlled Grid and the participation in the markets for Energy

and Ancillary Services in accordance with the ISO Tariff.

ISO RegisterThe register of all the transmission lines, associated facilities

and other necessary components that are at the relevant time

being subject to the ISO's Operational Control.

ISO Reserve Account The account established for the purpose of holding cash

deposits which may be used in or towards clearing the ISO

Clearing Account.

<u>ISO Security Amount</u> The level of security provided in accordance with Section

2.2.3.2 of the ISO Tariff by an SC Applicant who does not have

an Approved Credit Rating. The ISO Security Amount may be

separated into two components: (i) the level of security

required to secure payment of the Grid Management Charge;

and (ii) the level of security required to secure payment of all

charges other than the Grid Management Charge.

<u>ISO Tariff</u>
The California Independent System Operator Corporation

Operating Agreement and Tariff, dated March 31, 1997, as it

may be modified from time to time.

Issued by: Roger Smith, Senior Regulatory Counsel

Original Sheet No. 330

ISO Grid Operations
Committee

A committee appointed by the ISO Governing Board pursuant to Article IV, Section 4 of the ISO bylaws to advise on additions and revisions to its rules and protocols, tariffs, reliability and operating standards and other technical matters.

ISP (Internet Service Provider)

An independent network service organization engaged by the

ISO to establish, implement and operate Wenet.

Load An end-use device of an End-Use Customer that consumes

power. Load should not be confused with Demand, which is

the measure of power that a Load receives or requires.

Load Shedding The systematic reduction of system Demand by temporarily

decreasing the supply of Energy to Loads in response to

transmission system or area capacity shortages, system

instability, or voltage control considerations.

Local Furnishing Bond Tax-exempt bonds utilized to finance facilities for the local

furnishing of electric energy, as described in section 142(f) of

the Internal Revenue Code, 26 U.S.C. § 142(f).

Local Furnishing Participating TO

Any Tax-Exempt Participating TO that owns facilities financed

by Local Furnishing Bonds.

Local Publicly Owned Electric Utilities

A municipality or municipal corporation operating as a public utility furnishing electric service, a municipal utility district furnishing electric services, a public utility district furnishing electric services, an irrigation district furnishing electric services, a state agency or subdivision furnishing electric services, a rural cooperative furnishing electric services, or a joint powers authority that includes one or more of these agencies and that owns Generation or transmission facilities, or furnishes electric services over its own or its members' electric Distribution System.

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CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION FERC ELECTRIC TARIFF

FIRST REPLACEMENT VOLUME NO. I Original Sheet No. 331

Local Regulatory Authority

The state or local governmental authority responsible for the

regulation or oversight of a utility.

Local Reliability Criteria Reliability criteria established at the ISO Operations Date,

unique to the transmission systems of each of the Participating

TOs.

<u>Location Code</u> The code assigned by the ISO to Generation input points, and

Demand Take-Out Points from the ISO Controlled Grid, and

transaction points from trades between Scheduling

Coordinators. This will be the information used by the ISO

Controlled Grid, and transaction points for trades between

Scheduling Coordinators. This will be the information used by

the ISO to determine the location of the input, output, and trade

points of Energy Schedules. Each Generation input and

Demand Take-Out Point will have a designated Location Code

identification for use in submitting Energy and Ancillary Service

bids and Schedules.

Loop Flow Energy flow over a transmission system caused by parties

external to that system.

<u>Loss Scale Factor</u> The ratio of expected Transmission Losses to the total

Transmission Losses which would be collected if Full Marginal

Loss Rates were utilized.

Low Voltage Access

Charge

The Access Charge applicable under Section 7.1 to recover the

Low Voltage Transmission Revenue Requirement of a

Participating TO.

Low Voltage

Transmission Facility

A transmission facility owned by a Participating TO or to which

a Participating TO has an Entitlement that is represented by a

Converted Right, which is not a High Voltage Transmission

Facility.

Issued by: Roger Smith, Senior Regulatory Counsel

FERC ELECTRIC TARIFF
Fourth Revised Sheet No. 332

FIRST REPLACEMENT VOLUME NO. I Superseding Third Revised Sheet No. 332

Low Voltage Transmission Revenue

Requirement allocable to the Participating TO's Low Voltage Transmission

Facilities and Converted Rights associated with Low Voltage

The portion of a Participating TO's TRR associated with and

Transmission Facilities.

Low Voltage Wheeling Access Charge

The Wheeling Access Charge associated with the recovery of a

Participating TO's Low Voltage Transmission Revenue

Requirement in accordance with Section 7.1.

Maintenance Outage A period of time during which an Operator (i) takes its

transmission facilities out of service for the purposes of carrying

out routine planned maintenance, or for the purposes of new

construction work or for work on de-energized and live

transmission facilities (e.g., relay maintenance or insulator

washing) and associated equipment; or (ii) takes its Generating

Unit or System Unit out of service for the purposes of carrying out

routine planned maintenance, or for the purposes of new

construction work.

Marginal Generators Those Generating Units which, in an hour, are the sources of the

last increments of Generation in the Preferred Schedule.

excluding: (i) Must-Run Generation, (ii) Must-Take Generation,

(iii) units scheduled to ramp at their maximum ramp rate

throughout the hour, or (iv) units operating at minimum operating

levels (when less costly Generation must be backed down).

Marginal Loss Factor The marginal impact of a given Generating Unit's output on total

system Transmission Losses.

Issued by: Charles F. Robinson, Vice President and General Counsel

CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION FERC ELECTRIC TARIFF FIRST REPLACEMENT VOLUME NO. I

Original Sheet No. 332A

Market Clearing Price

The price in a market at which supply equals Demand. All Demand prepared to pay at least this price has been satisfied and all supply prepared to operate at or below this price has been purchased.

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Issued on: May 11, 2001 Effective: May 29, 2001

CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION

FERC ELECTRIC TARIFF

First Revised Sheet No. 333

FIRST REPLACEMENT VOLUME NO. I

Superseding Original Sheet No. 333

Market Operations Charge

The component of the Grid Management Charge that provides for the recovery of the ISO's costs of market and settlement related services, including, but not limited to:

- Providing open and non-discriminatory access for market making activities for participants through Ancillary Services auctions and provision of Energy balancing services;
- Posting of market information;
- Market surveillance and analysis;
- Settlement, billing, and metering including using information from Day-Ahead scheduling, Hour-Ahead scheduling, and real-time operations, Market Clearing Prices, bid prices, Ex Post Prices, and metered information from Generators, Loads, and inter-tie points, ultimately to balance the billing of and payments for energy, capacity, and transmission service in and out of the systems through Scheduling Coordinators. Statements and invoices are sent to Scheduling Coordinators, Participating Transmission Owners, and non SCs (e.g., other Control Areas) to collect and pay for use of the ISO market and Control Area needs.

Market Participant

An entity, including a Scheduling Coordinator, who participates in the Energy marketplace through the buying, selling, transmission, or distribution of Energy or Ancillary Services into, out of, or through the ISO Controlled Grid.

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Issued on: November 1, 2000 Effective: January 1, 2001

FERC ELECTRIC TARIFF
Substitute Second Revised Sheet No. 333A
FIRST REPLACEMENT VOLUME NO. I
Superseding First Revised Sheet No. 333A

<u>Master File</u> A file containing information regarding Generating Units, Loads

and other resources.

Meter Data Energy usage data collected by a metering device or as may

be otherwise derived by the use of Approved Load Profiles.

Meter Points Locations on the ISO Controlled Grid at which the ISO requires

the collection of Meter Data by a metering device.

Metered Quantities For each Direct Access End-User, the actual metered amount

of MWh and MW; for each Participating Generator the actual

metered amounts of MWh, MW, MVAr and MVArh.

Minimum Load Costs The costs a generating unit incurs operating at minimum load.

Monthly Peak Load The maximum hourly Demand on a Participating TO's

transmission system for a calendar month, multiplied by the

Operating Reserve Multiplier.

MSS (Metered Subsystem) A geographically contiguous system located within a single

Zone which has been operating as an electric utility for a

number of years prior to the ISO Operations Date as a

municipal utility, water district, irrigation district, State agency or

Federal power administration subsumed within the ISO Control

Area and encompassed by ISO certified revenue quality meters

at each interface point with the ISO Controlled Grid and ISO

certified revenue quality meters on all Generating Units or, if

aggregated, each individual resource and Participating Load

internal to the system, which is operated in accordance with a

MSS Agreement described in Section 23.1.

MSS Operator An entity that owns an MSS and has executed a MSS

Agreement described in Section 3.3.1.

Issued by: Charles F. Robinson, Vice President and General Counsel

Issued on: October 29, 2002 Effective: September 1, 2002

FERC ELECTRIC TARIFF

Fourth Revised Sheet No. 334

FIRST REPLACEMENT VOLUME NO. I

Superseding Third Revised Sheet No. 334

Municipal Tax Exempt

Debt

An obligation the interest on which is excluded from gross

income for federal tax purposes pursuant to Section 103(a) of

the Internal Revenue Code of 1986 or the corresponding

provisions of prior law without regard to the identity of the

holder thereof. Municipal Tax Exempt Debt does not include

Local Furnishing Bonds.

Municipal Tax Exempt TO A Transmission Owner that has issued Municipal Tax Exempt

Debt with respect to any transmission facilities, or rights

associated therewith, that it would be required to place under

the ISO's Operational Control pursuant to the Transmission

Control Agreement if it were a Participating TO.

<u>Must-Offer Generator</u> All entities defined in Section 5.11.1 of the ISO Tariff

Native Load Load required to be served by a utility within its Service Area

pursuant to applicable law, franchise, or statute.

NERC The North American Electric Reliability Council or its

successor.

Net Negative Uninstructed

Deviation

The real time change in Generation or Demand associated with

underscheduled Load (i.e., Load that appears unscheduled in

real time) and overscheduled Generation (i.e., Generation that

is scheduled in forward markets and does not appear in real

time). Deviations are netted for each BEEP Interval, apply to a

Scheduling Coordinator's entire portfolio, and include Load,

Generation, Imports and Exports.

FERC ELECTRIC TARIFF Fifth Revised Sheet No. 334A

FIRST REPLACEMENT VOLUME NO. I Superseding Fourth Revised Sheet No. 334A

New Facility A planned or Existing Generating Unit that requests, pursuant

to Section 5.7 of the ISO Tariff, to interconnect or modify its

interconnection to the ISO Controlled Grid.

New Facility License A license issued by a federal, state or Local Regulatory

Authority that enables an entity to build and operate a

Generating Unit.

New Facility Operator The owner of a planned New Facility, or its designee.

New High Voltage Facility A High Voltage Transmission Facility of a Participating TO that

enters service after the beginning of the transition period

described in Section 4 of Schedule 3 of Appendix F, or a

capital addition made after the beginning of the transition

period described in Section 4.1 of Schedule 3 of Appendix F to

an Existing High Voltage Transmission Facility.

New Participating TOA Participating TO that is not an Original Participating TO.

Nomogram A set of operating or scheduling rules which are used to ensure

that simultaneous operating limits are respected, in order to

meet NERC and WSCC operating criteria.

Issued by: Charles F. Robinson, Vice President and General Counsel

Issued on: Ocotber 29, 2002 Effective: October 30, 2002

FIRST REPLACEMENT VOLUME NO. I Original Sheet No. 335

Non-ISO Transmission

Facilities

Transmission facilities, either inside or outside the State of

California, over which the ISO does not exert Operational

Control.

Non-Participating

Generator

A Generator that is not a Participating Generator.

Non-Participating TOA TO that is not a party to the TCA or for the purposes of

Sections 2.4.3 and 2.4.4 of the ISO Tariff the holder of

transmission service rights under an Existing Contract that is

not a Participating TO.

Non-PX Generation Generation that is scheduled by a Scheduling Coordinator,

other than the PX, and that supplies Loads through the use of

transmission or distribution facilities owned by Participating

TOs.

