

California Independent System Operator Corporation
Fifth Replacement Electronic Tariff

Table of Contents

40.	Resource Adequacy Demonstration for all SCs in the CAISO BAA	3
40.1	Applicability	3
40.1.1	[Not Used]	3
40.2	Information Requirements for Resource Adequacy Programs	3
40.2.1	Load Serving Entities	3
40.2.2	Non-CPUC Load Serving Entities	4
40.2.3	[Not Used]	6
40.2.4	Load-Following MSS	6
40.3	Local Capacity Area Resource Requirements for SCs for LSEs	7
40.3.1	Local Capacity Technical Study	7
40.3.2	Allocation of Local Capacity	9
40.3.3	Procurement of Local Capacity Area Resources by LSEs	10
40.3.4	[Not Used]	10
40.4	General Requirements on Resource Adequacy Resources	10
40.4.1	Eligible Resources and Determination of Qualifying Capacity	10
40.4.2	Net Qualifying Capacity Report	10
40.4.3	General Qualifications for Supplying Net Qualifying Capacity	11
40.4.4	Reductions for Testing	11
40.4.5	Reductions for Performance Criteria	12
40.4.6	Reductions for Deliverability	12
40.4.7	Submission of Supply Plans	33
40.5	[Not Used]	35
40.5.1	[Not Used]	35
40.5.2	[Not Used]	35
40.5.3	[Not Used]	35
40.5.4	[Not Used]	35
40.5.5	[Not Used]	35
40.6	Requirements for SCs and Resources for LSEs	36
40.6.1	Day-Ahead Availability	36
40.6.2	Real-Time Availability	39
40.6.3	Additional Availability Requirements or Resources that are Not Long Start Units or Extremely Long Start Resources	41
40.6.4	Use-Limited Resources Additional Availability Requirements	41
40.6.5	Additional Availability Requirements for System Resources	44
40.6.6	Requirement for Partial Resource Adequacy Resources	45
40.6.7	Release of Long Start Units	45
40.6.8	Use of Generated Bids	46
40.6.9	Firm Liquidated Damages Contracts Requirements	49
40.6.10	Exports of Energy from Resource Adequacy Capacity	49
40.6.11	Curtailment of Exports in Emergency Situations	50
40.6.12	Participating Load, PDRs, and RDRRs	50
40.7	Compliance	50
40.7.1	Other Compliance Issues	52
40.7.2	Penalties for Non-Compliance	53
40.8	CAISO Default Qualifying Capacity Criteria	53
40.8.1	Applicability	53

California Independent System Operator Corporation
Fifth Replacement Electronic Tariff

40.9	Resource Adequacy Availability Incentive Mechanism.....	58
40.9.1	Transition to RAIM	58
40.9.2	Exemptions.....	59
40.9.3	Availability Assessment.....	62
40.9.4	Availability Assessment.....	74
40.9.5	Availability Standard.....	75
40.9.6	Non-Availability Charges and Availability Incentive Payments	75
40.9.7	Reporting.....	77
40.10	Flexible RA Capacity	78
40.10.1	Flexible Capacity Needs Assessment.....	78
40.10.2	Allocation of Flexible Capacity Needs.....	82
40.10.3	Flexible Capacity Categories	83
40.10.4	Effective Flexible Capacity	88
40.10.5	Flexible RA Capacity Plans.....	91
40.10.6	Flexible RA Capacity Must-Offer Obligation	98

40. Resource Adequacy Demonstration for all SCs in the CAISO BAA

40.1 Applicability

A Load Serving Entity, and its Scheduling Coordinator, shall be exempt from this Section 40 during the next Resource Adequacy Compliance Year, if the metered peak Demand of the Load Serving Entity did not exceed one (1) MW during the twelve months preceding the last date on which the Load Serving Entity can make the election in Section 40.1.1 for the next Resource Adequacy Compliance Year. This Section 40 shall apply to all other Load Serving Entities and their respective Scheduling Coordinators. For purposes of Section 40, a Load Serving Entity shall not include any entity satisfying the terms of California Public Utilities Code Section 380(j)(3).

40.1.1 [Not Used]

40.2 Information Requirements for Resource Adequacy Programs

40.2.1 Load Serving Entities

40.2.1.1 Requirements for CPUC Load Serving Entities

- (a) The Scheduling Coordinator for a CPUC Load Serving Entity must provide the CAISO with all information or data to be provided to the CAISO as required by the CPUC and pursuant to the schedule adopted by the CPUC, except that the monthly Resource Adequacy Plans or the same information as required to be included in the monthly Resource Adequacy Plans, plus any other information the CAISO requires as identified in the Business Practice Manual, shall be submitted to the CAISO no less than 45 days in advance of the first day of the month covered by the plan, as provided in Section 40.2.1.1(e).
- (b) Where the information or data provided to the CAISO under Section 40.2.1.1(a) does not include Reserve Margin(s), then the provisions of Section 40.2.2.1(b) shall apply.
- (c) Where the information or data provided to the CAISO under Section 40.2.1.1(a) does not include criteria for determining qualifying resource types and their Qualifying Capacity, then the provisions of Section 40.8 shall apply.
- (d) Where the information or data provided to the CAISO under Section 40.2.1.1(a) does not include annual and monthly Demand Forecast requirements, then the provisions of

California Independent System Operator Corporation
Fifth Replacement Electronic Tariff

Section 40.2.2.3 shall apply.

