

California Independent System Operator Corporation

Fifth Replacement FERC Electric Tariff

(Open Access Transmission Tariff)

Effective as of August 12, 2019

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 - 13.5.1 Allocation of an Award
 - 13.5.2 Timing of Adjustments
 - 13.5.3 Method of Allocation
- 14. Uncontrollable Force, Indemnity, Liabilities, and Penalties**
 - 14.1 Uncontrollable Forces
 - 14.2 Responsibilities of Affected Entity
 - 14.3 Strikes, Lockouts or Labor Disputes
 - 14.4 Market Participant's Indemnity
 - 14.5 Limitation on Liability
 - 14.5.1 Limitation on Damages
 - 14.5.2 Exclusion of Certain Types of Loss
 - 14.6 Potomac Economics, Ltd. Limitation of Liability
 - 14.7 Allocation of Reliability-Related Penalty Costs
 - 14.7.1 Overview of Process
 - 14.7.2 Direct Allocation of Reliability Standards Penalties
 - 14.7.3 Indirect Allocation of Penalty Costs
- 15. Regulatory Filings**
- 16. Existing Contracts**
 - 16.1 Continuation of Existing Contracts for Non-Participating TOs
 - 16.1.1 Participating TO Obligation
 - 16.1.2 Right to Use and Ownership of Facilities
 - 16.1.3 Existing Contract Dispute Resolution
 - 16.1.4 Conversion of PTO's Rights Under Existing Contracts
 - 16.2 [Not Used]
 - 16.3 Curtailment Under Emergency and Non-Emergency Conditions
 - 16.3.1 Emergency Conditions
 - 16.3.2 Non-Emergency Conditions
 - 16.4 TRTC Instructions
 - 16.4.1 Responsibility to Create TRTC Instructions
 - 16.4.2 Responsible PTO Re Multiple PTO Parties to Existing Contracts
 - 16.4.3 Scheduling Coordinator Responsibilities
 - 16.4.4 Submission of TRTC Instructions
 - 16.4.5 TRTC Instructions Content
 - 16.4.6 Changes and Updates to TRTC Instructions
 - 16.4.7 Treatment of TRTC Instructions
 - 16.4.8 CAISO Role in Existing Contracts
 - 16.4.9 Implementation of TRTC Instructions
 - 16.5 Treatment of Existing Contracts for Transmission Service
 - 16.5.1 System Emergency Exceptions
 - 16.6 Valid ETC Self-Schedules

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- 16.6.1 Validation of ETC Self-Schedules
- 16.6.2 Treatment of Invalid ETC Self-Schedules
- 16.6.3 Treatment of Valid ETC Self-Schedules
- 16.6.4 Notification to SCs of CAISO Determination
- 16.7 [Not Used]
- 16.8 [Not Used]
- 16.9 The HASP
 - 16.9.1 Scheduling Deadlines
- 16.10 The CAISO's Real-Time Process
- 16.11 Inter-Balancing Authority Area ETC Self-Schedule Bid Changes
- 16.12 Intra-Balancing Authority Area ETC Self-Schedules Changes
- 17. Transmission Ownership Rights (TORs)**
 - 17.1 TRTC Instructions
 - 17.1.1 Responsibility to Create TRTC Instructions
 - 17.1.2 TOR Scheduling Coordinator Responsibilities
 - 17.1.3 Submission of TRTC Instructions
 - 17.1.4 TRTC Instructions Content
 - 17.1.5 Changes and Updates to TRTC Instructions
 - 17.1.6 CAISO Role in Accepting TRTC Instructions
 - 17.1.7 Implementation of TRTC Instructions
 - 17.2 Treatment of TORs
 - 17.2.1 System Emergency Expectations
 - 17.3 Valid TOR Self-Schedule
 - 17.3.1 Validation of TOR Self-Schedules
 - 17.3.2 Treatment of Invalid TOR Self-Schedules
 - 17.3.3 Settlement Treatment of Valid TOR Self-Schedules
 - 17.3.4 Notification to SCs of CAISO Determination
 - 17.4 The HASP
 - 17.4.1 Scheduling Deadlines
 - 17.5 The CAISO's Real-Time Process
 - 17.6 Inter-Balancing Authority Area TOR Self-Schedule Bid Changes
 - 17.7 Intra-Balancing Authority Area TOR Self-Schedule Changes
 - 17.8 Existing Contracts Re TORs for Non-Participating TOs
 - 17.8.1 Participating TO Obligation
 - 17.8.2 Right to Use and Ownership of TORs
 - 17.8.3 Dispute Resolution for Existing Contracts Applicable to TORs
 - 17.9 Conversion of PTOs' Rights Under Existing Contracts Re TORs
 - 17.10 TOR Operations Obligations
- 18. [Not Used]**
- 19. Reliability Coordinator**
 - 19.1 General Provisions
 - 19.2 Access to RC Services
 - 19.3 Supplemental Services – Hosted Advanced Network Applications (HANA)
 - 19.4 Supplemental Services – Physical Security Review
 - 19.5 Roles and Responsibilities
 - 19.6 Provision of Settlement Data by RC Customers
 - 19.7 Settlements and Billing for RC Customers
 - 19.8 Supplemental Services – HANA Services Charge
 - 19.9 Supplemental Services – Physical Security Review Charge
 - 19.10 Dispute Resolution Procedures
 - 19.11 Reliability Coordinator Oversight
 - 19.12 Uncontrollable Forces
 - 19.13 Liability

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- 19.14 Penalties
- 19.15 Confidentiality
- 19.16 Miscellaneous Provisions in Addition to Section 22

- 20. Confidentiality**
 - 20.1 CAISO
 - 20.2 Confidential Information
 - 20.3 Other Parties
 - 20.4 Disclosure
 - 20.5 Confidentiality

