

INDEX

Article/Section Number	Sheet No.
ARTICLE 1 – GENERAL PROVISIONS	1
1 DEFINITIONS AND INTERPRETATIONS.	1
1.1 The general provisions of this Article I shall apply to this CAISO Tariff.	1
1.2 Definitions.	1
1.3 Rules of Interpretation.	1
2 ACCESS TO THE CAISO CONTROLLED GRID.	3
2.1 Open Access.	3
2.2 Eligibility of Customers for Direct Access or Wholesale Sales	3
3 FACILITIES FINANCED BY LOCAL FURNISHING BONDS OR OTHER TAX EXEMPT BONDS.	4
4 ROLES AND RESPONSIBILITIES.	5
4.1 [NOT USED]	5
4.2 Market Participant Responsibilities.	5
4.3 Relationship Between CAISO and Participating TOs.	5
4.4 Relationship Between CAISO and UDCs.	9
4.5 Responsibilities of a Scheduling Coordinator.	13
4.6 Relationship Between CAISO and Generators.	29
4.7 Relationship Between CAISO and Participating Loads.	38
4.8 Relationship Between CAISO and Eligible Intermittent Resources and Between the CAISO and Participating Intermittent Resources.	38
4.9 Metered Subsystems.	38
4.10 Candidate CRR Holder and CRR Holder Registration.	51
4.11 Relationship Between CAISO and SUDCs.	57
5 [NOT USED]	63-72
6 COMMUNICATIONS.	73
6.1 Methods of Communications.	73
6.2 CAISO's Secure Communication System.	75
6.3 Communication of Dispatch Instructions.	76
6.4 Communication of Operating Orders.	78
6.5 CAISO Communications.	78
7 SYSTEM OPERATIONS UNDER NORMAL AND EMERGENCY OPERATING CONDITIONS.	93
7.1 CAISO Control Center Operations.	93
7.2 Operating Reliability Criteria	95
7.3 Transmission Planning Authority.	96
7.4 General Standard of Care.	98A
7.5 Routine Operation of the CAISO Controlled Grid.	98A
7.6 Normal System Operations.	100
7.7 Management of System Emergencies.	102
7.8 Management of Overgeneration Conditions.	117
8 ANCILLARY SERVICES.	119
8.1 Scope.	119
8.2 Ancillary Services Standards.	120
8.3 Procurement of Ancillary Services, Certification and Testing Requirements for Providers of Ancillary Services, and Time-frame For Contracting for Ancillary Services.	128
8.4 Technical Requirements for Providing Ancillary Services.	139
8.5 Time Frame for Submitting and Evaluating Ancillary Services Bids.	145
8.6 Obligations for and Self-Provision of Ancillary Services.	146
8.7 Scheduling of Units to Provide Ancillary Services.	150
8.8 Black Start.	150
8.9 Verification, Compliance Testing, and Audit of Ancillary Services.	150