Non-PX Load Load that is scheduled by a Scheduling Coordinator, other than

the PX, and which is supplied through the use of transmission

or distribution facilities owned by Participating TOs.

Non-Spinning Reserve The portion of off-line generating capacity that is capable of

being synchronized and ramping to a specified load in ten

minutes (or load that is capable of being interrupted in ten

minutes) and that is capable of running (or being interrupted)

for at least two hours.

NRC The Nuclear Regulatory Commission or its successor.

Operating Procedures Procedures governing the operation of the ISO Controlled Grid

as the ISO may from time to time develop, and/or procedures

that Participating TOs currently employ which the ISO adopts

for use.

Issued by: Roger Smith, Senior Regulatory Counsel

FERC ELECTRIC TARIFF
FIRST REPLACEMENT VOLUME NO. I

Operator

First Revised Sheet No. 336 Superseding Original Sheet No. 336

Operating ReserveThe combination of Spinning and Non-Spinning Reserve

required to meet WSCC and NERC requirements for reliable

operation of the ISO Control Area.

<u>Operational Control</u> The rights of the ISO under the Transmission Control

Agreement and the ISO Tariff to direct Participating TOs how to

operate their transmission lines and facilities and other electric

plant affecting the reliability of those lines and facilities for the

purpose of affording comparable non-discriminatory

transmission access and meeting Applicable Reliability Criteria.

The operator of facilities that comprise the ISO Controlled Grid

or a Participating Generator.

OPF (Optimal Power Flow) A computer optimization program which uses a set of control

variables (which may include active power and/or reactive

power controls) to determine a steady-state operating condition

for the transmission grid for which a set of system operating

constraints (which may include active power and/or reactive

power constraints) are satisfied and an objective function (e.g.

total cost or shift of schedules) is minimized.

Order No. 888 The final rule issued by FERC entitled "Promoting Wholesale

Competition through Open Access Non- discriminatory

Transmission Services by Public Utilities; Recovery of

Stranded Costs by Public Utilities and Transmitting Utilities," 61

Fed. Reg. 21,540 (May 10, 1996), FERC Stats. & Regs.,

Regulations Preambles [1991-1996] ¶ 31,036 (1996), Order on

Rehearing, Order No. 888-A, 78 FERC ¶ 61,220 (1997), as it

may be amended from time to time.

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Issued on: May 11, 2001 Effective: May 29, 2001

FERC ELECTRIC TARIFF
FIRST REPLACEMENT VOLUME NO. I

Second Revised Sheet No. 337 Superseding V Sheet No. 337

Order No. 889 The final rule issued by FERC entitled "Open Access Same-Time

Information System (formerly Real Time Information Networks)

and Standards of Conduct," 61 Fed. Reg. 21,737 (May 10, 1996),

FERC Stats. & Regs., Regulations Preambles [1991-1996] ¶

31,035 (1996), Order on Rehearing, Order No. 889-A, 78 FERC ¶

61,221 (1997), as it may be amended from time to time.

Original Participating TO A Participating TO that was a Participating TO as of January 1,

2000.

Outage Disconnection or separation, planned or forced, of one or more

elements of an electric system.

Overgeneration A condition that occurs when total Generation exceeds total

Demand in the ISO Control Area.

Participating Buyer A Direct Access End-User or a wholesale buyer of Energy or

Ancillary Services through Scheduling Coordinators.

Participating Intermittent

Resource

One or more Eligible Intermittent Resources that meets the

requirements of the technical standards for Participating

Intermittent Resources adopted by the ISO and published on

the ISO Home Page.

Participating Load An entity providing Curtailable Demand, which has undertaken in

writing to comply with all applicable provisions of the ISO Tariff,

as they may be amended from time to time.

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CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION FERC ELECTRIC TARIFF FIRST REPLACEMENT VOLUME NO. I

Original Sheet No. 337A

<u>Participating Seller</u> or Participating Generator A Generator or other seller of Energy or Ancillary Services through a Scheduling Coordinator over the ISO Controlled Grid from a Generating Unit with a rated capacity of 1 MW or greater, or from a Generating Unit providing Ancillary Services and/or Imabalance Energy through an aggregation arrangement approved by the ISO, which has undertaken to be bound by the terms of the ISO Tariff, in the case of a Generator through a Participating Generator Agreement.

Issued by: Charles F. Robinson, Vice President and General Counsel

Issued on: January 31, 2002 Effective: April 1, 2002

CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION FERC ELECTRIC TARIFF

FIRST REPLACEMENT VOLUME NO. I

Original Sheet No. 338

Participating TO

A party to the TCA whose application under Section 2.2 of the TCA has been accepted and who has placed its transmission assets and Entitlements under the ISO's Operational Control in accordance with the TCA. A Participating TO may be an Original Participating TO or a New Participating TO.

Payment Date

The date by which invoiced amounts are to be paid under the terms of the ISO Tariff.

PBR (Performance-Based Ratemaking)

Regulated rates based in whole or in part on the achievement of specified performance objectives.

Physical Scheduling Plant

A group of two or more related Generating Units, each of which is individually capable of producing Energy, but which either by physical necessity or operational design must be operated as if they were a single Generating Unit and any Generating Unit or Units containing related multiple generating components which meet one or more of the following criteria: i) multiple generating components are related by a common flow of fuel which cannot be interrupted without a substantial loss of efficiency of the combined output of all components; ii) the Energy production from one component necessarily causes Energy production from other components; iii) the operational arrangement of related multiple generating components determines the overall physical efficiency of the combined output of all components; iv) the level of coordination required to schedule individual generating components would cause the ISO to incur scheduling costs far in excess of the benefits of having scheduled such individual components separately; or

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FERC ELECTRIC TARIFF
FIRST REPLACEMENT VOLUME NO. I

First Revised Sheet No. 339 Superseding Original Sheet No. 339

v) metered output is available only for the combined output of related multiple generating components and separate

generating component metering is either impractical or

economically inefficient.

<u>Planning Procedures</u> Procedures governing the planning, expansion and reliable

interconnection to the ISO Controlled Grid that the ISO may,

from time to time, develop.

PMS (Power Management

System)

The ISO computer control system used to monitor the real time

performance of the various elements of the ISO Controlled

Grid, control Generation, and perform operational power flow

studies.

<u>Power Flow Model</u> The computer software used by the ISO to model the voltages,

power injections and power flows on the ISO Controlled Grid

and determine the expected Transmission Losses and

Generation Meter Multipliers.

Preferred Day-Ahead

Schedule

A Scheduling Coordinator's Preferred Schedule for the ISO

Day-Ahead scheduling process.

Preferred Hour-Ahead

Schedule

A Scheduling Coordinator's Preferred Schedule for the ISO

Hour-Ahead scheduling process.

<u>Preferred Schedule</u> The initial Schedule produced by a Scheduling Coordinator that

represents its preferred mix of Generation to meet its Demand.

For each Generator, the Schedule will include the quantity of

output, details of any Adjustment Bids, and the location of the

Generator. For each Load, the Schedule will include the

quantity of consumption, details of any Adjustment Bids, and

the location of the Load. The Schedule will also specify

quantities and location of trades between the Scheduling

Coordinator and all other Scheduling Coordinators. The

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CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION FERC ELECTRIC TARIFF FIRST REPLACEMENT VOLUME NO. I

Original Sheet No. 339A

Preferred Schedule will be balanced with respect to

Generation, Transmission Losses, Load and trades between

Scheduling Coordinators.

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FERC ELECTRIC TARIFF

Third Revised Sheet No. 340

FIRST REPLACEMENT VOLUME NO. I Superseding Second Revised Sheet No. 340

Preliminary Settlement

Statement

The initial statement issued by the ISO of the calculation of the

Settlements and allocation of the charges in respect of all

Settlement Periods covered by the period to which it relates.

<u>Price Overlap</u> The price range of bids for Supplemental Energy or Energy

associated with Ancillary Services bids for any BEEP Interval

that includes decremental and incremental Energy Bids where

the price of the decremental Energy Bids exceeds the price of

the incremental Energy Bids.

<u>Project Sponsor</u> A Market Participant or group of Market Participants or a

Participating TO that proposes the construction of a

transmission addition or upgrade in accordance with

Section 3.2 of the ISO Tariff.

<u>Proxy Price</u> The value determined for each gas-fired Generating Unit

owned or controlled by a Must-Offer Generator in accordance

with Section 2.5.23.3.4.

PX (Power Exchange) The California Power Exchange Corporation, a state chartered,

nonprofit corporation charged with providing a Day-Ahead

forward market for Energy in accordance with the PX Tariff.

The PX is a Scheduling Coordinator and is independent of both

the ISO and all other Market Participants.

PX Auction Activity Rules The rules by which bids submitted to and validated by the PX

may be modified or withdrawn during a PX Energy market

auction.

Qualifying Hours Qualifying Hours has the meaning set forth in Section

5.12.7.1.1.2.5.

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Issued on: September 20, 2002

Effective: Upon Written Notice Provided By The ISO To FERC and Market Participants

FIRST REPLACEMENT VOLUME NO. I

Original Sheet No. 341

Ramping Changing the loading level of a Generating Unit in a constant

manner over a fixed time (e.g., ramping up or ramping down).

Such changes may be directed by a computer or manual

control.

RAS (Remedial Action Schemes)

Protective systems that typically utilize a combination of

conventional protective relays, computer-based processors,

and telecommunications to accomplish rapid, automated

response to unplanned power system events. Also, details of

RAS logic and any special requirements for arming of RAS

schemes, or changes in RAS programming, that may be

required.

Reactive Power ControlGeneration or other equipment needed to maintain acceptable

voltage levels on the ISO Controlled Grid and to meet reactive

capacity requirements at points of interconnection on the ISO

Controlled Grid.

Real Time Market The competitive generation market controlled and coordinated

by the ISO for arranging real time Imbalance Energy.

Redispatch The readjustment of scheduled Generation or Demand side

management measures, to relieve Congestion or manage

Energy imbalances.

Registered Data Those items of technical data and operating characteristics

relating to Generation, transmission or distribution facilities

which are identified to the owners of such facilities as being

information, supplied in accordance with ISO Protocols, to

assist the ISO to maintain reliability of the ISO Controlled Grid

and to carry out its functions.

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CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION FERC ELECTRIC TARIFF FIRST REPLACEMENT VOLUME NO. I

Original Sheet No. 342

Effective: October 13, 2000

Regulation

The service provided either by Generating Units certified by the ISO as equipped and capable of responding to the ISO's direct digital control signals, or by System Resources that have been certified by the ISO as capable of delivering such service to the ISO Control Area, in an upward and downward direction to match, on a real time basis, Demand and resources, consistent with established NERC and WSCC operating criteria. Regulation is used to control the power output of electric generators within a prescribed area in response to a change in system frequency, tieline loading, or the relation of these to each other so as to maintain the target system frequency and/or the established interchange with other areas within the predetermined limits. Regulation includes both the increase of output by a Generating Unit or System Resource ("Regulation" Up") and the decrease in output by a Generating Unit or System Resource ("Regulation Down"). Regulation Up and Regulation Down are distinct capacity products, with separately stated requirements and Market Clearing Prices in each Settlement Period.

Regulation Energy
Payment Adjustment

The additional value of regulating Energy.

Issued by: Roger Smith, Senior Regulatory Counsel

Regulatory Must-Run Generation

Hydro Spill Generation and Generation which is required to run by applicable Federal or California laws, regulations, or other governing jurisdictional authority. Such requirements include but are not limited to hydrological flow requirements, environmental requirements, such as minimum fish releases, fish pulse releases and water quality requirements, irrigation and water supply requirements of solid waste Generation, or other Generation contracts specified or designated by the jurisdictional regulatory authority as it existed on December 20, 1995, or as revised by Federal or California law or Local Regulatory Authority.

Regulatory Must-Take Generation

Those Generation resources identified by CPUC, or a Local Regulatory Authority, the operation of which is not subject to competition. These resources will be scheduled by the relevant Scheduling Coordinator directly with the ISO on a must-take basis. Regulatory Must-Take Generation includes qualifying facility Generating Units as defined by federal law, nuclear units and pre-existing power purchase contracts with minimum energy take requirements.