- 21. [Not Used]**

- 22. Miscellaneous**
 - 22.1 Audits
 - 22.1.1 Materials Subject to Audit
 - 22.1.2 CAISO Audit Committee
 - 22.1.3 Audit Results
 - 22.1.4 Availability of Records
 - 22.1.5 Confidentiality of Information
 - 22.1.6 Payments
 - 22.2 Assignment
 - 22.3 Term and Termination
 - 22.3.1 Effective Date of CAISO Tariff
 - 22.3.2 Termination of CAISO Tariff with Board and FERC Approval
 - 22.4 Notice
 - 22.4.1 Effectiveness
 - 22.4.2 Addresses
 - 22.4.3 Notice of Changes in Operating Procedures and BPMs
 - 22.5 Waiver
 - 22.6 Staffing and Training to Meet Obligations
 - 22.7 Accounts and Reports
 - 22.8 Applicable Law and Forum
 - 22.9 Consistency with Federal Laws and Regulations
 - 22.10 Administrative Fees
 - 22.11 Operating Procedures and BPM Development and Amendment
 - 22.11.1 Process for Revisions of Business Practice Manuals
 - 22.11.2 Changes to BPM for BPM Change Management
 - 22.11.3 Requests for and Access to Nonpublic Operating Procedures
 - 22.12 [Not Used]
 - 22.13 Scheduling Responsibilities and Obligations

- 23. Categories of Transmission Capacity**

- 24. Comprehensive Transmission Planning Process**
 - 24.1 Overview
 - 24.1.1 [Not Used]
 - 24.1.2 [Not Used]
 - 24.1.3 [Not Used]
 - 24.1.4 [Not Used]
 - 24.2 Nature of the Transmission Planning Process
 - 24.2.1 [Not Used]
 - 24.2.2 [Not Used]
 - 24.2.3 [Not Used]
 - 24.2.4 [Not Used]

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- 24.3 Transmission Planning Process Phase 1
 - 24.3.1 Inputs to the Unified Planning Assumptions and Study Plan
 - 24.3.2 Content of the Unified Planning Assumptions and Study Plan
 - 24.3.3 Stakeholder Input – Unified Planning Assumptions/Study Plan
 - 24.3.4 Economic Planning Studies
 - 24.3.5 [Not Used]
- 24.4 Transmission Planning Process Phase 2
 - 24.4.1 Conducting Technical Studies
 - 24.4.2 Proposed Reliability Driven Transmission Solutions
 - 24.4.3 Phase 2 Request Window
 - 24.4.4 [Not Used]
 - 24.4.5 Determination of Needed Transmission Solutions
 - 24.4.6 Categories of Transmission Solutions
 - 24.4.7 Description of Transmission Solutions
 - 24.4.8 Additional Contents of Comprehensive Transmission Plan
 - 24.4.9 Phase 2 Stakeholder Process
 - 24.4.10 Transmission Plan Approval Process
- 24.5 Transmission Planning Process Phase 3
 - 24.5.1 Competitive Solicitation Process
 - 24.5.2 Project Sponsor Application and Information Requirements
 - 24.5.3 Project Sponsor and Proposal Qualifications
 - 24.5.4 Project Sponsor Selection Factors and Comparative Analysis
 - 24.5.5 Notice to Project Sponsors
 - 24.5.6 Competitive Solicitation Project Proposal Fee
- 24.6 Obligation to Construct Transmission Solutions
 - 24.6.1 Approved Project Sponsor Reporting Requirements
 - 24.6.2 Delay in the Transmission Solution In-Service Date
 - 24.6.3 Development and Submittal of Mitigation Plans
 - 24.6.4 Inability to Complete the Transmission Solution
- 24.7 Documentation of Compliance with NERC Reliability Standards
- 24.8 Additional Planning Information
 - 24.8.1 Information Provided by Participating TOs
 - 24.8.2 Limitation on Regional Activities
 - 24.8.3 Information Requested from Load Serving Entities
 - 24.8.4 Information from BAAs and Regulators
 - 24.8.5 Obligation to Provide Updated Information
- 24.9 Participating TO Study Obligation
- 24.10 Operational Review and Impact Analysis
 - 24.10.1 [Not Used]
 - 24.10.2 [Not Used]
 - 24.10.3 [Not Used]
 - 24.10.4 [Not Used]
- 24.11 [Not Used]
 - 24.11.1 [Not Used]
 - 24.11.2 [Not Used]
 - 24.11.3 [Not Used]
- 24.12 WECC and Interregional Coordination
- 24.13 Interregional Transmission Proposals in the Regional Process
 - 24.13.1 [Not Used]
 - 24.13.2 [Not Used]
- 24.14 Cost Responsibility for Transmission Additions or Upgrades
 - 24.14.1 Project Sponsor Commitment to Pay Full Cost
 - 24.14.2 Cost of Needed Addition or Upgrade to be Borne by PTO
 - 24.14.3 CRR Entitlement for Project Sponsors Not Recovering Costs
 - 24.14.4 RAC Treatment of New Regional Transmission Facilities Costs