	8.10	Periodic Testing of Units.	159
	8.11	Temporary Changes to Ancillary Services Penalties	164
9		OUTAGES.	165
	9.1	Coordination and Approval for Outages.	165
	9.2	Responsibility for Authorized Work on Facilities.	165
	9.3	Coordination of Outages and Maintenance.	165
	9.4	Outage Coordination For New Facilities.	184
	9.5	Records.	187
	9.6	Facility Owner.	187
10		METERING.	188
	10.1	General Provisions.	188
	10.2	Metering for CAISO Metered Entities.	192
	10.3	Metering for Scheduling Coordinator Metered Entities.	204
	10.4	Exemptions from Compliance.	211
11		CAISO SETTLEMENTS AND BILLING.	214
	11.1	Settlement Principles.	214
	11.2	Settlement of Day-Ahead Market Transactions.	216
	11.3	[NOT USED]	228
	11.4	HASP Settlement of Scheduling Points.	228
	11.5	Real-Time Market Settlements.	229
	11.6	[NOT USED]	247
	11.7	Additional MSS Settlements Requirements.	247
	11.8	Bid Cost Recovery.	250
	11.9	Inter-SC Trades.	275
	11.10	Settlements for Ancillary Services.	276
	11.11	High Voltage Access Charges and Transition Charges, and Wheeling Through and Wheeling Out Transactions.	295
	11.12	Participating Intermittent Resources.	296
	11.13	Settlements and Billing of Reliability Must-Run Charges and Payments.	298
	11.14	Neutrality Adjustments.	310
	11.15	Payments Under Section 42.1 Contracts.	311
	11.16	Additional Ancillary Services and RUC Capacity Obligation Rescission of Payments Requirements.	311
	11.17	CAISO Operating and Capital Reserves Account.	313
	11.18	Emissions Costs.	313
	11.19	FERC Annual Charges.	316
	11.20	NERC/WECC Charges.	320
	11.21	[NOT USED]	330
	11.22	Grid Management Charge.	331
	11.23	Penalties for Uninstructed Imbalance Energy.	338
	11.24	Interim Scheduling Report, Charge and Allocation.	345
	11.25	[NOT USED]	347
	11.26	[NOT USED]	347
	11.27	Voltage Support and Black Start Charges.	347
	11.28	No Title	347
	11.29	Billing and Payment Process.	347
	11.30	Auditing.	378
	11.31	HASP Intertie Schedules Decline Charges	378A
12		CREDITWORTHINESS.	379
	12.1	Credit Requirements.	379
	12.2	Review of Creditworthiness.	397
	12.3	Posting and Releases of Financial Security.	398
	12.4	Calculation of Ongoing Financial Security Requirements.	399
	12.5	CAISO Enforcement Actions Regarding Under-Secured Market Participants.	401
	12.6	Credit Obligations Applicable to CRRs.	403
	12.7	Credit Obligation for New Responsible Utilities for RMR Costs.	406A

13	DISPUTE RESOLUTION.	408
	13.1 Applicability.	408
	13.2 Negotiation and Mediation.	409
	13.3 Arbitration.	411
	13.4 Appeal of Award.	418
	13.5 Allocation of Awards Payable by or to the CAISO.	420
14	FORCE MAJEURE INDEMNIFICATION AND LIMITATIONS ON LIABILITY.	422
	14.1 Uncontrollable Forces.	422
	14.2 Responsibilities of Affected Entity.	422
	14.3 Strikes, Lockouts or Labor Disputes.	422
	14.4 Market Participant's Indemnity.	423
	14.5 Limitation on Liability.	423
	14.6 Potomac Economics, Ltd. Limitation Of Liability.	423
15	REGULATORY FILINGS.	424
16	EXISTING CONTRACTS.	425
	16.1 Continuation of Rights and Obligations of Non-Participating TOs Under Existing Contracts.	425
	16.2 [NOT USED]	427
	16.3 [NOT USED]	427
	16.4 Transmission Rights and Transmission Curtailment Instructions.	427
	16.5 Treatment of Existing Contracts for Transmission Service.	434
	16.6 Valid ETC Self-Schedules.	436
	16.7 [NOT USED]	439
	16.8 [NOT USED]	439
	16.9 The HASP.	439
	16.10 The CAISO's Real-Time Process.	440
	16.11 Inter-Balancing Authority Area Changes to Bids that Rely on Existing Rights.	440
	16.12 Intra-Balancing Authority Area Changes to Schedules that Rely on Existing Rights.	441
17	Transmission Ownership Rights (TORs).	442
	17.1 Transmission Rights and Transmission Curtailment Instructions.	442
	17.2 Treatment of TORs.	448
	17.3 Valid TOR Self-Schedules.	450
	17.4 The HASP.	453
	17.5 The CAISO's Real-Time Process.	454
	17.6 Inter-Balancing Authority Area Changes to Bids that Rely on TORs.	454
	17.7 Intra-Balancing Authority Area Changes to Schedules that Rely on TORs.	454
	17.8 Continuation of Rights and Obligations of Non-Participating TOs Regarding TORs and Under Existing Contracts Applicable to TORs.	455
	17.9 Conversion of Participating TOs' TORs and Rights and Obligations Under Existing Contracts Applicable to TORs.	456
	17.10 TOR Operational Obligations.	456
18	[NOT USED]	457-466
19	DEMAND FORECASTS.	467
	19.1 Scheduling Coordinator and Load Serving Entity Demand Forecast Responsibilities.	467
	19.3 [NOT USED]	467
20	CONFIDENTIALITY.	468
	20.1 CAISO	468
	20.2 Confidential Information.	468
	20.3 Other Parties.	470
	20.4 Disclosure.	470
	20.5 Confidentiality.	475
21	[NOT USED]	476