Reliability Criteria

Pre-established criteria that are to be followed in order to maintain desired performance of the ISO Controlled Grid under contingency or steady state conditions.

Reliability Must-Run Charge

The sum payable each month by a Responsible Utility to the ISO for the cost of Reliability Must-Run Generation.

Issued by: Roger Smith, Senior Regulatory Counsel

FIRST REPLACEMENT VOLUME NO. I

First Revised Sheet No. 344 Superseding Original Sheet No. 344

Reliability Must-Run
Contract (RMR Contract)

A rate schedule on file at FERC and in effect, or a contract between the ISO and a Generator, giving the ISO the right to call on the Generator to generate Energy or provide Ancillary Services from the Generating Unit as and when required to ensure the reliability of the ISO Controlled Grid, in return for certain payments.

Reliability Must-Run Generation Generation that the ISO determines is required to be on line to meet Applicable Reliability Criteria requirements. This includes

i) Generation constrained on line to meet NERC and WSCC reliability criteria for interconnected systems operation;

ii) Generation needed to meet Load demand in constrained areas; and iii) Generation needed to be operated to provide voltage or security support of the ISO or a local area.

Reliability Must-Run Unit

A Generating Unit which is the subject of a Reliability Must-Run

Contract

Reliability Upgrade

The transmission facilities, other than Direct Assignment
Facilities, beyond the first point of interconnection necessary to
interconnect a New Facility safely and reliably to the ISO
Controlled Grid, which would not have been necessary but for
the interconnection of a New Facility, including network
upgrades necessary to remedy short circuit or stability
problems resulting from the interconnection of a New Facility to
the ISO Controlled Grid. Reliability Upgrades also include,
consistent with WSCC practice, the facilities necessary to
mitigate any adverse impact a New Facility's interconnection
may have on a path's WSCC path rating.

REMnet

The Wide Area Network through which the ISO acquires meter

data.

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Issued on: April 2, 2001 Effective: June 1, 2001

CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION FERC ELECTRIC TARIFF FIRST REPLACEMENT VOLUME NO. I

Original Sheet No. 344A

Replacement Reserve

Generating capacity that is dedicated to the ISO, capable of starting up if not already operating, being synchronized to the ISO Controlled Grid, and ramping to a specified Load point within a sixty (60) minute period, the output of which can be continuously maintained for a two hour period. Also, Curtailable Demand that is capable of being curtailed within sixty minutes and that can remain curtailed for two hours.

Request for Expedited Interconnection Procedures

A written request, submitted pursuant to Section 5.7.3.1.1 of the ISO Tariff, by which a New Facility Operator can request expedited processing of its Interconnection Application.

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FIRST REPLACEMENT VOLUME NO. I

Original Sheet No. 345

Responsible Utility The utility which is a party to the TCA in whose Service Area

the Reliability Must-Run Unit is located or whose Service Area

is contiguous to the Service Area in which a Reliability Must-

Run Unit owned by an entity outside of the ISO Controlled Grid

is located.

Revenue Requirement The revenue level required by a utility to cover expenses made

on an investment, while earning a specified rate of return on

the investment.

Revenue Review Panel The panel established by the ISO Governing Board to review

the Transmission Revenue Requirement of non-FERC

jurisdictional Participating TOs.

Revised Schedule A Schedule submitted by a Scheduling Coordinator to the ISO

following receipt of the ISO's Suggested Adjusted Schedule.

RMR Owner The provider of services under a Reliability Must-Run Contract.

RTG (Regional Transmission Group)

A voluntary organization approved by FERC and composed of

transmission owners, transmission users, and other entities,

organized to efficiently coordinate the planning, expansion and

use of transmission on a regional and inter-regional basis.

SCADA (Supervisory Control and Data

Acquisition)

A computer system that allows an electric system operator to

remotely monitor and control elements of an electric system.

SC Agreement An agreement between a Scheduling Coordinator and the ISO

whereby the Scheduling Coordinator agrees to comply with all

ISO rules, protocols and instructions, as those rules, protocols

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and instructions may be amended from time to time.

SC Applicant An applicant for certification by the ISO as a Scheduling

Coordinator.

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FIRST REPLACEMENT VOLUME NO. I Original Sheet No. 346

SC Application Form The form specified by the ISO from time to time in which an SC

Applicant must apply to the ISO for certification as a

Scheduling Coordinator.

Scaled Marginal Loss

Rate

A factor calculated by the ISO for a given Generator location

for each hour by multiplying the Full Marginal Loss Rate for

such Generator location by the Loss Scale Factor for the

relevant hour.

Schedule A statement of (i) Demand, including quantity, duration and

Take-Out Points and (ii) Generation, including quantity,

duration, location of Generating Unit, and Transmission

Losses; and (iii) Ancillary Services which will be self provided,

(if any) submitted by a Scheduling Coordinator to the ISO.

"Schedule" includes Preferred Schedules, Suggested Adjusted

Schedules, Final Schedules and Revised Schedules.

Scheduled Maintenance Maintenance on Participating Generators, TOs and UDC

facilities scheduled more than twenty-four hours in advance.

Scheduling Coordinator An entity certified by the ISO for the purposes of undertaking

the functions specified in Section 2.2.6 of the ISO Tariff.

Scheduling Coordinator

Metered Entity or SC Metered Entity

means a Generator, Eligible Customer or End-User that is not

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an ISO Metered Entity.

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Scheduling Point

A location at which the ISO Controlled Grid is connected, by a group of transmission paths for which a physical, non-simultaneous transmission capacity rating has been established for Congestion Management, to transmission facilities that are outside the ISO's Operational Control. A Scheduling Point typically is physically located at an "outside" boundary of the ISO Controlled Grid (e.g., at the point of interconnection between a Control Area utility and the ISO Controlled Grid). For most practical purposes, a Scheduling Point can be considered to be a Zone that is outside the ISO's Controlled Grid.

Security Monitoring

conducted to ensure that the system is operating in a secure state, and in compliance with all Applicable Reliability Criteria.

The real time assessment of the ISO Controlled Grid that is

Self-Sufficiency Test Period

For the initial Self-Sufficiency determination for a Participating TO, the Self-Sufficiency Test Period shall be the twelve-month period ending December 31, 1996. The Self-Sufficiency Test Period for a Participating TO undergoing a new Self-Sufficiency determination as a result of the termination or modification of an Existing Contract as referred in Section 7.1.3.2 of the ISO Tariff shall be the twelve-month period ending in the month prior to the month that the Existing Contract was terminated or modified.

Service Area

An area in which, as of December 20, 1995, an IOU or a Local Publicly Owned Electric Utility was obligated to provide electric service to End-Use Customers.

Set Point

Scheduled operating level for each Generating Unit or other resource scheduled to run in the Hour-Ahead Schedule.

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FIRST REPLACEMENT VOLUME NO. I

Original Sheet No. 348

<u>Settlement</u> Process of financial settlement for products and services

purchased and sold undertaken by the ISO under Section 11 of

the ISO Tariff. Each Settlement will involve a price and a

quantity.

Settlement Account An Account held at a bank situated in California, designated by

a Scheduling Coordinator or a Participating TO pursuant to the

Scheduling Coordinator's SC Agreement or in the case of a

Participating TO, Section 2.2.1 of the TCA, to which the ISO

shall pay amounts owing to the Scheduling Coordinator or the

Participating TO under the ISO Tariff.

Settlement Period For all ISO transactions the period beginning at the start of the

hour, and ending at the end of the hour. There are twenty-four

Settlement Periods in each Trading Day, with the exception of

a Trading Day in which there is a change to or from daylight

savings time.

Settlement Quality Meter

Data

Meter Data gathered, edited, validated, and stored in a

settlement-ready format, for Settlement and auditing purposes.

<u>Settlement Statement</u> Either or both of a Preliminary Settlement Statement or Final

Settlement Statement.

Settlement Statement Re-

run

The re-calculation of a Settlement Statement in accordance

with the provisions of the ISO Tariff including any protocol of

Effective: October 13, 2000

the ISO.

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FIRST REPLACEMENT VOLUME NO. I Original Sheet No. 349

Severance Fee The charge or periodic charge assessed to customers to

recover the reasonable uneconomic portion of costs associated

with Generation-related assets and obligations, nuclear

decommissioning, and capitalized Energy efficiency investment

programs approved prior to August 15, 1996 and as defined in

the California Assembly Bill No. 1890 approved by the

Governor on September 23, 1996.

Spinning Reserve The portion of unloaded synchronized generating capacity that

is immediately responsive to system frequency and that is

capable of being loaded in ten minutes, and that is capable of

running for at least two hours.

Standby Rate Means a rate assessed a Standby Service Customer by the

Participating TO, as approved by the Local Regulatory

Authority, or FERC, as applicable, for Standby Service which

compensates the Participating TO, among other things, for

costs of High Voltage Transmission Facilities.

Standby Service Service provided by a Participating TO which allows a Standby

Service Customer, among other things, access to High Voltage

Transmission Facilities for the delivery of backup power on an

instantaneous basis to ensure that Energy may be reliably

delivered to the Standby Service Customer in the event of an

outage of a Generating Unit serving the customer's Load.

Standby Service

Customer

A retail End-Use Customer of a Participating TO that receives

Standby Service and pays a Standby Rate.

Standby Transmission

Revenue

The transmission revenues, with respect to cost of both High

Voltage Transmission Facilities and Low Voltage Transmission

Facilities, collected directly from Standby Service Customers

through charges for Standby Service.

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FERC ELECTRIC TARIFF

FIRST REPLACEMENT VOLUME NO. I Substitute Original Sheet No. 349A

Start-Up Fuel Cost Charge The charge determined in accordance with Section 2.5.23.3.7.

Start-Up Fuel Cost

Demand

Start-Up Fuel Cost Invoice

The level of Demand specified in Section 2.5.23.3.7.3.

The invoice submitted to the ISO in accordance with Section

2.5.23.3.7.6.

Start-Up Fuel Cost Trust

Account

The trust account established in accordance with Section

2.5.23.3.7.2.

Start-Up Fuel Costs The cost of the fuel consumed by a particular generating unit

from the time of first fire, the time of receipt of an ISO Dispatch

instruction, or the time the unit was last synchornized to the

grid, whichever is later, until the time the generating unit is

synchronized or re-synchronized to the grid and producing

Energy. Start-Up Fuel Costs are determined by multiplying the

actual amount of fuel consumed by the proxy gas price as

determined in accordance with Section 2.5.23.3.4 at the time

the fuel is consumed.

Issued by: Charles F. Robinson, Vice President and General Counsel

Issued on: January 25, 2002 Effective: December 20, 2001

Suggested Adjusted Schedule

The output of the ISO's initial Congestion Management for each Scheduling Coordinator for the Day-Ahead Market ("Suggested Adjusted Day-Ahead Schedule") or for the Hour-Ahead Market ("Suggested Adjusted Hour-Ahead Schedule").

These Schedules will reflect ISO suggested adjustments to each Scheduling Coordinator's Preferred Schedule to resolve Inter-Zonal Congestion on the ISO Controlled Grid, based on the Adjustment Bids submitted. These schedules will be balanced with respect to Generation, Transmission Losses, Load, and trades between Scheduling Coordinators to resolve Inter-Zonal Congestion.

Supplemental Energy

Energy from Generating Units bound by a Participating
Generator Agreement, Loads bound by a Participating Load
Agreement, System Units, and System Resources which have
uncommitted capacity following finalization of the Hour-Ahead
Schedules and for which Scheduling Coordinators have
submitted bids to the ISO at least half an hour before the
commencement of the Settlement Period.

Supply

The rate at which Energy is delivered to the ISO Controlled
Grid measured in units of watts or standard multiples thereof,
e.g., 1,000W=1 KW; 1,000 KW = 1MW, etc.

Supply Market Participant

Any Generator on behalf of whom Generation and Ancillary Services are scheduled pursuant to the ISO Tariff.