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- 24.15 Ownership of and Charges for Expansion Facilities
 - 24.15.1 Transmission Additions and Upgrades under TCA
 - 24.15.2 Access and Charges for Transmission Additions and Upgrades
- 24.16 Expansion by Local Furnishing Participating TOs
- 24.17 Evaluation of Interregional Transmission Projects
 - 24.17.1 Submission of Interregional Transmission Projects
 - 24.17.2 Interregional Transmission Project Assessment
 - 24.17.3 Selection in the Comprehensive Transmission Plan
 - 24.17.4 Interregional Transmission Project Cost Recovery
 - 24.17.5 Monitoring the Status of Interregional Transmission Projects
 - 24.17.6 Delay in Interregional Transmission Project In-Service Date
- 24.18 Order 1000 Common Interregional Tariff
 - 24.18.1 Annual Interregional Information Exchange
 - 24.18.2 Annual Interregional Coordination Meeting
 - 24.18.3 Interregional Transmission Project Joint Evaluation Process
 - 24.18.4 Interregional Cost Allocation Process
 - 24.18.5 Application of Regional Cost Allocation Methodology
- 25. Interconnection of Generating Units and Facilities**
 - 25.1 Applicability
 - 25.1.1 Interconnection Request and Generating Unit Requirements
 - 25.1.2 Affidavit Requirements
 - 25.2 Interconnection to the Distribution System
 - 25.3 Maintenance of Encumbrances
 - 25.4 Asynchronous Generating Facilities
 - 25.4.1 Asynchronous Generating Facilities-Reactive Power
 - 25.5 Modifications to Generating Facilities
 - 25.5.1 *No Header*
 - 25.5.2 *No Header*
 - 25.5.3 *No Header*
- 26. Transmission Rates and Charges**
 - 26.1 Access Charge
 - 26.1.1 Publicly Owned Electric Utilities Access Charge
 - 26.1.2 Regional Access Charge Settlement
 - 26.1.3 Distribution of RAC Revenues
 - 26.1.4 Wheeling
 - 26.1.5 Unbundled Retail Transmission Rates
 - 26.2 [Not Used]
 - 26.3 Addition of New Facilities After CAISO Implementation
 - 26.4 Effect on Tax-Exempt Status
 - 26.5 [Not Used]
 - 26.6 Location Constrained Resource Interconnection Facilities
 - 26.6.1 LCRIFs that Become Network Facilities
- 27. CAISO Markets and Processes**
 - 27.1 LMPs and Ancillary Services Marginal Prices
 - 27.1.1 Locational Marginal Prices for Energy
 - 27.1.2 Ancillary Service Prices
 - 27.1.3 Regulation Mileage Clearing Price
 - 27.2 Load Aggregation Points (LAP)
 - 27.2.1 Metered Subsystems
 - 27.2.2 Determination of LAP Prices
 - 27.3 Trading Hubs
 - 27.4 Optimization in the CAISO Market Processes
 - 27.4.1 Security Constrained Unit Commitment

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- 27.4.2 Security Constrained Economic Dispatch
- 27.4.3 CAISO Markets Scheduling and Pricing Parameters
- 27.5 Full Network Model
 - 27.5.1 Network Models used in CAISO Markets
 - 27.5.2 Metered Subsystems
 - 27.5.3 Integrated Balancing Authority Areas
 - 27.5.4 Accounting for Changes in Topology in IFM
 - 27.5.5 Load Distribution Factor
 - 27.5.6 Management & Enforcement of Constraints in the CAISO Markets
- 27.6 State Estimator
- 27.7 Constrained Output Generation
 - 27.7.1 Election of Constrained Output Generator Status
 - 27.7.2 Election to Waive COG Status
 - 27.7.3 Constrained Output Generators in the IFM
 - 27.7.4 Constrained Output Generators in RUC
 - 27.7.5 Constrained Output Generators in the Real-Time Market
- 27.8 Multi-Stage Generating Resources
 - 27.8.1 Registration and Qualification
 - 27.8.2 Information Requirements
 - 27.8.3 Changes in Status and Configurations of Resource
- 27.9 Non-Generator Resources MWh Constraints
- 27.10 Election to Use Non-Generator Resource Generic Modeling Functionality
- 27.11 Natural Gas Constraint
- 27.12 Operator Imbalance Conformance
 - 27.12.1 Operator Conformance in the Real-Time Market
 - 27.12.2 Conformance Limiter in the Real-Time Market
- 28. Inter-SC Trades**
 - 28.1 Inter-SC Trades of Energy
 - 28.1.1 Purpose
 - 28.1.2 Availability of Inter-SC Trades of Energy
 - 28.1.3 Submission of Inter-SC Trades of Energy
 - 28.1.4 Information Requirements
 - 28.1.5 General Validation Rules for Inter-SC Trades
 - 28.1.6 Validation Procedures for Physical Trades
 - 28.2 Inter-SC Trades of Ancillary Services
 - 28.2.1 Information Requirements
 - 28.2.2 Validation
 - 28.2.3 Submission of Inter-SC Trades of Ancillary Services
 - 28.3 Inter-SC Trades of IFM Load Uplift Obligation
 - 28.3.1 Information Requirements
 - 28.3.2 Validation
 - 28.3.3 Submission of Inter-SC Trades of IFM Load Uplift Obligation
- 29. Energy Imbalance Market**
 - 29.1 General Provisions.
 - 29.2 EIM Entity Access to the Real-Time Market
 - 29.3 [Not Used]
 - 29.4 Roles and Responsibilities
 - 29.5 [Not Used]
 - 29.6 Communications
 - 29.7 EIM Operations Under Normal and Emergency Conditions.
 - 29.8 [Not Used]
 - 29.9 Outages and Critical Contingencies.
 - 29.10 Metering and Settlement Data.
 - 29.11 Settlements and Billing for EIM Market Participants.

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- 29.12 Creditworthiness
 - 29.13 Dispute Resolution
 - 29.14 Uncontrollable Forces, Indemnity, Liabilities, and Penalties
 - 29.15 [Not Used]
 - 29.16 [Not Used]
 - 29.17 EIM Transmission System
 - 29.18 [Not Used]
 - 29.19 [Not Used]
 - 29.20 Confidentiality
 - 29.21 [Not Used]
 - 29.22 Miscellaneous Provisions in Addition to Section 22.
 - 29.23 [Not Used]
 - 29.24 [Not Used]
 - 29.25 [Not Used]
 - 29.26 Transmission Rates and Charges.
 - 29.27 CAISO Markets and Processes.
 - 29.28 Inter-SC Trades
 - 29.29 [Not Used]
 - 29.30 Bid and Self-Schedule Submission for CAISO Markets.
 - 29.31 Day-Ahead.
 - 29.32 Greenhouse Gas Regulation and EIM Bid Adders.
 - 29.33 [Not Used]
 - 29.34 EIM Operations
 - 29.35 Market Validation and Price Correction
 - 29.36 [Not Used]
 - 29.37 Rules of Conduct
 - 29.38 Market Monitoring
 - 29.39 EIM Market Power Mitigation.
 - 29.40 [Not Used]
 - 29.41 [Not Used]
 - 29.42 [Not Used]
 - 29.43 [Not Used]
 - 29.44 Flexible Ramping Product
- 30. Bid and Self-Schedule Submission for all CAISO Markets**
- 30.1 Bids, Including Self-Schedules
 - 30.1.1 Day-Ahead Market
 - 30.1.2 Real-Time Market
 - 30.2 Bid Types
 - 30.3 [Not Used]
 - 30.4 Proxy Cost and Registered Cost Methodologies
 - 30.4.1 Start-Up and Minimum Load Costs
 - 30.5 Bidding Rules
 - 30.5.1 General Bidding Rules
 - 30.5.2 Supply Bids
 - 30.5.3 Demand Bids
 - 30.5.4 Wheeling Through Transactions
 - 30.5.5 Scheduling Sourcing/Sinking in Same Balancing Authority Area
 - 30.5.6 Non-Generator Resource Bids
 - 30.5.7 E-Tag Rules and Treatment of Intertie Schedules
 - 30.6 Bidding and Scheduling of PDRs and RDRRs
 - 30.6.1 Bidding and Scheduling of PDRs
 - 30.6.2 Bidding and Scheduling of RDRRs
 - 30.6.3 Net Benefits Test for PDRs or PDRRs
 - 30.7 Bid Validation
 - 30.7.1 Scheduling Coordinator Access