22	MISCELLANEOUS.	477
22.1	Audits.	477
22.2	Assignment.	480
22.3	Term and Termination.	480
22.4	Notice.	480
22.5	Waiver.	482
22.6	Staffing and Training To Meet Obligations.	482
22.7	Accounts and Reports.	482
22.8	Applicable Law and Forum.	482
22.9	Consistency with Federal Laws and Regulations.	483
22.10	[NOT USED]	484
22.11	Operating Procedures and Business Practice Manuals Development and Amendment Process.	484
22.12	[NOT USED]	490A
22.13	Scheduling Responsibilities and Obligations.	490A
	ARTICLE II – TRANSMISSION SERVICE	491
23	CATEGORIES OF TRANSMISSION CAPACITY.	491
24	TRANSMISSION EXPANSION.	492
24.1	Determination of Need for Proposed Transmission Projects.	492
24.2	Transmission Planning and Coordination.	503
24.3	Obligation to Construct Transmission Projects Included in Transmission Plan.	508C
24.4	Participating TO Study Obligation.	517
24.5	Operational Review.	517
24.6	State and Local Approval and Property Rights.	517
24.7	WECC and Regional Coordination.	518
24.8	Regional and Sub-Regional Planning Process.	518
24.9	Economic Planning Studies.	520
24.10	Cost Responsibility for Transmission Additions or Upgrades.	520A
24.11	Ownership of and Charges for Expansion Facilities.	522
24.12	Expansion by Local Furnishing Participating TOs.	522
25	INTERCONNECTION OF GENERATING UNITS AND GENERATING FACILITIES TO THE CAISO CONTROLLED GRID.	523
25.1	Applicability.	523
25.2	Interconnections to the Distribution System.	525
25.3	Maintenance of Encumbrances.	525
26	TRANSMISSION RATES AND CHARGES.	526
26.1	Access Charges.	526
26.2	Tracking Account.	533
26.3	Addition of New Facilities After CAISO Implementation.	534
26.4	Effect on Tax-Exempt Status.	534
26.5	Transition Mechanism.	534
26.6	Location Constrained Resource Interconnection Facilities.	535
	ARTICLE III – MARKET OPERATIONS	536
27	CAISO MARKETS AND PROCESSES.	536
27.1	Locational Marginal Pricing.	536
27.2	Load Aggregation Points (LAP).	538C
27.3	Trading Hubs.	539
27.4	Optimization in the CAISO Markets Processes.	540
27.5	Full Network Model.	541
27.6	State Estimator.	544
27.7	Constrained Output Generators.	545

28	INTER-SC TRADES	548
28.1	INTER-SC TRADES OF ENERGY	548
28.2	Inter-SC Trades Of Ancillary Services.	552
28.3	Inter-SC Trades Of IFM Load Uplift Obligation.	553
29	[NOT USED]	555-564
30	BIDS, INCLUDING SELF-SCHEDULES, SUBMISSION FOR ALL CAISO MARKETS	565
30.1	Bids, Including Self-Schedules.	565
30.2	Bid Types.	566
30.3	[NOT USED]	566
30.4	Election for Start-Up Costs and Minimum Load Costs.	566
30.5	Bidding Rules.	567
30.6	[NOT USED]	578
30.7	Bid Validation.	578
30.8	Prohibition on Bidding Across Out-of-Service Transmission Paths at Scheduling Points.	588
31	Day-Ahead Market.	589
31.1	Bid Submission and Validation in the Day-Ahead Market.	589
31.2	Market Power Mitigation and Reliability Requirement Determination (MPM-RRD).	589
31.3	Integrated Forward Market.	592
31.4	CAISO Market Adjustments to Non-priced Quantities in the IFM	598
31.5	Residual Unit Commitment.	599
31.6	Timing of Day-Ahead Scheduling.	610
31.7	Extremely Long-Start Commitment Process.	612
32	[NOT USED]	616-625
33	HOUR-AHEAD SCHEDULING PROCESS (HASP).	626
33.1	Submission of Bids for the HASP and RTM.	626A
33.2	The HASP Optimization.	627
33.3	Treatment of Self-Schedules in HASP.	627
33.4	MPM-RRD for the HASP and the RTM.	628
33.5	[NOT USED]	629
33.6	HASP Results.	629
33.7	Ancillary Services in the HASP and the RTUC.	629
33.8	HASP Prices for HASP Intertie Schedules and HASP AS Awards.	629
33.9	Cessation of the HASP.	630
34	REAL-TIME MARKET.	631
34.1	Inputs to the Real-Time Market.	632
34.2	Real-Time Unit Commitment.	632
34.3	Real-Time Dispatch.	634A
34.4	Short-Term Unit Commitment.	636
34.5	General Dispatch Principles.	637
34.6	Dispatch Instructions for Generating Units and Participating Load.	639A
34.7	Utilization of the Energy Bids.	640
34.8	Dispatch of Energy From Ancillary Services.	640
34.9	Exceptional Dispatch.	642
34.10	Uneconomic Adjustments in the RTM.	644
34.11	Means of Dispatch Communication.	645
34.12	Metered Subsystems.	649
34.13	Treatment of Resource Adequacy Capacity in the Real-Time Market.	649
34.14	Real-Time Operational Activities in the Hour Prior to the Settlement Period.	650
34.15	Rules For Real-Time Dispatch of Imbalance Energy Resources.	650
34.16	Ancillary Services in the Real-Time Market.	652
34.17	Dispatch Information and Instructions.	658
34.18	[NOT USED]	660
34.19	Pricing Imbalance Energy.	660