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FIRST REPLACEMENT VOLUME NO. I

First Revised Sheet No. 351 Superseding Original Sheet No. 351

System Emergency Conditions beyond the normal control of the ISO that affect the

ability of the ISO Control Area to function normally including

any abnormal system condition which requires immediate

manual or automatic action to prevent loss of Load, equipment

damage, or tripping of system elements which might result in

cascading outages or to restore system operation to meet the

minimum operating reliability criteria.

System Impact Study An engineering study conducted to determine whether a New

Facility Operator's request for interconnection to the ISO

Controlled Grid would require new transmission additions,

upgrades or other mitigation measures.

System Planning Studies Reports summarizing studies performed to assess the

adequacy of the ISO Controlled Grid as regards conformance

to Reliability Criteria.

System Reliability A measure of an electric system's ability to deliver

uninterrupted service at the proper voltage and frequency.

System Resource A group of resources located outside of the ISO Control Area

capable of providing Energy and/or Ancillary Services to the

ISO Controlled Grid.

System Unit One or more individual Generating Units and/or Loads within a

Metered Subsystem controlled so as to simulate a single

resource with specified performance characteristics, as

mutually determined and agreed to by the MSS Operator and

the ISO. The Generating Units and/or Loads making up a

System Unit must be in close physical proximity to each other

such that the operation of the resources comprising the System

Unit does not result in significant differences in flows on the

ISO Controlled Grid.

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CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION FERC ELECTRIC TARIFF

FIRST REPLACEMENT VOLUME NO. I

Original Sheet No. 351A

TAC Area A portion of the ISO Controlled Grid with respect to which

Participating TOs' High Voltage Transmission Revenue

Requirements are recovered through a High Voltage Access

Charge. TAC Areas are listed in Schedule 3 of Appendix F.

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FIRST REPLACEMENT VOLUME NO. I Original Sheet No. 352

<u>Take-Out Point</u> The metering points at which a Scheduling Coordinator

Metered Entity or ISO Metered Entity takes delivery of Energy.

<u>Tax Exempt Debt</u> Municipal Tax Exempt Debt or Local Furnishing Bonds.

Tax Exempt Participating

TO

A Participating TO that is the beneficiary of outstanding Tax-

Exempt Debt issued to finance any electric facilities, or rights

associated therewith, which are part of an integrated system

including transmission facilities the Operational Control of

which is transferred to the ISO pursuant to the TCA.

TCA (Transmission Control Agreement)

The agreement between the ISO and Participating TOs

establishing the terms and conditions under which TOs will

become Participating TOs and how the ISO and each

Participating TO will discharge their respective duties and

responsibilities, as may be modified from time to time.

<u>Tie Point Meter</u> A revenue meter, which is capable of providing Settlement

Quality Meter Data, at a Scheduling Point or at a boundary

between UDCs within the ISO Controlled Grid.

TO (Transmission Owner) An entity owning transmission facilities or having firm

contractual rights to use transmission facilities.

TO Tariff A tariff setting out a Participating TO's rates and charges for

transmission access to the ISO Controlled Grid and whose

other terms and conditions are the same as those contained in

the document referred to as the Transmission Owners Tariff

approved by FERC as it may be amended from time to time.

Trading DayThe twenty-four hour period beginning at the start of the hour

ending 0100 and ending at the end of the hour ending 2400

daily, except where there is a change to and from daylight

savings time.

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FERC ELECTRIC TARIFF
FIRST REPLACEMENT VOLUME NO. I

First Revised Sheet No. 353 Superseding Original Sheet No. 353

Transfer Schedule A Schedule for Energy that is delivered from one Scheduling

Coordinator to another. Each Transfer Schedule must

originate and terminate completely within the ISO Control Area

and may not involve more than two (one sending and one

receiving) Scheduling Coordinators.

<u>Transition Charge</u> The component of the Access Charge collected by the ISO with

the High Voltage Access Charge in accordance with Section

5.7 of Appendix F, Schedule 3.

<u>Transition Period</u> The period of time established by the California Legislature and

CPUC to allow IOUs and Local Publicly Owned Electric Utilities

an opportunity to recover Transition Costs or Severance Fees.

Transmission Losses Energy that is lost as a natural part of the process of

transmitting Energy from Generation to Load delivered at the

ISO/UDC boundary or Control Area boundary.

<u>Transmission Revenue</u>

Credit

The proceeds received by the Participating TO from the ISO for

Wheeling service, FTR auction revenue and Usage Charges,

plus the shortfall or surplus resulting from any cost differences

between Transmission Losses and Ancillary Service

requirements associated with Existing Rights and the ISO's

rules and protocols.

TRBA (Transmission Revenue Balancing

Account)

A mechanism to be established by each Participating TO which

will ensure that all Transmission Revenue Credits and other

credits specified in Sections 6 and 8 of Appenidx F, Schedule

3, flow through to transmission customers.

Issued by: Roger Smith, Senior Regulatory Counsel

Issued on: April 25, 2001 Effective: June 24, 2001

TRR (Transmission Revenue Requirement)

The TRR is the total annual authorized revenue requirements associated with transmission facilities and Entitlements turned over to the Operational Control of the ISO by a Participating TO. The costs of any transmission facility turned over to the Operational Control of the ISO shall be fully included in the Participating TO's TRR. The TRR includes the costs of transmission facilities and Entitlements and deducts

Transmission Revenue Credits and credits for Standby

Transmission Revenue and the transmission revenue expected to be actually received by the Participating TO for Existing Rights and Converted Rights.

Trustee

The trustee of the California Independent System Operator trust established by order of the California Public Utilities

Commission on August 2, 1996 Decision No. 96-08-038 relating to the Ex Parte Interim Approval of a Loan Guarantee and Trust Mechanism to Fund the Development of an Independent System Operator (ISO) and a Power Exchange (PX) pursuant to Decision 95-12-063 as modified.

<u>UDC (Utility Distribution Company)</u>

An entity that owns a Distribution System for the delivery of Energy to and from the ISO Controlled Grid, and that provides regulated retail electric service to Eligible Customers, as well as regulated procurement service to those End-Use Customers who are not yet eligible for direct access, or who choose not to arrange services through another retailer.

Issued by: Roger Smith, Senior Regulatory Counsel

Issued on: April 25, 2001 Effective: June 24, 2001

FERC ELECTRIC TARIFF
FIRST REPLACEMENT VOLUME NO. I

Substitute Second Revised Sheet No. 355 Superseding First Revised Sheet No. 355

Unaccounted for Energy (UFE)

uffe is the difference in Energy, for each UDC Service Area and Settlement Period, between the net Energy delivered into the UDC Service Area, adjusted for UDC Service Area

Transmission Losses (calculated in accordance with Section 7.4.2), and the total metered Demand within the UDC Service Area adjusted for distribution losses using Distribution System loss factors approved by the Local Regulatory Authority. This difference is attributable to meter measurement errors, power flow modeling errors, energy theft, statistical Load profile

errors, and distribution loss deviations.

Uncontrollable Force

Any act of God, labor disturbance, act of the public enemy, war, insurrection, riot, fire, storm, flood, earthquake, explosion, any curtailment, order, regulation or restriction imposed by governmental, military or lawfully established civilian authorities or any other cause beyond the reasonable control of the ISO or Market Participant which could not be avoided through the exercise of Good Utility Practice.

Uninstructed Deviation
Penalty
Uninstructed Imbalance
Energy

The penalty as set forth in Section 11.2.4.1.2 of this ISO Tariff.

The real time change in Generation or Demand other than that instructed by the ISO or which the ISO Tariff provides will be paid at the price for Uninstructed Imbalance Energy.

Unit Commitment

The process of determining which Generating Units will be committed (started) to meet Demand and provide Ancillary Services in the near future (e.g., the next Trading Day).

Usage Charge

The amount of money, per 1 kW of scheduled flow, that the ISO charges a Scheduling Coordinator for use of a specific congested Inter-Zonal Interface during a given hour.

Issued by: Roger Smith, Senior Regulatory Counsel

Issued on: October 29, 2002

Effective: Upon Written Notice Provided By The ISO To FERC and Market Participants

FERC ELECTRIC TARIFF
FIRST REPLACEMENT VOLUME NO. I

First Revised Sheet No. 356 Superseding Original Sheet No. 356

<u>Voltage Limits</u> For all substation busses, the normal and post-contingency

Voltage Limits (kV). The bandwidth for normal Voltage Limits

must fall within the bandwidth of the post-contingency Voltage

Limits. Special voltage limitations for abnormal operating

conditions such as heavy or light Demand may be specified.

<u>Voltage Support</u> Services provided by Generating Units or other equipment

such as shunt capacitors, static var compensators, or

synchronous condensers that are required to maintain

established grid voltage criteria. This service is required under

normal or system emergency conditions.

Waiver Denial Period The period determined in accordance with Section 5.11.6.

<u>Warning Notice</u> A Notice issued by the ISO when the operating requirements

for the ISO Controlled Grid are not met in the Hour-Ahead

Market, or the quantity of Regulation, Spinning Reserve, Non-

Spinning Reserve, Replacement Reserve and Supplemental

Energy available to the ISO does not satisfy the Applicable

Reliability Criteria.

WEnet (Western Energy

Network)

An electronic network that facilitates communications and data

exchange among the ISO, Market Participants and the public in

relation to the status and operation of the ISO Controlled Grid.

Wheeling Out or Wheeling Through.

Wheeling Access Charge The charge assessed by the ISO that is paid by a Scheduling

Coordinator for Wheeling in accordance with Section 7.1.

Wheeling Access Charges shall not apply for Wheeling under a

bundled non-economy Energy coordination agreement of a

Participating TO executed prior to July 9, 1996. The Wheeling

Access Charge may consist of a High Voltage Wheeling

Access Charge and a Low Voltage Wheeling Access Charge.

Issued by: Charles F. Robinson, Vice President and General Counsel

Issued on: January 25, 2002 Effective: July 20, 2001

CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION

FERC ELECTRIC TARIFF
Fourth Revised Sheet No. 357

FIRST REPLACEMENT VOLUME NO. I Superseding Third Revised Sheet No. 357

Wheeling Out Except for Existing Rights exercised under an Existing Contract

in accordance with Sections 2.4.3 and 2.4.4, the use of the ISO

Controlled Grid for the transmission of Energy from a

Generating Unit located within the ISO Controlled Grid to serve

a Load located outside the transmission and distribution

system of a Participating TO.

Wheeling Through Except for Existing Rights exercised under an Existing Contract

in accordance with Sections 2.4.3 and 2.4.4, the use of the ISO

Controlled Grid for the transmission of Energy from a resource

located outside the ISO Controlled Grid to serve a Load located

outside the transmission and distribution system of a

Participating TO.

Wholesale Customer A person wishing to purchase Energy and Ancillary Services at

a Bulk Supply Point or a Scheduling Point for resale.

Wholesale Sales The sale of Energy and Ancillary Services at a Bulk Supply

Point or a Scheduling Point for resale.

WSCC (Western System Coordinating Council)

The Western Systems Coordinating Council or its successor.

WSCC Reliability Criteria

Agreement

The Western Systems Coordinating Council Reliability Criteria

Agreement dated June 18, 1999 among the WSCC and certain

of its Member transmission operators, as such may be

amended from time to time.

Zone A portion of the ISO Controlled Grid within which Congestion is

expected to be small in magnitude or to occur infrequently.

"Zonal" shall be construed accordingly.

Issued by: Charles F. Robinson, Vice President and General Counsel

Original Sheet No. 358

Effective: October 13, 2000

ISO TARIFF APPENDIX B

Scheduling Coordinator Agreement

Scheduling Coordinator Agreement

	AGREEMENT is made this day of,, and is entered into, by between:
(1)	[Full legal name] having a registered or principal executive office at [address] (the "Scheduling Coordinator")
	and
(2)	CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION, a California nonprofit public benefit Corporation having a principal executive office located at such place in the State of California as the ISO Governing Board may from time to time

Whereas:

- A. The Scheduling Coordinator has applied for certification by the ISO under the certification procedure referred to in Section 2.2.3 of the ISO Tariff.
- B. The Scheduling Coordinator wishes to schedule Energy and Ancillary Services on the ISO Controlled Grid under the terms and conditions set forth in the ISO Tariff.