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- 30.7.2 Timing of CAISO Validation
- 30.7.3 DAM Validation
- 30.7.4 RTM Validation
- 30.7.5 Validation of ETC Self-Schedules
- 30.7.6 Validation and Treatment of Ancillary Services Bids
- 30.7.7 Format and Validation of Operational Ramp Rates
- 30.7.8 Format and Validation of Start-Up and Shut-Down Times
- 30.7.9 Format and Validation of Start-Up Costs and Shut-Down Costs
- 30.7.10 Format and Validation of Minimum Load Costs
- 30.8 Bids on Out-of-Service Paths at Scheduling Points Prohibited
- 30.9 Virtual Bids
 - 30.9.1 Virtual Bid Components
- 30.10 Use of AC Solution and Nodal MW Constraints
- 30.11 Filings to Recover Commitment-Related Fuel Costs
- 30.12 Eligibility to Submit Filings to Recover Marginal Fuel-Related Costs
 - 30.12.1 Applicability
 - 30.12.2 Notice and Process
 - 30.12.3 Documentation Required for FERC Filing
 - 30.12.4 Payment and Allocation Costs Recovered Per FERC Order
- 31. Day-Ahead Market**
 - 31.1 Bid Submission and Validation in the Day-Ahead Market
 - 31.2 Day-Ahead MPM Process
 - 31.2.1 The Market Power Mitigation Process
 - 31.2.2 Bid Mitigation for RMR Units
 - 31.2.3 Bid Mitigation for Non-RMR Units
 - 31.3 Integrated Forward Market
 - 31.3.1 Market Clearing and Price Determination
 - 31.3.2 Congestion and Transmission Losses Cost Determination
 - 31.3.3 Metered Subsystems
 - 31.4 CAISO Market Adjustments to Non-Priced Quantities in the IFM
 - 31.5 Residual Unit Commitment
 - 31.5.1 RUC Participation
 - 31.5.2 Metered Subsystem RUC Obligation
 - 31.5.3 RUC Procurement Target
 - 31.5.4 RUC Procurement Constraints
 - 31.5.5 Selection and Commitment of RUC Capacity
 - 31.5.6 Eligibility for RUC Compensation
 - 31.5.7 Rescission of Payments for RUC Capacity
 - 31.6 Timing of Day-Ahead Scheduling
 - 31.6.1 Criteria for Temporary Waiver of Timing Requirements
 - 31.6.2 Information to be Published on Secure Communication System
 - 31.6.3 Conditions Permitting CAISO to Abort Day-Ahead Market
 - 31.6.4 [Not Used]
 - 31.7 Extremely Long-Start Commitment Process
 - 31.8 Constraints Enforced at Interties
 - 31.8.1 Scheduling Constraints
 - 31.8.2 Physical Flow Constraints
- 32. [Not Used]**
- 33. [Not Used]**
 - 33.1 [Not Used]
 - 33.2 [Not Used]
 - 33.3 [Not Used]
 - 33.4 [Not Used]

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- 33.5 [Not Used]
- 33.6 [Not Used]
- 33.7 [Not Used]
- 33.8 [Not Used]
 - 33.8.1 [Not Used]
- 33.9 [Not Used]
- 34. Real-Time Market**
 - 34.1 Inputs to the Real-Time Market
 - 34.1.1 Day-Ahead Market Results as Inputs to the Real-Time Market
 - 34.1.2 Market Model and System Information
 - 34.1.3 Bids in the Real-Time Market
 - 34.1.4 Real-Time Validation of Schedules and Bids
 - 34.1.5 Mitigating Bids in the RTM
 - 34.2 The Hour-Ahead Scheduling Process
 - 34.2.1 The HASP Optimization
 - 34.2.2 Treatment of Self-Schedules in HASP
 - 34.2.3 Ancillary Services in the HASP and FMM
 - 34.2.4 HASP Results
 - 34.2.5 Cessation of the HASP
 - 34.3 Real-Time Unit Commitment
 - 34.3.1 RTUC Optimization
 - 34.3.2 Commitment of Fast Start and Short Start Units
 - 34.3.3 [Not Used]
 - 34.4 Fifteen Minute Market
 - 34.4.1 Real-Time Ancillary Services Procurement
 - 34.5 Real-Time Dispatch
 - 34.5.1 Real-Time Economic Dispatch
 - 34.5.2 Real-Time Contingency Dispatch
 - 34.5.3 Real-Time Manual Dispatch
 - 34.6 Short-Term Unit Commitment
 - 34.7 General Dispatch Principles
 - 34.8 Dispatch Instructions to Units, Participating Loads, PDRs, and RDRRs
 - 34.9 Utilization of the Energy Bids
 - 34.9.1 [Not Used]
 - 34.9.2 [Not Used]
 - 34.9.3 [Not Used]
 - 34.9.4 [Not Used]
 - 34.10 Dispatch of Energy from Ancillary Services
 - 34.10.1 [Not Used]
 - 34.10.2 [Not Used]
 - 34.11 Exceptional Dispatch
 - 34.11.1 System Reliability Exceptional Dispatches
 - 34.11.2 Other Exceptional Dispatches
 - 34.11.3 Transmission-Related Modeling Limitations
 - 34.11.4 Reporting Requirements
 - 34.12 CAISO Market Adjustment to Non-Priced Quantities in the RTM
 - 34.12.1 Increasing Supply
 - 34.12.2 Decreasing Supply
 - 34.13 Means of Dispatch Communication
 - 34.13.1 Response Required by Resources to Dispatch Instructions
 - 34.13.2 Failure to Conform to Dispatch Instructions
 - 34.14 Metered Subsystems
 - 34.14.1 [Not Used]
 - 34.15 Treatment of Resource Adequacy Capacity in the RTM
 - 34.15.1 [Not Used]