35	Market Validation and Price Correction.	663
	35.1 Market Validation.	663
	35.2 Timing of the Price Correction Process.	663
	35.3 Finality of Prices Subject to the Price Correction Process.	663A
	35.4 Scope of Price Corrections.	664
	35.5 Price Correction Methodology.	664
	35.6 Weekly Price Correction Report.	665
36	Congestion Revenue Rights.	666
	36.1 Overview of CRRs and Procurement of CRRs.	666
	36.2 Types of CRR Instruments.	666
	36.3 CRR Specifications.	668
	36.4 FNM for CRR Allocation and CRR Auction.	669
	36.5 Candidate CRR Holder and CRR Holder Requirements.	672A.01
	36.6 [NOT USED]	673
	36.7 Bilateral CRR Transactions.	673
	36.8 CRR Allocation.	675
	36.9 CRR Allocation to OBAALSEs.	701
	36.10 CRR Allocation to Metered Subsystems.	707
	36.11 CRR Allocation to Merchant Transmission Facilities.	707
	36.12 [NOT USED]	710
	36.13 CRR Auction.	710
	36.14 CRR Implications of Establishing New IBAAAs or Modifying Existing IBAAAs	714A
37	Rules of Conduct.	715
	37.1 Objectives, Definitions, and Scope.	715
	37.2 Comply with Operating Orders.	716
	37.3 Submit Feasible Energy Bids, RUC Capacity Bids, Ancillary Service Bids, and Submissions to Self-Provide an Ancillary Service.	719
	37.4 Comply with Availability Reporting Requirements.	719A
	37.5 Provide Factually Accurate Information.	721
	37.6 Provide Information Required by CAISO Tariff.	723
	37.7 Prohibition of Electric Energy Market Manipulation.	725
	37.8 Process for Investigation and Enforcement.	725
	37.9 Administration of Sanctions.	728
	37.10 Miscellaneous.	732
	37.11 Method for Calculating Penalties.	732
38	Market Monitoring.	737
	38.1 Objectives and Scope.	737
	38.2 Practices Subject to Scrutiny – General.	738
	38.3 Scrutiny of Market Participant Changes Potentially Affecting Market Structure.	739
	38.4 Response Action by CAISO.	739
39	Market Power Mitigation Procedures.	742
	39.1 No Title	742
	39.2 Conditions for the Imposition of Mitigation Measures.	742
	39.3 Categories of Conduct that May Warrant Mitigation.	743
	39.4 Sanctions for Physical Withholding.	745
	39.5 FERC-Ordered Measures.	745
	39.6 Rules Limiting Certain Energy, Ancillary Services, And Residual Unit Commitment Bids.	745
	39.7 Local Market Power Mitigation for Energy Bids.	747
	39.8 Eligibility for Bid Adder.	754
	39.9 CRR Monitoring and Affiliate Disclosure Requirements.	756
	39.10 Mitigation of Exceptional Dispatches of Resources	756