NOW IT IS HEREBY AGREED as follows:

designate (the "ISO").

1. **Definitions**

- A. Terms and expressions used in this Agreement shall have the same meanings as those contained in the Master Definitions Supplement to the ISO Tariff.
- B. The "ISO Tariff" shall mean the ISO Operating Agreement and Tariff as amended from time to time, together with any Appendices or attachments thereto.

2. Covenant of the Scheduling Coordinator

The Scheduling Coordinator agrees that:

- A. the ISO Tariff governs all aspects of scheduling of Energy and Ancillary Services on the ISO Controlled Grid, including (without limitation), the financial and technical criteria for Scheduling Coordinators, bidding, settlement, information reporting requirements and confidentiality restrictions;
- B. it will abide by, and will perform all of the obligations under the ISO Tariff placed on Scheduling Coordinators in respect of all matters set forth therein including, without limitation, all matters relating to the scheduling of Energy and Ancillary Services on the ISO Controlled Grid, ongoing obligations in respect of scheduling, Settlement, system security policy and procedures to be developed by the ISO from time to time, billing and payments, confidentiality and dispute resolution;

Issued by: Roger Smith, Senior Regulatory Counsel

- C. it shall ensure that each UDC, over whose Distribution System Energy or Ancillary Services are to be transmitted in accordance with Schedules, Adjustment Bids or bids for Ancillary Services submitted to the ISO by the Scheduling Coordinator, enters into a UDC operating agreement in accordance with Section 4 of the ISO Tariff;
- D. it shall ensure that each Generator for which it schedules Energy or on whose behalf it submits to the ISO Adjustment Bids or bids for Ancillary Services enters into a Generator agreement in accordance with Section 5 of the ISO Tariff;
- E. it shall have the primary responsibility to the ISO, as principal, for all Scheduling Coordinator payment obligations under the ISO Tariff;
- F. its status as a Scheduling Coordinator is at all times subject to the ISO Tariff.

3. Term and Termination

- 3.1 This Agreement shall commence on the later of (a) _____ or (b) the date the Scheduling Coordinator is certified by the ISO as a Scheduling Coordinator.
- 3.2 This Agreement shall terminate upon acceptance by FERC of a notice of termination. The ISO Shall timely file any notice of termination with FERC.

4. Assignment

Either party may assign its obligations under this Agreement with the other party's consent, such consent shall not to be unreasonably withheld.

Partial Invalidity

If any provision of this Agreement, or the application of such provision to any persons, circumstance or transaction, shall be held invalid, the remainder of this Agreement, or the application of such provision to other persons or circumstances or transactions, shall not be affected thereby.

6. Settlement Account

The Scheduling Coordinator shall maintain at all times an account with a bank capable of Fed-Wire transfer to which credits or debits shall be made in accordance with the billing and Settlement provisions of Section 11 of the ISO Tariff. Such account shall be the account referred to in Clause 7 hereof or as notified by the Scheduling Coordinator to the ISO from time to time by giving at least 7 days written notice before the new account becomes operational.

7. Notices

Any notice, demand or request made to or by either party regarding this Agreement shall be made in accordance with the ISO Tariff and unless otherwise stated or agreed shall be made to the representative of the other party indicated below.

Issued by: Roger Smith, Senior Regulatory Counsel

ISO:		
Name of Primary Represe	entative:	
Name of Alternative Repre	esentative:	
Address:		
	State: Zip Code:	
E-Mail Ad	ldress:	
	o:	
Scheduling Coordinator:		
Name of Primary I	Representative:	
Name of Alternativ	ve Representative:	
Address:		
State:	Zip Code:	
E-Mail Ad	Idrana	
Phone No	D:	
Settlement Account No:		_
Title:		_
	e:	

8. Agreement to be bound by ISO Tariff.

The ISO Tariff is incorporated herein and made a part hereof. In the event of a conflict between the terms and conditions of this Agreement and any other terms and conditions set forth in the ISO Tariff, the terms and conditions of the ISO Tariff shall prevail.

Issued by: Roger Smith, Senior Regulatory Counsel

Issued on: October 13, 2000

Original Sheet No. 362

Effective: October 13, 2000

9. Electronic Contracting.

All submitted applications, schedules, bids, confirmations, changes to information on file with the ISO and other communications conducted via electronic transfer (e.g. direct computer link, FTP file transfer, bulletin board, e-mail, facsimile or any other means established by the ISO) shall have the same legal rights, responsibilities, obligations and other implications as set forth in the terms and conditions of the ISO Tariff and Protocols as if executed in written format.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed by their respective authorized officials.

ISO:			
Ву:	Name	Title	Date
Schedu	iling Coordinator:		
Ву:			
•	Name	Title	Date

Issued by: Roger Smith, Senior Regulatory Counsel

Issued on: October 13, 2000

Original Sheet No. 363

ISO TARIFF APPENDIX C

ISO Scheduling Process

Issued by: Roger Smith, Senior Regulatory Counsel Issued on: October 13, 2000

Effective: October 13, 2000

Day-ahead Schedule Timeline

	Responsible Parties							
Line	Time (Before or on)	ISO	Non- PX SCs	PX	Must-Take and Reliability generation	UD C	PX Participa nts	Actions
	Two days ah	ead						
0	6:00 PM	x						Publish forecasted transmission conditions (Generator Meter Multipliers, system load forecast (by Zones), estimated Ancillary Service requirements, scheduled transmission outages, loop flows, congestion, ATC, etc.)
	One day ahea	ad						
1	5:00 AM	Х						Notify Scheduling Coordinators of unit-specific Reliability Must Run requirements
2	6:00 AM	Х						Update system load forecast and Ancillary Service requirements.
3			Х					Notify ISO of price option for Reliability Must Run Units for which notification was provided at 5:00 a.m.
4			Х					Provide direct access load forecasts to the ISO.
5	6:30 AM	Х						Provide net direct access load forecasts to UDCs.
6	9:30 AM						х	Submit individual unit schedules, AS schedules/price bids and incs/decs for CM to the PX.
7	9:45 AM			х				Validate individual unite schedules, AS schedule/price bids and incs/decs.
8	10:00 AM			х				Finalize MCP and Initial preferred schedules. Communicate MCP and resulting schedules to the PX participants.
9				х				Finalize AS schedules (self-provision) or AS price bids. Communicate resulting AS schedules and/or price to PX participants.
10			Х	Х				Submit initial preferred energy schedules to the ISO.
11			х	х				Submit Ancillary Service bids and/or self-provided Ancillary Service schedules to the ISO.
12	10:00 AM	х						Validate all SC energy schedules, including RMR requirements, and bids; notify and resolve incorrect schedules and bids, if any.

13		v				Validate all SC Ancillary Service schedules and bids; notify and resolve incorrect Ancillary Service schedules and bids, If any.
13		Х				
14		v				Start the inter-zonal congestion management evaluation process and Ancillary Services bid evaluation.
	11.00 014	X				
15	11:00 AM	Х				If no inter-zonal congestion exists, go to line 27.
16		х				Complete advisory dispatch schedules and transmission prices if inter-zonal congestion exists.
17		х				Complete the advisory schedules and prices of each Ancillary Service.
18		х				Notify all SC if inter-zonal congestion exists. Publish advisory transmission prices.
						Inform all SCs their advisory dispatch schedules if inter-zonal
19		х				congestion exists.
20		х				Inform all SCs advisory AS schedules and prices if inter-zonal congestion exists.
04	44.05 DM					Start the process of developing revised schedules and price bids
21	11:05 PM		Х	Х	X	(the PX may iterate with PX participants).
22			Х	x	X	Start the process of developing revised AS schedules and price bids (the PX may iterate with PX participants).
23	12:00 PM		Х	Х		Submit revised preferred schedules and price bids to the ISO.
24			Х	Х		Submit revised preferred AS schedules and price bids to the ISO.
						Validate all SC schedules and bids; notify and resolve incorrect
25	12:00 PM	Х				schedules and bids, if any.
						Validate all SC AS schedules and bids; notify and resolve incorrect
26		Х				schedules and bids, if any.
						Start the inter-zonal congestion management evaluation process
27		Χ				and Ancillary Services bid evaluation.

28	1:00 PM	Х		Complete final dispatch schedules and transmission prices.
29		Х		Complete final schedules and prices of each Ancillary Service.
30	1:00 PM	Х		Complete final schedules.
31	1:00 PM	Х		Inform all SCs their final dispatch schedules.
32		Х		Inform all SCs their final AS schedules and prices.
33		Х		Publish transmission prices if inter-zonal congestion exists.
34		х		Calculate and communicate with SC the specific SCs zonal prices if asked.
35			x	Publish PX prices.
36			x	Communicate the final generation and load schedules to PX participants.
37			x	Communicate the final Ancillary Service schedules to PX participants.
38		х		Develop net schedules for each of the Control Area interfaces. These interfaces include SC net schedules, Control Area net schedules and/or individual transactions.
39		х		Call each adjacent Control Area and check that net schedules at each interface point match. Search for discrepancies and identify transactions that do not match. Resolve discrepancies with the involved SCs or eliminate the transactions with discrepancies.

Original Sheet No. 367

ISO TARIFF APPENDIX D

Black Start Units

Issued by: Roger Smith, Senior Regulatory Counsel Issued on: October 13, 2000

Effective: October 13, 2000

Black Start Units

The following requirements must be met by Generating Units providing Black Start ("Black Start Units"):

- (a) Black Start Units must be capable of starting and paralleling with the ISO Controlled Grid without aid from the ISO Controlled Grid;
- (b) Black Start Units must be capable of making a minimum number of starts per event (to be without aid from the ISO Controlled Grid as determined by the ISO);
- (c) Black Start Units must be equipped with governors capable of operating in the stand alone (asynchronous) and parallel (synchronous) modes.
- (d) Black Start Units must have startup load pickup capabilities at a level to be determined by the ISO, including total startup load (MW) and largest startup load (MW) for such power output levels as the ISO may specify.
- (e) All Black Start Units must be capable of producing Reactive Power (boost) and absorbing Reactive Power (buck) as required by the ISO to control system voltages. This requirement may be met by the operation of more than one Black Start unit in parallel providing that:
 - (i) the Black Start generation supplier demonstrates that the proposed Generation resource shares reactive burden equitably;
 - (ii) all Participating Generators associated with the proposed Black Start source are located in the same general area.

Buck/boost capability requirement shall be dependent on the location of the proposed resource in relation to Black Start load.

- (f) All Black Start Units must have the following communication/control requirements:
 - (i) dial-up telephone;
 - (ii) backup radio;
 - (iii) manning levels which accord with Good Utility Practice.

Issued by: Roger Smith, Senior Regulatory Counsel

ISO TARIFF APPENDIX E

Verification of Submitted Data for Ancillary Services

Issued by: Roger Smith, Senior Regulatory Counsel Issued on: October 13, 2000

Effective: October 13, 2000

Verification of Submitted Data for Ancillary Services

The ISO shall use the following procedures for verifying the scheduling and bid information submitted by Scheduling Coordinators for Ancillary Services. In this Appendix, a "bid" is a bid submitted by a Scheduling Coordinator in the ISO's competitive Ancillary Services market. A "schedule" is a Schedule including Ancillary Services which the Scheduling Coordinator wishes to self-provide.