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- 34.15.2 [Not Used]
- 34.15.3 [Not Used]
- 34.15.4 [Not Used]
- 34.15.5 [Not Used]
- 34.15.6 [Not Used]
- 34.16 Real-Time Activities in the Hour Prior to Settlement Period
 - 34.16.1 Confirm Interchange Transaction Schedules (ITSs)
 - 34.16.2 [Not Used]
 - 34.16.3 [Not Used]
- 34.17 Rules for Real-Time Dispatch of Imbalance Energy Resources
 - 34.17.1 Resource Constraints
 - 34.17.2 Calculation of Dispatch Operating Points After Instructions
 - 34.17.3 [Not Used]
 - 34.17.4 Inter-Hour Dispatch of Resources with Real-Time Energy Bids
 - 34.17.5 Inter-Hour Resources Dispatch without Real-Time Energy Bids
 - 34.17.6 Intra-Hour Exceptional Dispatches
- 34.18 Ancillary Services in the Real-Time Market
 - 34.18.1 Dispatch of Self-Provided Ancillary Services
- 34.19 Dispatch Information and Instructions
 - 34.19.1 Dispatch Information to be Supplied by the CAISO
 - 34.19.2 Dispatch Information to be Supplied by SC
 - 34.19.3 Dispatch Information to be Supplied by UDCs
 - 34.19.4 Dispatch Information to be Supplied by PTOs
 - 34.19.5 Dispatch Information to be Supplied by Balancing Authorities
- 34.20 Pricing Imbalance Energy
 - 34.20.1 General Principles
 - 34.20.2 Determining Real-Time LMPs
- 34.21 Temporary Waiver of Timing Requirements for the RTM
 - 34.21.1 Criteria for Temporary Waiver
 - 34.21.2 Information to be Published on Secure Communication System
- 34.22 Real-Time Dispatch of RDRRs
 - 34.22.1 Testing of RDRRs
- 35. Market Validation and Price Correction**
 - 35.1 Market Validation
 - 35.2 Timing of Price Correction Process
 - 35.3 Finality of Prices Subject to the Price Correction Process
 - 35.3.1 Price Corrections and Changes Pursuant to FERC Orders
 - 35.3.2 Processing and Publication Issues
 - 35.4 Scope of Price Corrections
 - 35.5 Price Correction Methodology
 - 35.6 Weekly Price Correction Report
- 36. Congestion Revenue Rights**
 - 36.1 Overview of CRRs and Procurement of CRRs
 - 36.2 Types of CRR Instruments
 - 36.2.1 CRR Obligations
 - 36.2.2 CRR Options
 - 36.2.3 Point-To-Point CRRs
 - 36.2.4 [Not Used]
 - 36.2.5 Monthly CRRs
 - 36.2.6 Seasonal CRRs
 - 36.2.7 Long Term CRRs
 - 36.2.8 Limitations on Funding of CRRs
 - 36.3 CRR Specifications
 - 36.3.1 Quantity

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- 36.3.2 Term
- 36.3.3 On-Peak and Off-Peak Specifications
- 36.4 FNM for CRR Allocation and CRR Auction
 - 36.4.1 Adjustments to the FNM in Preparing the CRR FNM
 - 36.4.2 Simultaneous Feasibility
 - 36.4.3 Outages that may Affect CRR Revenue; Scheduling Requirements
- 36.5 Candidate CRR Holder and CRR Holder Requirements
 - 36.5.1 Creditworthiness Requirements
 - 36.5.2 Required Training
- 36.6 [Not Used]
- 36.7 Bilateral CRR Transactions
 - 36.7.1 Transfer of CRRs
 - 36.7.2 Responsibility of the CAISO
 - 36.7.3 CRR Holder Reporting Requirement
- 36.8 CRR Allocation
 - 36.8.1 Structure of the CRR Allocation Process
 - 36.8.2 Load Eligible for CRRs and Eligible CRR Sinks
 - 36.8.4 Eligible Sources for CRR Allocation
 - 36.8.5 Load Migration Between LSEs
 - 36.8.6 Load Forecasts Used to Calculate CRR MW Eligibility
 - 36.8.7 Reconfiguration of CRRs
- 36.9 CRR Allocation to OBAALSEs
 - 36.9.1 Showing of Legitimate Need
 - 36.9.2 Prepayment of Wheeling Access Charge
 - 36.9.3 CRR Eligible Quantities
 - 36.9.4 Eligible CRR Sources and Sinks
 - 36.9.5 Priority Nomination Process
- 36.10 CRR Allocation to Merchant Transmission Subsystems
- 36.11 CRR Allocation to Merchant Transmission Facilities
 - 36.11.1 Eligibility for Merchant Transmission CRRs
 - 36.11.2 Procedure for Allocating Merchant Transmission CRRs
 - 36.11.3 CRRs Allocated to a Transmission Facility Project Sponsor
- 36.12 [Not Used]
- 36.13 CRR Auction
 - 36.13.1 Scope of the CRR Auctions
 - 36.13.2 Responsibilities of the CAISO Prior to Each CRR Auction
 - 36.13.3 CRR Holder Creditworthiness
 - 36.13.4 Bids in the CRR
 - 36.13.5 Eligible Sources and Sinks for CRR Auction
 - 36.13.6 Clearing of the CRR Auction
 - 36.13.7 Announcement of CRR Auction Results
- 36.14 CRR Implications of new IBAA's or Modifying Existing IBAA's
 - 36.14.1 Coordination of IBAA Changes with Release of CRRs
 - 36.14.2 Modification to CRR Settlement to Reflect IBAA Changes
 - 36.14.3 IBAA Change Impact on Adequacy of Previously-Released CRRs
- 36.15 [Not Used]
- 37. Rules of Conduct**
 - 37.1 Objectives, Definitions, and Scope
 - 37.1.1 Purpose
 - 37.1.2 Objectives
 - 37.1.3 Application of Other Remedies
 - 37.1.4 [Not Used]
 - 37.1.5 Administration
 - 37.2 Comply with Operating Instructions
 - 37.2.1 Compliance with Orders Generally