ARTICLE V – RESOURCE ADEQUACY	757
40 RESOURCE ADEQUACY DEMONSTRATION FOR ALL SCHEDULING COORDINATORS BIDDING AND SCHEDULING DEMAND IN THE CAISO BALANCING AUTHORITY AREA.	757
40.1 Applicability.	757
40.2 Information Requirements Regarding Resource Adequacy Programs.	758
40.3 Local Capacity Area Resource Requirements Applicable to Scheduling Coordinators for All Load Serving Entities.	763
40.4 General Requirements on Resource Adequacy Resources.	771
40.5 Requirements Applicable to Modified Reserve Sharing LSEs Only.	785B
40.6 Requirements Applicable to Scheduling Coordinators for Reserve Sharing LSEs and Resources Providing Resource Adequacy Capacity to Reserve Sharing LSEs.	789
40.7 Compliance.	796
40.8 CAISO Default Qualifying Capacity Criteria.	798
41 Procurement of RMR Generation.	803
41.1 Procurement of Reliability Must-Run Generation by the CAISO.	803
41.2 No Title	803
41.3 No Title	803
41.4 No Title	804
41.5 RMR Dispatch.	804
41.6 Reliability Must-Run Charge.	806
41.7 Responsibility for Reliability Must-Run Charge.	811
41.8 Responsibility for Reliability Must-Run Charges Associated with SONGS.	811
41.9 Exceptional Dispatch of Condition 2 RMR Units.	811
42 Assurance of Adequate Generation and Transmission to meet Applicable Operating and Planning Reserve.	813
42.1 Generation Planning Reserve Criteria.	813
43 Interim Capacity Procurement Mechanism.	815
43.1 Designation.	815
43.2 Terms of ICPM Designation.	819
43.3 Selection of Eligible Capacity under the ICPM.	821
43.4 Obligations of a Resource Designated under the ICPM.	822
43.5 Reports.	823
43.6 Payments to Resources Designated Under the ICPM.	826
43.7 Allocation of ICPM Capacity Payment Costs.	831
43.8 Crediting of ICPM Capacity.	833
44 Temporary Suspension of CAISO Tariff.	835
44.1 Authority to Suspend Temporarily the Current Version of the CAISO Tariff and Reversion to Previously Effective ISO Tariff.	835
44.2 Notice of Effectiveness and Termination of Temporary Suspension.	835
44.3 Preconditions to Suspension.	836
Appendix A Master Definitions Supplement	837
Appendix B Pro Forma Agreements	967
Appendix C Locational Marginal Price	1177
Appendix D Black Start Generating Units	1183
Appendix E Verification of Submitted Data for Ancillary Services	1185
Appendix F Rate Schedules	1188
Appendix G Pro Forma Reliability Must-Run Contract	1224
Appendix H [NOT USED]	1379
Appendix I Station Power Protocol	1389
Appendix J [NOT USED]	1397
Appendix K Ancillary Service Requirements Protocol (ASRP)	1407
Appendix L Methodology to Assess Available Transfer Capability	1424
Appendix M Procedures for Addressing Parallel Flows	1432

Appendix N	[NOT USED]	1442
Appendix O	[NOT USED]	1452
Appendix P	CAISO Department of Market Monitoring and Market Surveillance Committee	1462
Appendix Q	Eligible Intermittent Resources Protocol (EIRP)	1473
Appendix R	UDP Aggregation Protocol	1484
Appendix S	Small Generator Interconnection Procedures (SGIP)	1489
Appendix T	Small Generator Interconnection Agreement (SGIA)	1546
Appendix U	Standard Large Generator Interconnection Procedures (LGIP)	1584
Appendix V	Standard Large Generator Interconnection Agreement (LGIA)	1679
Appendix W	Interconnection Procedures in Effect Prior to July 1, 2005 ("Amendment 39 Procedures")	1760
Appendix X	Dynamic Scheduling Protocol (DSP)	1771
Appendix Y	Large Generator Interconnection Procedures (LGIP) for Interconnection Requests in a Queue Cluster Window	1779
Appendix Z	Large Generator Interconnection Agreement (LGIA) for Interconnection Requests in a Queue Cluster Window	1859