- 1. Bid File and Schedule Format. The ISO shall verify that the bid files and schedules conform to the format specified for the type of Ancillary Service bid or schedule submitted. If the bid file or schedule does not conform to specifications, it shall be annotated by the ISO to indicate the location of the errors, and returned to the Scheduling Coordinator for corrections. Any changes made by a Scheduling Coordinator shall require a new submittal of bid or schedule information, and all validity checks shall be performed on the re-submitted bid or schedule.
- 2. Generation Schedules and Bids.
- **2.1. Quantity Data.** The ISO shall verify that no Scheduling Coordinator is submitting a scheduled or bid quantity for Regulation, Spinning Reserve, Non-Spinning or Replacement Reserve which exceeds available capacity for Regulation and Reserves on the Generating Units, Loads and resources scheduled for that Settlement Period.
- **2.2 Location Data.** The ISO shall verify that the location data corresponds to the ISO Controlled Grid interconnection data.
- **2.3. Operating Capability.** The ISO shall verify that the operating capability data corresponds to the ISO Controlled Grid interconnection data for each Generating Unit, Load or other resource for which a Scheduling Coordinator is submitting an Ancillary Service bid or schedule.
- 3. Load Schedules and Bids.
- **3.1. Quantity data.** The ISO shall verify that the quantity of Non-Spinning and Replacement Reserve scheduled or bid from Dispatchable Load does not exceed scheduled consumption quantities for that Settlement Period.
- **3.2. Location data.** The ISO shall verify that the location of the Dispatchable Load corresponds to the ISO Controlled Grid interconnection data for each supplier of Dispatchable Load.
- 4. Notification of Validity or Invalidity of Ancillary Services Schedules and Competitive Bids. The ISO shall, as soon as reasonably practical following the receipt of competitive bids or self-provided Ancillary Service schedules, send to the Scheduling Coordinator who submitted the schedule or bid the following information:
 - (a) acknowledgment of receipt of the competitive bid or self-provided Ancillary Service schedule;
 - (b) notification that the bid or schedule has been accepted or reject for noncompliance with the rules specified in this Appendix. If a bid or schedule is rejected, such notification shall contain an explanation of why the bid or schedule was not accepted;
 - (c) a copy of the bid or schedule as processed by the ISO.

Issued by: Roger Smith, Senior Regulatory Counsel

In response to an invalid schedule or bid, the Scheduling Coordinator shall be given a period of time to respond to the notification. The Scheduling Coordinator shall respond by resubmitting a corrected schedule or bid. If the Scheduling Coordinator does not respond to the notification within the required time frame, the ISO shall proceed without that Scheduling Coordinator's bid or schedule.

- 5. Treatment of Missing Values.
- **5.1 Missing Location Values.** Any bid submitted without a Location Code shall be deemed to have a zero bid quantity for that Settlement Period.
- **5.2 Missing Quantity Values.** Any bid submitted without a quantity value shall be deemed to have a zero bid quantity for Ancillary Service capacity for that Settlement Period.
- **5.3 Missing Price Values.** Any bid submitted with non-zero quantity value, but with a missing price value, shall be rejected.
- **6. Treatment of Equal Price Bids.** The ISO shall allow these Scheduling Coordinators to resubmit, at their own discretion, their bid no later than 2 hours the same day the original bid was submitted. In the event identical prices still exist following resubmission of bids, the ISO shall determine the merit order for each Ancillary Service by considering applicable constraint information for each Generating Unit, Load or other resource, and optimize overall costs for the Trading Day. If equal bids still remain, the ISO shall proportion participation in the Final Day Ahead or Hour Ahead Schedule (as the case may be) amongst the bidding Generating Units, Loads and resources with identical bids to the extent permitted by operating constraints and in a manner deemed appropriate by the ISO.
- **7. Receipt of Bids and Schedules.** The ISO shall maintain an audit trail relating to the receipt of bids and schedules and the processing of those bids and schedules.

Issued by: Roger Smith, Senior Regulatory Counsel

Issued on: October 13, 2000

ISO TARIFF APPENDIX F

Rate Schedules

Issued by: Roger Smith, Senior Regulatory Counsel Issued on: October 13, 2000 Effective: October 13, 2000

Schedule 1

Grid Management Charge

Part A – Monthly Calculation of Grid Management Charge (GMC)

The Grid Management Charge consists of three separate service charges: the Control Area Services Charge, the Inter-Zonal Scheduling Charge, and the Market Operations Charge.

- 1. The rate for the Control Area Services Charge will be calculated by dividing the GMC costs allocated to this service charge by the total Control Area Gross Load and exports, in MWh.
- 2. The rate for the Inter-Zonal Scheduling Charge will be calculated by dividing the GMC costs allocated to this service charge by the total Scheduling Coordinators' inter-zonal scheduled flow (excluding ETCs) per path in MWh.
- 3. The rate for the Market Operations Charge will be calculated by dividing the GMC costs allocated to this service charge by the total purchases and sales of Ancillary Services, Supplemental Energy, and Imbalance Energy (both instructed and uninstructed) in MWh.

Issued by: Roger Smith, Senior Regulatory Counsel

Issued on: November 1, 2000 Effective: January 1, 2001

Part B - Quarterly Adjustment, If Required

Each component of the Grid Management Charge may change quarterly if the estimated billing determinate volumes for that component, on an annual basis, change by 5% or more during the year. Each year the Grid Management Charge will be recalculated to reflect the following year's budget estimates and to adjust for any difference between the previous year's cost estimates and actual costs incurred, as reflected in Part D of this Schedule, "Information Requirements". The annual informational filing requirement shall not affect the ISO's ability to adjust the Grid Management Charge on a quarterly basis, when warranted.

Part C - Costs Recovered through the GMC

As provided in Section 8 of the ISO Tariff, the Grid Management Charge includes the following costs:

- Operating costs (as defined in Section 8.2.2)
- Financing costs (as defined in Section 8.2.3), including Start-Up and Development costs and
- Operating and Capital Reserve costs (as defined in Section 8.2.4)

Such costs, for the ISO as a whole, are allocated to the three service charges that comprise the Grid Management Charge: (1) Control Area Services Charge, (2) Inter-Zonal Scheduling Charge, and (3) Market Operations Charge, using appropriate methodologies, and

adjusted annually for:

 any surplus revenues from the previous year as deposited in the Operating and Capital Reserve Account, as defined under Section 8.5, or deficiency of revenues, as recorded in a memorandum account;

divided by:

forecasted annual billing determinant volumes in MWh;

adjusted quarterly for:

 a change in the volume estimate used to calculate the individual Grid Management Charge components, if, on an annual basis, the change is 5% or more.

The Grid Management Charge Revenue Requirement Formula is as follows:

Grid Management Charge Revenue Requirement =

Operating Expenses + Debt Service + the greater of [(Coverage Requirement x Senior Lien Debt Service) or (Cash Funded Capital Expenditures)] - Interest Earnings - Other Revenues - Reserve Transfer

Where,

 Operating Expenses = O&M Expenses plus Taxes Other Than Income Taxes and Penalties

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Issued on: November 1, 2000 Effective: January 1, 2001

First Revised Sheet No. 375 Superseding Original Sheet No. 375

- O&M Expenses = Transmission O&M Expenses (Accounts 560-574) plus Customer Accounting Expenses (Accounts 901-905) plus Customer Service and Informational Expenses (Accounts 906-910) plus Sales Expenses (Accounts 911-917) plus Administrative & General Expenses (Accounts 920-935)
- Taxes Other Than Income Taxes = those taxes other than income taxes which relate to ISO operating income (Account 408.1)
- **Penalties** = payments by the ISO for penalties or fines incurred for violation of WSCC reliability criteria (Account 426.3)
- **Debt Service** = for any fiscal year, scheduled principal and interest payments, sinking fund payments related to balloon maturities, repayment of commercial paper notes, net payments required pursuant to a payment obligation, or payments due on any ISO notes. This amount includes the current year accrued principal and interest payments due April 15 of the following year.
- Coverage Requirement = 25% of the Senior Lien Debt Service.
- **Senior Lien Debt Service** = all Debt Service that has a first lien on ISO Net Operating Revenues (Account 128 subaccounts).
- Cash Funded Capital Expenditures = Post current fiscal year capital additions (Accounts 301-399) funded on a pay-as-you-go basis.
- **Interest Earnings** = Interest earnings on Operating and Capital Reserve balances (Account 419). Interest on bond or note proceeds specifically designated for capital projects or capitalized interest is excluded.
- Other Revenues = Amounts booked to Account 456 subaccounts. Such amounts include but are not limited to application fees, WSCC security coordinator reimbursements, and fines assessed and collected by the ISO.
- Reserve Transfer = the projected reserve balance for December 31 of the prior year less the Reserve Requirement as adopted by the ISO Board and FERC. If such amount is negative, the amount may be divided by two, so that the reserve is replenished within a two-year period. (Account 128 subaccounts)
- Reserve Requirement = 15% of Annual Operating Expenses.

A separate Revenue Requirement shall be established for each component of the Grid Management Charge by developing the Revenue Requirement for the ISO as a whole and then assigning such costs to the three service categories using appropriate allocation methodologies.

Part D - Information Requirements

Budget Schedule

The ISO Governing Board shall set forth a budget schedule that shall specify the dates for the budget posting and public workshop events noted below.

Budget Posting

The ISO will post on its Internet site the preliminary proposed ISO operating and capital budget to be effective during the subsequent fiscal year, and the projected billing determinant volumes used to develop the rate for each component of the Grid Management Charge.

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Issued on: November 1, 2000 Effective: January 1, 2001

Original Sheet No. 375A

Effective: January 1, 2001

Subsequent to the website posting, and prior to the Board approval of the budget, the ISO shall hold a public budget workshop where it will provide an overview of and answer questions from stakeholders on the proposed budget, cost allocation, and the charges for each of the ISOs services for the following year.

Annual Filing

The ISO will make an informational filing each year on December 15, or the first business day thereafter, which shall contain cost data on the ISO presented in conformance with the FERC Uniform System of Accounts (USA). This filing shall contain such information as is required to set the GMC unit rate for the following fiscal year, including the criteria used to set the projected billing determinant volumes, and a description of the process used to allocate the ISO's total costs into the revenue requirements for each of the component charges of the GMC. To the extent that any party objects to such unit rate to be established, such party must file a complaint with the FERC under Section 206 of the Federal Power Act.

Periodic Financial reports

The ISO will create periodic financial reports consisting of an income statement, balance sheet, statement of operating reserves, and such other reports as are required by the ISO Board of Governors. The periodic financial reports will be posted on the ISO's Website not less than quarterly.

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[Not used] Part E

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Schedule 2

Other Charges

Voltage Support Service

The user rate per unit of purchased Voltage Support will be calculated in accordance with the formula in ISO Tariff Section 2.5.28.5.

Regulation Service

Regulation Obligation:

The amount of Regulation required will be calculated in accordance with Section 4.1 of the Ancillary Services Requirements Protocol (ASRP).

Regulation Rates:

The formulas for calculating the amount of and charges for Regulation Service are referenced in ISO Tariff Sections 2.5.20.1, 2.5.27, and 2.5.28.

The ISO will calculate the user rate for Regulation in each Zone for each Settlement Period in accordance with Section 2.5.28.1.

Spinning Reserve Service

Spinning Reserve Obligation:

The amount of Spinning Reserve required as a component of Operating Reserves is specified in Section 5.1 of the Ancillary Services Requirements Protocol (ASRP).

Spinning Reserve Rates:

The formulas for calculating the amount of and charges for Spinning Reserve Service are referenced in ISO Tariff Sections 2.5.27.2, 2.5.28.2.

The ISO will calculate the user rate for Spinning Reserve in each Zone for each Settlement Period in accordance with ISO Tariff Section 2.5.28.2.

Non-Spinning Reserve Service

Non-Spinning Reserve Obligation:

The amount of Non-Spinning Reserve required as a component of Operating Reserves is specified in Section 5.1 of the Ancillary Services Requirements Protocol (ASRP).

Non-Spinning Reserve Rates:

The formulas for calculating the amount of and charges for Non-Spinning Reserve Service are referenced in ISO Tariff Sections 2.5.27.3, 2.5.28.3.

The ISO will calculate the user rate for Non-Spinning Reserve in each Zone for each Settlement Period in accordance with ISO Tariff Section 2.5.28.3.