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- 37.2.2 [Not Used]
- 37.2.3 Operations and Maintenance Practices
- 37.2.4 Resource Adequacy Availability
- 37.2.5 [Not Used]
- 37.2.6 [Not Used]
- 37.3 Submit Feasible Bids and Submissions to Self-Provide
 - 37.3.1 Bidding Generally
 - 37.3.2 Exceptions
- 37.4 Comply with Available Reporting Requirements
 - 37.4.1 Reporting Availability
 - 37.4.2 Scheduling and Final Approval of Outages
 - 37.4.3 [Not Used]
 - 37.4.4 Enhancements and Exceptions
- 37.5 Provide Factually Accurate Information
 - 37.5.1 [Not Used]
 - 37.5.2 Inaccurate or Late Actual SQMD
- 37.6 Provide Information Required by CAISO Tariff
 - 37.6.1 Required Information Generally
 - 37.6.2 Investigation Information
 - 37.6.3 Audit Materials
 - 37.6.4 Review by FERC
- 37.7 [Not Used]
- 37.8 Process for Investigation and Enforcement
 - 37.8.1 Purpose; Scope
 - 37.8.2 Referrals to FERC
 - 37.8.3 Investigation
 - 37.8.4 Notice
 - 37.8.5 Opportunity to Present Evidence
 - 37.8.6 Results of Investigation
 - 37.8.7 Statement of Findings and Conclusions
 - 37.8.8 Officer Representative
 - 37.8.9 Record of Investigation
 - 37.8.10 Review of Determination
- 37.9 Administration of Sanctions
 - 37.9.1 Assessment, Waivers and Adjustments
 - 37.9.2 [Not Used]
 - 37.9.3 Settlement
 - 37.9.4 Disposition of Proceeds
- 37.10 Miscellaneous
 - 37.10.1 Time Limitation
 - 37.10.2 No Limitation on other Rights
- 37.11 Method for Calculating Penalties
 - 37.11.1 Inaccurate or Late Actual SQMD Penalty
 - 37.11.2 Inaccurate or Actual SQMD Penalty without Recalculation Settlement Statement

38. Market Monitoring

39. Market Power Mitigation Procedures

- 39.1 Intent of CAISO Mitigation Measures; Additional FERC Filings
- 39.2 Conditions for the Imposition of Mitigation Measures
 - 39.2.1 Conduct Inconsistent with Competitive Conduct
- 39.3 Categories of Conduct that May Warrant Mitigation
 - 39.3.1 Conduct Regarding Bidding, Scheduling or Facility Operation
 - 39.3.2 Market Effects of Rules, Standards, Procedures, Other Items
 - 39.3.3 Using Different Prices in Other Markets as Appropriate
 - 39.3.4 Foregoing Category List Subject to Amendment as Appropriate

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- 39.4 Sanctions for Physical Withholding
- 39.5 FERC-Ordered Measures
- 39.6 Rules Limiting Certain Energy, AS, and RUC Bids
 - 39.6.1 Maximum Bid Prices
- 39.7 Local Market Power Mitigation for Energy Bids
 - 39.7.1 Calculation of Default Energy Bids
 - 39.7.2 Competitive Path Designation
 - 39.7.3 Default Competitive Path Designations
- 39.8 Eligibility for Bid Adder
 - 39.8.1 Bid Adder Eligibility Criteria
 - 39.8.2 New Generating Units
 - 39.8.3 Bid Adder Values
- 39.9 CRR Monitoring and Affiliate Disclosure Requirements
- 39.10 Mitigation of Exceptional Dispatches of Resources
 - 39.10.1 Measures for Resources Eligible for Supplemental Revenues
 - 39.10.2 Resources Not Eligible for Supplemental Revenues
 - 39.10.3 Eligibility for Supplemental Revenues
 - 39.10.4 Limitation on Supplemental Revenues
 - 39.10.5 Calculation of Exceptional Dispatch Supplemental Revenues
- 39.11 Market Power Mitigation Applicable to Virtual Bidding
 - 39.11.1 Affiliate Disclosure Requirements
 - 39.11.2 Monitoring of Virtual Bidding Activity
- 40. Resource Adequacy Demonstration for all SCs in the CAISO BAA**
 - 40.1 Applicability
 - 40.1.1 [Not Used]
 - 40.2 Information Requirements for Resource Adequacy Programs
 - 40.2.1 Load Serving Entities
 - 40.2.2 Non-CPUC Load Serving Entities
 - 40.2.3 [Not Used]
 - 40.2.4 Load-Following MSS
 - 40.3 Local Capacity Area Resource Requirements for SCs for LSEs
 - 40.3.1 Local Capacity Technical Study
 - 40.3.2 Allocation of Local Capacity
 - 40.3.3 Procurement of Local Capacity Area Resources by LSEs
 - 40.3.4 [Not Used]
 - 40.4 General Requirements on Resource Adequacy Resources
 - 40.4.1 Eligible Resources and Determination of Qualifying Capacity
 - 40.4.2 Net Qualifying Capacity Report
 - 40.4.3 General Qualifications for Supplying Net Qualifying Capacity
 - 40.4.4 Reductions for Testing
 - 40.4.5 Reductions for Performance Criteria
 - 40.4.6 Reductions for Deliverability
 - 40.4.7 Submission of Supply Plans
 - 40.5 [Not Used]
 - 40.5.1 [Not Used]
 - 40.5.2 [Not Used]
 - 40.5.3 [Not Used]
 - 40.5.4 [Not Used]
 - 40.5.5 [Not Used]
 - 40.6 Requirements for SCs and Resources for LSEs
 - 40.6.1 Day-Ahead Availability
 - 40.6.2 Real-Time Availability
 - 40.6.3 [Not Used]
 - 40.6.4 Availability Requirements for Resources with Operational Limitations that are not Qualified Use Limits

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- 40.6.5 Additional Availability Requirements for System Resources
- 40.6.6 Requirement for Partial Resource Adequacy Resources
- 40.6.7 [Not Used]
- 40.6.8 Use of Generated Bids
- 40.6.9 Firm Liquidated Damages Contracts Requirements
- 40.6.10 Exports of Energy from Resource Adequacy Capacity
- 40.6.11 Curtailment of Exports in Emergency Situations
- 40.6.12 Participating Load, PDRs, and RDRRs
- 40.7 Compliance
 - 40.7.1 Other Compliance Issues
 - 40.7.2 Penalties for Non-Compliance
- 40.8 CAISO Default Qualifying Capacity Criteria
 - 40.8.1 Applicability
- 40.9 Resource Adequacy Availability Incentive Mechanism
 - 40.9.1 Introduction to RAAIM
 - 40.9.2 Exemptions
 - 40.9.3 Availability Assessment
 - 40.9.4 Additional Rules on Calculating Monthly and Daily Average Availability
 - 40.9.5 Availability Standard
 - 40.9.6 Non-Availability Charges and Availability Incentive Payments
 - 40.9.7 Reporting
- 40.10 Flexible RA Capacity
 - 40.10.1 Flexible Capacity Needs Assessment
 - 40.10.2 Allocation of Flexible Capacity Needs
 - 40.10.3 Flexible Capacity Categories
 - 40.10.4 Effective Flexible Capacity
 - 40.10.5 Flexible RA Capacity Plans
 - 40.10.6 Flexible RA Capacity Must-Offer Obligation
- 41. Procurement of RMR Generation**
 - 41.1 Procurement of Reliability Must-Run Generation by the CAISO
 - 41.2 Designation of Generating Unit as Reliability Must-Run Unit
 - 41.3 Reliability Studies and Determination of RMR Units Status
 - 41.4 Reliability Must-Run Contracts
 - 41.5 RMR Dispatch
 - 41.5.1 Day-Ahead and RTM RMR Dispatch
 - 41.5.2 RMR Payments
 - 41.5.3 RMR Units and Ancillary Services Requirements
 - 41.6 Reliability Must-Run Charge
 - 41.6.1 No Offsets to Responsible Utility's CAISO Invoice Payments
 - 41.6.2 Refunds of Disputed Amounts on RMR Invoices
 - 41.6.3 Time-Frame for Responsible Utility to Dispute RMR Invoices
 - 41.6.4 Disputes After Operational Compliance Review
 - 41.6.5 Invoice Disputes Subject to RMR Contract Resolution Process
 - 41.6.6 RMR Owner's Rights as a Third Party Beneficiary
 - 41.7 Responsibility for Reliability Must-Run Charge
 - 41.8 Responsibility for RMR Charges Associated with SONGS
 - 41.9 Exceptional Dispatch of Condition 2 RMR Units
 - 41.9.1 Notification Required Before Condition 2 RMR Unit Dispatch
- 42. Adequacy of Facilities to Meet Applicable Reliability Criteria**
 - 42.1 Generation Planning Reserve Criteria
 - 42.1.1 *No Header*
 - 42.1.2 Applicable Reliability Criteria Met in Peak Demand
 - 42.1.3 Applicable Reliability Criteria Not Met in Peak Demand
 - 42.1.4 Lowest Cost Bids Satisfying Applicable Reliability Criteria

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- 42.1.5 CAISO to Take Necessary Steps to Ensure Criteria Compliance
- 42.1.6 Long Term Forecast for Information Purposes
- 42.1.7 Reliance on Market Forces to Maximize Possible Extent
- 42.1.8 Allocation of Costs Incurred by CAISO in Trading Hour to SCs
- 42.1.9 Costs for Difference in Schedules and Real-Time Deviations
- 42.2 Transferred Frequency Response
 - 42.2.1 Procurement of Transferred Frequency Response
 - 42.2.2 Allocation of Transferred Frequency Response Costs Incurred

43. [Not Used]