Replacement Reserves

The formulas for calculating the amount of and charges for Replacement Reserve Service are referenced in ISO Tariff Sections 2.5.27.4 and 2.5.28.4.

Black Start Capability

The user rate per unit of purchased Black Start Capability for each Settlement Period will be calculated in accordance with ISO Tariff Section 2.5.28.6.

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Imbalance Energy Charges

Rates for Imbalance Energy will be calculated in accordance with the formula in ISO Tariff Section 11.2.4.1.

Replacement Reserve Charge

The Replacement Reserve Charge will be calculated in accordance with ISO Tariff Sections 2.5.28.4 and 11.2.4.1.

Unaccounted for Energy

Rates for UFE will be calculated in accordance with ISO Tariff Section 11.2.4.1.

Transmission Losses Imbalance Charges

Transmission Losses for each hour will be calculated in accordance with ISO Tariff Sections 7.4.2.

Access Charges

The High Voltage Access Charge and Transition Charge is set forth in ISO Tariff Schedule 3 of Appendix F. The Low Voltage Access Charge of each Participating TO is set forth in that Participating TO's TO Tariff or comparable document.

Usage Charges

The amount payable by Scheduling Coordinators is determined in accordance with ISO Tariff Section 7.3.1.4.1. Usage Charges will be calculated in accordance with ISO Tariff Section 7.3.1.

Default Usage Charge

The Default Usage Charge will be used in accordance with ISO Tariff Section 7.3.1.3.

Grid Operations Charge for Intra-Zonal Congestion

Intra-Zonal Congestion during the initial period of operation will be managed in accordance with ISO Tariff Sections 7.2.6.2 and 7.2.6.3

Wheeling Access Charges

The Wheeling Access Charge for transmission service is set forth in Section 7.1.4.1 of the ISO Tariff and Appendix II of the TO Tariffs.

Charge for Failure to Conform to Dispatch Instructions

The Charge for Failure to Conform to Dispatch Instructions will be determined in accordance with ISO Tariff Section 2.5.22.11.

Reliability Must-Run Charge

The Reliability Must-Run Charge will be determined in accordance with ISO Tariff Section 5.2.7.

FERC Annual Charge Recovery Rate

The FERC Annual Charge Recovery Rate will be determined in accordance with ISO Tariff Section 7.5.

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ISO Tariff Appendix F Schedule 3

High Voltage Access Charges

1. Objectives and Definitions

1.1 Objectives

- (a) The Access Charge will remain utility-specific until a New Participating TO executes the Transmission Control Agreement, at which time the Access Charge will change as discussed below.
- (b) The Access Charge is the charge assessed for using the ISO Controlled Grid. It consists of three components, the High Voltage Access Charge (HVAC), the Transition Charge and the Low Voltage Access Charge (LVAC).
- (c) The HVAC ultimately will be based on one ISO Grid-wide rate. Initially, the HVAC will be based on TAC Areas, which will transition 10% per year to ISO Grid-wide. In the first year after the Transition Date described in Section 4.2 of this Schedule 3, the HVAC will be a blend based on 10% ISO Grid-wide and 90% TAC Area.
- (d) New High Voltage Transmission Facility additions and capital additions to existing High Voltage Transmission Facilities will be immediately included in the ISO Grid-wide component of the HVAC.
- (e) The LVAC will remain utility-specific and will be determined by each Participating TO.
- (f) The cost-shift associated with transitioning from utility-specific rates to one ISO Grid-wide rate will be mitigated in accordance with the ISO Tariff, including this schedule.

1.2 Definitions

(a) Master Definition Supplement

Unless the context otherwise requires, any word or expression defined in the Master Definition Supplement shall have the same meaning where used in this Schedule 3.

(b) Special Definitions for this Appendix

When used in this Schedule 3 with initial capitalization, the following terms shall have the meanings specified below.

"Existing High Voltage Transmission Facility" means a High Voltage Transmission Facility of a Participating TO that is not a New High Voltage Transmission Facility.

"High Voltage Utility-Specific Rate" means a Participating TO's High Voltage Transmission Revenue Requirement divided by such Participating TO's forecasted Gross Load.

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"TAC Benefit" means (a) the amount, if any, for each year by which the cost of High Voltage Transmission Facilities associated with deliveries of Energy to Gross Loads in the Service Area of, or directly served by, the New Participating TO is reduced by the implementation of the High Voltage Access Charge

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described in Schedule 3 to Appendix F; reduced by (b) the difference between (i) the amount that the New Participating TO pays for Grid Management Charges; and (ii) the amount that the New Participating TO would have paid for Grid Management Charges had the participant not been a New Participating TO. The TAC Benefit of a New Participating TO shall not be less than zero.

"Transition Date" means the date defined in Section 4.2 of this Schedule.

2. Assessment of High Voltage Access Charge and Transition Charge.

All UDCs or MSSs in a Participating TO Service Area providing Energy delivered for the supply of all Gross Loads directly connected to the transmission facilities or Distribution System of the UDC or MSS in a Participating TO Service Area, and all Scheduling Coordinators providing Energy delivered for the supply of all Gross Loads not directly connected to the transmission facilities or Distribution System of a UDC or MSS shall pay to the ISO a charge for transmission service on the High Voltage Transmission Facilities included in the ISO Controlled Grid. The charge will be based on the High Voltage Access Charge applicable to the TAC Area in which the point of delivery is located and the applicable Transition Charge. A UDC or a MSS that is also a Participating TO shall pay, or receive payment of, if applicable, the difference between (i) the High Voltage Access Charge and Transition Charge applicable to its transactions as a UDC or MSS; and (ii) the disbursement of High Voltage Access Charge revenues to which it is entitled pursuant to Section 7.1.3 of the ISO Tariff.

3. TAC Areas.

- 3.1 TAC Areas are based on the Control Areas in California prior to the ISO Operations Date. Three TAC Areas will be established based on the Original Participating TOs: (1) a Northern Area consisting of the Service Area of Pacific Gas and Electric Company and the Service Area of any entity listed in Section 3.3 or 3.5 of this Schedule; (2) an East Central Area consisting of the Service Area of Southern California Edison Company and the Service Area of any entity listed in Section 3.4, 3.5 or 3.6 (as indicated therein) of this Schedule 3; and (3) a Southern Area consisting of the Service Area of San Diego Gas & Electric Company. Participating TOs that are not in one of the above cited Service Areas are addressed below.
- 3.2 If the Los Angeles Department of Water and Power joins the ISO and becomes a Participating TO, its Service Area will form a fourth TAC Area, the West Central Area.

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- 3.3 If any of the following entities becomes a Participating TO, its Service Area will become part of the Northern Area: Sacramento Municipal Utility District, Western Area Power Administration Sierra Nevada Region, Northern California Power Agency, City of Redding, Silicon Valley Power, City of Palo Alto, City and County of San Francisco, Alameda Bureau of Electricity, City of Biggs, City of Gridley, City of Healdsburg, City of Lodi, City of Lompoc Utility Department, Modesto Irrigation District, Turlock Irrigation District, Plumas County Water Agency, City of Roseville Electric Department, City of Shasta Lake, and City of Ukiah or any other entity owning or having contractual rights to High Voltage or Low Voltage Transmission Facilities in Pacific Gas and Electric Company's Control Area prior to the ISO Operations Date.
- 3.4 If any of the following entities becomes a Participating TO, its Service Area will become part of the East Central Area: City of Anaheim Public Utility Department, City of Riverside Public Utility Department, City of Azusa Light and Water, City of Banning Electric, City of Colton, City of Pasadena Water and Power Department, The Metropolitan Water District of Southern California and City of Vernon or any other entity owning or having contractual rights to High Voltage or Low Voltage Transmission Facilities in Southern California Edison Company's Control Area prior to the ISO Operations Date.
- 3.5 If the California Department of Water Resources becomes a Participating TO, its High Voltage Transmission Revenue Requirements associated with High Voltage Transmission Facilities in the Northern Area would become part of the High Voltage Transmission Revenue Requirement for the Northern Area while the remainder would be included in the East Central Area.
- 3.6 If the City of Burbank Public Service Department (Burbank) and/or the City of Glendale Public Service Department (Glendale) become Participating TOs after or at the same time as the Los Angeles Department of Water and Power becomes a Participating TO, then the Service Area of Burbank and/or Glendale would become part of the West Central Area. Otherwise, if Burbank or Glendale becomes a Participating TO, prior to Los Angeles, its Service Area will become part of the East Central Area. Once either Burbank or Glendale are part of the East Central Area, they will not move to the West Central Area if such area is established.

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3.7 If the Imperial Irrigation District or an entity outside the State of California should apply to become a Participating TO, the ISO Governing Board will review the reasonableness of integrating the entity into one of the existing TAC Areas. If the entity cannot be integrated without the potential for significant cost shifts, the ISO Governing Board may establish a separate TAC Area.

4. Transition Date

- 4.1 New Participating TOs shall provide the ISO with a notice of intent to join and execute the Transmission Control Agreement by either January 1 or July 1 of any year.
- New Participating TO's execution of the Transmission Control Agreement takes effect (Transition Date). The Transition Date shall be the same for the Northern Area, East Central Area and the Southern Area. The Transition Date shall also be the same for the West Central Area, should it come into existence in accordance with Section 3.2 of this Schedule 3, unless the ISO provides additional information demonstrating the need for a deferral. The 10-year transition defined in Section 5.8 of Schedule 3 shall start from that date. If the West Central TAC Area is created after the Transition Date, the applicable High Voltage Access Charge shall transition to an ISO Grid-wide High Voltage Access Charge over the period remaining from the Transition Date, on the same schedule as the other TAC Areas.
- 4.3 Application to Additional TAC Areas. For any TAC Areas other than those specified in Section 4.2 created after the Transition Date, including any TAC Area created as a result of the application of Section 3.7, whether and over what period the applicable High Voltage Access Charge shall transition to an ISO Gridwide charge shall be determined by the ISO Governing Board.
- **4.4 Application to Wheeling Access Charges.** The transition described in this Section 4 shall also apply, on the same schedule, to High Voltage Wheeling Access Charges.
- 5. Determination of the Access Charge.
- 5.1 The Access Charge consists of a High Voltage Access Charge (HVAC) that is based on a TAC Area component and an ISO Grid-wide component, a Transition Charge, and a Low Voltage Access Charge (LVAC) that is based on a utility-specific rate established by each Participating TO.

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- 5.2 Each Participating TO will develop, in accordance with Section 6 of this Schedule 3, a High Voltage Transmission Revenue Requirement (HVTRR PTO) consisting of a Transmission Revenue Requirement for Existing High Voltage Transmission Facility (EHVTRR PTO) and a Transmission Revenue Requirement for New High Voltage Transmission Facility (NHVTRR PTO). The HVTRR PTO deducts Transmission Revenue Credits.
- Gross Load forecasts, that are consistent with each Participating TO's filed Transmission Revenue Requirement, will be determined by the ISO based on information provided by Participating TOs (GL_{PTO}).
- 5.4 The HVAC applicable to each UDC and MSS in a Participating TO Service Area and Scheduling Coordinator serving Demand in the Participating TO Service Area, shall be based on a TAC Area component (HVAC_A) and an ISO Grid-wide component (HVAC_I).

$$HVAC = HVAC_A + HVAC_I$$

5.5 The Existing Transmission Revenue Requirement for the TAC Area component (ETRR_A) is the summation of each Participating TO's EHVTRR _{PTO} in that TAC Area. The Gross Load in the TAC Area (GL_A) is the summation of each Participating TO's Gross Load in that TAC Area (GL_{PTO}). The TAC Area component will be based on the product of Existing Transmission Revenue Requirement for the TAC Area (ETRR_A) and the applicable annual transition percentage (%TA) in Section 5.8 of this Schedule 3, divided by the Gross Load in the TAC Area (GL_A).

ETRR
$$_{A} = \Sigma EHVTRR_{PTO}$$

$$GL_{A} = \Sigma GL_{PTO}$$

$$HVAC_{A} = (ETRR_{A} * \%TA) / GL_{A}$$

The Existing Transmission Revenue Requirement for the ISO Grid-wide component (ETRR_I) will be the summation of all TAC Areas' ETRR_A multiplied by the applicable annual transition percentage (%IGW) in Section 5.8 of this Schedule 3. The New Transmission Revenue Requirement (NTRR) is the summation of each Participating TO's NHVTRR_{PTO}. The ISO Grid-wide component will be based on the ETRR_I plus the NTRR, divided by the summation of all Gross Loads in the TAC Areas (GL_A).

ETRR_I =
$$\Sigma$$
 ETRR_A * %IGW
HVAC_I = (ETRR_I + NTRR) / Σ GL_A

The foregoing formulas will be adjusted, as necessary to take account of new TAC Areas.

5.7 The Transition Charge shall be calculated separately for each Participating TO by

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dividing (i) the net difference between (1) the Participating TO's payment responsibility, if any, under Section 8.6 of the ISO Tariff and Section 7 of this Schedule 3; and (2) the amount, if any, payable to the Participating TO in accordance with Section 8.6 of the ISO Tariff and Section 7 of this Schedule 3; by (ii) the total of all forecasted Gross Load in the

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- Service Area of the Participating TO, including UDCs and MSSs. If greater than zero, the Transition Charge shall be collected with the High Voltage Access Charge. If less than zero, the Transition Charge shall be credited with the High Voltage Access Charge.
- The High Voltage Access Charge shall transition over a 10-year period from TAC Area to ISO Grid-wide. The transition percentage to be used for each year will be based on the following:

Year	TAC Area	ISO Grid-Wide
	High Voltage	High Voltage
	(%TA)	(%IGW)
1	90%	10%
2	80%	20%
3	70%	30%
4	60%	40%
5	50%	50%
6	40%	60%
7	30%	70%
8	20%	80%
9	10%	90%
10	0%	100%

- After the completion of the transition period applicable to a TAC Area, the High Voltage Access Charge for all such TAC Areas which have completed the transition shall be equal to the sum of the High Voltage Transmission Revenue Requirements of all Participating TOs, divided by the sum of the Gross Loads of all Participating TOs.
- 6 High Voltage Transmission Revenue Requirement.
- 6.1 The High Voltage Transmission Revenue Requirement of a Participating TO will be determined consistent with ISO procedures posted on the ISO Home Page and shall be the sum of:
 - (a) the Participating TO's High Voltage Transmission Revenue Requirement (including costs related to Existing Contracts associated with transmission by others and deducting transmission revenues actually expected to be received by the Participating TO related to transmission for others in accordance with Existing Contracts, less the sum of the Standby Transmission Revenues); and

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(b) the annual TRBA adjustment shall be based on the principal balance in the TRBA as of September 30, which shall be calculated as a dollar amount based on the projected Transmission Revenue Credits as adjusted for the true up of the prior year's difference between projected and actual credits.

7 Limitation

- (a) During each year of the transition period described in Section 4 of this Schedule 3, the increase in the total payment responsibility applicable to deliveries of Energy to Gross Loads in the Service Area of an Original Participating TO attributable to the total for the year of (i) the amount applicable for the Original Participating TO under Section 8.6 of the ISO Tariff; plus (ii) the amount applicable to the implementation of the High Voltage Access Charge; less (iii) the amount by which the GMC payable with respect to deliveries of Energy to Gross Loads in the Service Area of the Original Participating TO is reduced due to the inapplicability to New Participating TOs of the exclusion of certain volumes in the calculation of GMC responsibility in accordance with Schedule 1 to this Appendix F, shall not exceed the amount specified in paragraph (b), below. This limitation shall be calculated individually for each Original Participating TO, provided that, if the net effect of items (i), (ii) and (iii) above is positive for one or more Original Participating TOs for any year, the combined net effect shall be allocated among all Original Participating TOs in proportion to the amounts specified in paragraph (b). This limitation shall be applied by the ISO's calculation annually of amounts payable by New Participating TOs to Original Participating TOs such that the combined effect of items (i), (ii), and (iii) above, and the payments received by each Original Participating TO shall not exceed the amounts specified in paragraph (b). The amount receivable by the Original Participating TO from the New Participating TOs to implement the limitation in paragraph (b) below, shall be credited through the Transition Charge established pursuant to Section 5.7 of this Schedule 3. Payment responsibility under this section, if any, shall be allocated among New Participating TOs in proportion to their positive TAC Benefits.
- (b) The maximum annual amounts for Original Participating TO shall be as follows:
 - (i) For Pacific Gas and Electric Company and Southern California Edison
 Company, the maximum annual amount shall be thirty-two million dollars
 (\$32,000,000.00) each; and
 - (ii) For San Diego Gas & Electric Company, the maximum annual amount shall be eight million dollars (\$8,000,000.00).

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FIRST REPLACEMENT VOLUME NO. I
Superseding First Revised Sheet No. 386

8. Updates to High Voltage Access Charges.

- 8.1 High Voltage Access Charges and High Voltage Wheeling Access Charges shall be adjusted: (1) on January 1 and July 1 of each year when necessary to reflect the addition of any New Participating TO and (2) on the date FERC makes effective a change to the High Voltage Transmission Revenue Requirements of any Participating TO. Using the High Voltage Transmission Revenue Requirement accepted or authorized by FERC, consistent with Section 9 of this Schedule 3, for each Participating TO, the ISO will recalculate on a monthly basis the High Voltage Access Charge and Transition Charge applicable during such period. Revisions to the Transmission Revenue Balancing Account adjustment shall be made effective annually on January 1 based on the principal balance in the TRBA as of September 30 of the prior year and a forecast of Transmission Revenue Credits for the next year.
- 8.2 For service provided by a Participating TO prior to the Transition Date, no refund ordered by FERC or amount accrued to that Participating TO's Transmission Revenue Balancing Account related to such service shall be reflected in the High Voltage Access Charge, Low Voltage Access Charge, the High Voltage Transmission Revenue Requirement, or the Low Voltage Transmission Revenue Requirement of a Participating TO. For service provided by a Participating TO following the Transition Date, any refund associated with a Participating TO's Transmission Revenue Requirement that has been accepted by FERC, subject to refund, shall be provided as ordered by FERC. Such refund shall be invoiced separately from the Market Invoice.

9. Approval of Updated High Voltage Revenue Requirements

9.1 Participating TOs that are FERC-jurisdictional entities will make the appropriate filings at FERC to establish their Transmission Revenue Requirements for their Low Voltage Access Charges and the applicable High Voltage Access Charges, and to obtain approval of any changes thereto. All such filings with the FERC will include appropriate

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Gross Load data and other information required by the FERC to support the Access Charges. The Participating TO will provide a copy of its filing to the ISO and the other Participating TOs in accordance with the notice provisions in the Transmission Control Agreement.

9.2 If the Participating TO is not subject to FERC's jurisdiction under Sections 205 and 206 of the Federal Power Act, the Participating TO shall at its sole option: (1) file its High Voltage Transmission Revenue Requirement and Low Voltage Transmission Revenue Requirement for those facilities and Entitlements under the Operational Control of the ISO directly with the Commission in accordance with the rules and requirements established by the Commission; or (2) submit to the ISO and other Participating TOs in accordance with the notice provisions in the Transmission Control Agreement, its Transmission Revenue Requirement for those facilities and Entitlements under the Operational Control of the ISO, and the ISO shall publish such submission on the ISO Home Page. For the second option, the High Voltage and Low Voltage Transmission Revenue Requirement shall be submitted in a format and supported by information that substantially follows the FERC requirement for Transmission Revenue Requirement submissions or reconciles major differences in format. If, within 60 days of publication of such submission, the ISO does not raise an objection with the Participating TO, and no affected party raises an objection by written notification to the ISO and the Participating TO, the Transmission Revenue Requirement shall be accepted as submitted. If an objection is raised, the ISO will convene a meeting, the objective of which will be to achieve agreement over the Participating TO's TRR, applying, to the extent practicable, the guidelines and rulings of the FERC applicable to the determination of the TRR of

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Participating TOs that are subject to FERC's jurisdiction under Sections 205 and 206 of the Federal Power Act. If the ISO determines that a consensual resolution is unlikely, it will so notify the Participating TO and the dispute shall be submitted to a Revenue Review Panel established by the ISO for resolution of the just and reasonable TRR of the Participating TO. The Revenue Review Panel shall consist of three individuals with substantial experience in the establishment of unbundled transmission rates for public utilities. Members of the panel may not have a financial stake in any participant in the California electricity market. The ISO shall establish, modify as necessary and appropriate from time to time, and post on the ISO Home Page rules of procedure for proceedings before the Revenue Review Panel, which rules shall afford the ISO and interested Market Participants the opportunity to participate and to submit information to the panel. In deciding upon a just and reasonable TRR for the Participating TO, the Revenue Review Panel shall, to the extent practicable, apply the guidelines and rulings of the FERC applicable to the determination of the TRR of a Participating TO that is subject to FERC's jurisdiction under Sections 205 and 206 of the Federal Power Act. The decision of the panel shall be subject to review and acceptance by the FERC.

- 9.3 Federal power marketing agencies whose transmission facilities are under ISO Operational Control shall develop their High Voltage Transmission Revenue Requirement pursuant to applicable federal laws and regulations, including filing with FERC. The procedures for public participation in a federal power marketing agency's ratemaking process shall be posted on the federal power marketing agency's website. The federal power marketing agency's shall also post on the website the Federal Register Notices and FERC orders for rate making processes that impact the federal power marketing agency's High Voltage Transmission Revenue Requirement.
- 10. Disbursement of High Voltage Access Charge and Transition Charge Revenues.
- 10.1 High Voltage Access Charge and Transition Charge revenues shall be calculated for disbursement to each Participating TOs on a monthly basis as follows:
 - (a) the amount determined in accordance with Section 7.1.2 of the ISO Tariff ("Billed HVAC/TC");
 - (b) calculate the amount each UDC or MSS Scheduling Coordinators serving Gross Load of End-Use Customers in the Participating TO Service Area not directly connected to the facilities of a UDC or MSS would have paid and the Participating TO would have received by multiplying the High Voltage Utility-Specific Rates for the Participating TO whose High Voltage Transmission Facilities served such UDC or MSS and Scheduling Coordinators serving Gross Load of End-Use Customers in the Participating TO Service Area not directly

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connected to the facilities of a UDC or MSS times the actual Gross Load of such UDC's or MSS's and Scheduling Coordinator's serving Gross Load of End-Use Customers in the Participating TO Service Area not directly connected to the facilities of a UDC or MSS ("Utility-specific HVAC");

- (c) if the total Billed HVAC/TC in subsection (a) received by the ISO less the total Utility-specific HVAC in subsection (b) is different from zero, the ISO shall allocate the positive or negative difference among Participating TOs based on the ratio of each Participating TO's High Voltage Transmission Revenue Requirement to the sum of all of the Participating TOs' High Voltage Transmission Revenue Requirement. This monthly distribution amount is the "HVAC Revenue Adjustment";
- (d) the sum of the Utility-specific HVAC in subsection (b) and the HVAC Revenue Adjustment in subsection (c) will be the monthly disbursement to the Participating TO.
- 10.2 If the same entity is both a Participating TO and a UDC or MSS, then the monthly High Voltage Access Charge and Transition Charge amount billed by the ISO will be the charges payable by the UDC or MSS in accordance with Section 7.1.2 of the ISO Tariff less the disbursement determined in accordance with Section 10.1(d). If this difference is negative, that amount will be paid by the ISO to the Participating TO.
- 10.3 If a Participating TO does not deliver electricity directly to End-Use Customers, prior to any such entity becoming a Participating TO this Section 10 will be amended to specify the method for revenue disbursement to such Participating TO.

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ISO Tariff Appendix F

Schedule 4

Participating Intermittent Resources Forecasting Fee

A charge up to \$.10 per MWh shall be assessed on the metered Energy from Participating Intermittent Resources. The amount of the charge shall be specified in the ISO Protocols.

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