43A. Capacity Procurement Mechanism

- 43A.1 Applicability
- 43A.2 Capacity Procurement Mechanism Designation
 - 43A.2.1 SC Failure to Show Sufficient Local Capacity Area Resources
 - 43A.2.2 Collective Deficiency in Local Capacity Area Resources
 - 43A.2.3 SC Failure to Show Sufficient Resource Adequacy Resources
 - 43A.2.4 CPM Significant Events
 - 43A.2.5 Exceptional Dispatch CPM
 - 43A.2.6 Capacity at Risk of Retirement Needed for Reliability
 - 43A.2.7 Cumulative Deficiency in Flexible RA Capacity
- 43A.3 Terms of CPM Designation
 - 43A.3.1 SC Annual Plan Failure to Show Local Capacity Area Resources
 - 43A.3.2 SC Month Plan Failure to Show Local Capacity Area Resources
 - 43A.3.3 Annual Plan Collective LCA Resources Insufficient
 - 43A.3.4 SC Failure to Show Sufficient Resource Adequacy Resources
 - 43A.3.5 Term – CPM Significant Event
 - 43A.3.6 Term – Exceptional Dispatch CPM
 - 43A.3.7 Term – Capacity at Risk of Retirement Needed for Reliability
 - 43A.3.8 Term – Flexible Capacity CPM Designation
- 43A.4 Selection of Eligible Capacity Under the CPM through Competitive Solicitation Processes (CSP) and General Eligibility Rules
 - 43A.4.1 Offer Rules to the CSPs
 - 43A.4.2 Administering the CSPs
 - 43A.4.3 Designation Amount.
- 43A.5 Obligations of a Resource Designated Under the CPM
 - 43A.5.1 Availability Obligations.
 - 43A.5.2 Obligation to Provide Capacity and Termination
 - 43A.5.3 Availability Obligations for Simultaneous Designations.
 - 43A.5.4 Individualized Non-Availability Charges and Availability Incentive Payments
- 43A.6 Reports
 - 43A.6.1 CPM Designation Market Notice
 - 43A.6.2 Designation of a Resource Under the CPM
 - 43A.6.3 Non-Market and Repeated Market Commitment of Non-RA Capacity
 - 43A.6.4 Publication of Offers Submitted to the Competitive Solicitation Process
- 43A.7 Payments to Capacity Designated Under the CPM
 - 43A.7.1. Calculation of Monthly CPM Capacity Payment
 - 43A.7.2 Payments for Overlapping CPM Designations to the Same Resource
 - 43A.7.3 Market Payments
- 43A.8 Allocation of CPM Capacity Payment Costs
 - 43A.8.1 LSE Shortage of Local Capacity Area Resources in Annual Plan
 - 43A.8.2 LSE Shortage of Local Capacity Area Resources in Month Plan
 - 43A.8.3 Collective Deficiency in Local Capacity Area Resources
 - 43A.8.4 LSE Shortage of Demand or Reserve Margin Requirement in Plan
 - 43A.8.5 Allocation of CPM Significant Event Costs

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43A.8.6	Allocation of Exceptional Dispatch CPMs
43A.8.7	Allocation of CPM Costs for Resources at Risk of Retirement
43A.8.8	Allocation of Flexible Capacity CPM Costs
43A.9	Crediting of CPM Capacity
43A.10	[Not Used]

44. Flexible Ramping Product

44.1	In General.
44.2	Uncertainty Awards
44.2.1	Optimization.
44.2.2	Variable Energy Resources.
44.2.3	Eligibility for Uncertainty Award.
44.2.4	Determination of Uncertainty Requirement.
44.3	Forecasted Movement
44.3.1	Generally.
44.3.2	RTD Forecasted Movement.
44.3.3	FMM Forecasted Movement.

Appendix A Master Definition Supplement

Appendix B Pro Forma Agreements

Appendix B.1	Scheduling Coordinator Agreement
Appendix B.2	Participating Generator Agreement
Appendix B.3	Net Schedule Participating Generator Agreement
Appendix B.4	Participating Load Agreement
Appendix B.5	Dynamic Scheduling Agreement for Scheduling Coordinators
Appendix B.6	MSA for Metered Entities (MSA CAISOME)
Appendix B.7	Meter Service Agreement for Scheduling Coordinators
Appendix B.8	Utility Distribution Company Operating Agreement (UDCOA)
Appendix B.9	Dynamic Scheduling Host Balancing Authority Operating Agreement (DSHBAOA)
Appendix B.10	Small Utility Distribution Company Operating Agreement (SUDCOA)
Appendix B.11	Congestion Revenue Rights (CRR) Entity Agreement
Appendix B.12	Metered Subsystem (MSS) Entity Agent Agreement
Appendix B.13	Resource-Specific System Resource Agreement
Appendix B.14	Demand Response Provider Agreement (DRPA)
Appendix B.15	Convergence Bidding Entity Agreement (CEBA)
Appendix B.16	Pseudo-Tie Participating Generator Agreement (PPGA)
Appendix B.17	Energy Imbalance Market Entity Agreement (EIMIA)
Appendix B.18	Energy Imbalance Market Scheduling Coordinator Agreement (EIMSCA)
Appendix B.19	Energy Imbalance Market Participating Resource Agreement (EIMPRA)
Appendix B. 20	Energy Imbalance Market Participating Resource Scheduling Coordinator Agreement (EIMPRSCA)
Appendix B.21	Distributed Energy Resource Provider Agreement (DERPA)
Appendix B.22	Reliability Coordinator Services Agreement (RCSA)

Appendix C Locational Marginal Price

Appendix D Black Start Generating Units

Appendix E Submitted Ancillary Services Data Verification

Appendix F Rate Schedules

Appendix G Pro Forma Reliability Must-Run Contract

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Appendix H	Congestion Revenue Rights Transition Period
Appendix I	Station Power Protocol
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Appendix K	Ancillary Service Requirements Protocol (ASRP)
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Appendix O	CAISO Market Surveillance Committee
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Appendix R	Uninstructed Deviation Penalty (UDP) Aggregation Protocol
Appendix S	Small Generator Interconnection Procedures (SGIP)
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Appendix Y	Generator Interconnection Procedures (GIP) for Interconnection Requests
Appendix Z	Large Generator Interconnection Agreement for Interconnection Requests Process Under the Generator Interconnection Procedures
Appendix AA	Grandfathered Resource Adequacy Provisions for February 2018 to March 2018
Appendix BB	Standard Large Generator Interconnection Agreement (LGIA) for Interconnection Requests in a Serial Study Group <i>pro forma</i>
Appendix CC	Large Generator Interconnection Agreement (LGIA) for Interconnection Requests in a Queue Cluster Window <i>pro forma</i>
Appendix DD	Generator Interconnection and Deliverability Allocation Procedures (GIDAP)
Appendix EE	Large Generator Interconnection Agreement (LGIA) for Interconnection Requests Processed Under the Generator Interconnection and Deliverability Allocation Procedures (GIDAP) <i>pro forma</i>
Appendix FF	Small Generator Interconnection Agreement (SGIA) for Interconnection Requests Processed Under the Generator Interconnection and Deliverability Allocation Procedures (GIDAP) <i>pro forma</i>

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Appendix GG One-Time Interconnecting Generator Downsizing Opportunity

Appendix HH Generator Interconnection Agreement Amendment Regarding Downsizing

Appendix II Market-Based Rate Authority Suspension