- (e) Where the information or data provided to the CAISO under Section 40.2.1.1(a) does not include annual and monthly Resource Adequacy Plan requirements, or where there is a requirement to submit monthly Resource Adequacy Plans but the submission date is less than 45 days in advance of the first day of the month covered by the plan, then Section 40.2.2.4 shall apply.

40.2.2 Non-CPUC Load Serving Entities

40.2.2.1 Reserve Margin

- (a) The Scheduling Coordinator for a Non-CPUC Load Serving Entity must provide the CAISO with the Reserve Margin(s) adopted by the appropriate Local Regulatory Authority or federal agency for use in the annual Resource Adequacy Plan and monthly Resource Adequacy Plans listed as a percentage of the Demand Forecasts developed in accordance with Section 40.2.2.3.
- (b) For the Scheduling Coordinator for a Non-CPUC Load Serving Entity for which the appropriate Local Regulatory Authority or federal agency has not established a Reserve Margin(s) or a CPUC Load Serving Entity subject to Section 40.2.1.1(b), the Reserve Margin for each month shall be no less than fifteen percent (15%) of the LSE's peak hourly Demand for the applicable month, as determined by the Demand Forecasts developed in accordance with Section 40.2.2.3.

40.2.2.2 Qualifying Capacity Criteria

The Scheduling Coordinator for a Non-CPUC Load Serving Entity must provide the CAISO with a description of the criteria adopted by the Local Regulatory Authority or federal agency for determining qualifying resource types and the Qualifying Capacity from such resources and any modifications thereto as they are implemented from time to time. The LSE may elect to utilize the criteria set forth in Section 40.8.

40.2.2.3 Demand Forecasts

If the California Energy Commission does not produce a coincident peak Demand Forecast for a Load Serving Entity, the Scheduling Coordinator for that Load Serving Entity must provide the information

requested by the CAISO on the schedule and in the reporting format(s) set forth in the Business Practice Manual.

40.2.2.4 Annual and Monthly Resource Adequacy Plans

The Scheduling Coordinator for a Non-CPUC Load Serving Entity or a CPUC Load Serving Entity subject to Section 40.2.1.1(b) must provide annual and monthly Resource Adequacy Plans for such Load Serving Entity, as follows:

- (a) Each annual Resource Adequacy Plan must be submitted to the CAISO on a schedule and in the reporting format(s) set forth in the Business Practice Manual. The annual Resource Adequacy Plan must, at a minimum, set forth the Local Capacity Area Resources, if any, procured by the Load Serving Entity as described in Section 40.3.
- (b) Each monthly Resource Adequacy Plan or the same information as required to be included in the monthly Resource Adequacy Plan, plus any other information the CAISO requires as identified in the Business Practice Manual, must be submitted to the CAISO at least 45 days in advance of the first day of the month covered by the plan, and in accordance with the schedule and in the reporting format(s) set forth in the Business Practice Manual. The monthly Resource Adequacy Plan must identify all resources, including Local Capacity Area Resources, the Load Serving Entity will rely upon to satisfy the applicable month's peak hour Demand of the Load Serving Entity as determined by the Demand Forecasts developed in accordance with Section 40.2.2.3 and applicable Reserve Margin. Resource Adequacy Plans must utilize the Net Qualifying Capacity requirements of Section 40.4.
- (c) The Scheduling Coordinator for the Load Serving Entity may submit at any time from 45 days through 11 days in advance of the relevant month, a revision to its monthly Resource Adequacy Plan to correct an error in the plan. The CAISO will not accept any revisions to a monthly Resource Adequacy Plan from 10 days in advance of the relevant month through the end of the month, unless the Scheduling Coordinator for the Load Serving Entity demonstrates good cause for the change and explains why it was not possible to submit the change earlier.

California Independent System Operator Corporation
Fifth Replacement Electronic Tariff

- (d) In order to ensure that the CAISO's outage replacement determination remains accurate, the Scheduling Coordinator for the Load Serving Entity that submits a revision to its monthly Resource Adequacy Plan to correct an error must include in the revision a MW amount of Resource Adequacy Capacity for each day of month that is no less than the MW amount of Resource Adequacy Capacity included in its original plan for each day of the month.
- (e) In order to ensure that the amount of Resource Adequacy Capacity required to be included in the Load Serving Entity's Resource Adequacy Plan is operationally available to the CAISO throughout the resource adequacy month, the Load Serving Entity that submits the monthly Resource Adequacy Plan is subject to the replacement requirement in Section 9.3.1.3.1.

40.2.3 [Not Used]

40.2.4 Load-Following MSS

- (1) **Applicability.** Unless otherwise provided in Section 40, Scheduling Coordinators for Load-following MSSs are subject solely to Sections 40.2.4, 40.3, and with respect to their Local Capacity Area Resources identified in accordance with Section 40.2.4, Section 40.9, and with respect to Flexible Resource Adequacy Capacity, Section 40.10.
- (2) **Annual RA Plan.** A Scheduling Coordinator for a Load-following MSS must provide an annual Resource Adequacy Plan that sets forth, at a minimum, the Local Capacity Area Resources, if any, procured by the Load-following MSS as described in Section 40.3. The annual Resource Adequacy Plan shall utilize the annual coincident peak Demand determination provided by the California Energy Commission for such Load-following MSS using Demand Forecast data submitted to the California Energy Commission by the Load-following MSS, or, if the California Energy Commission does not produce coincident peak Demand Forecasts for the Load-following MSS, the annual coincident peak Demand Forecast produced by the CAISO for such Load-following MSS in accordance with its Business Practice Manual using Demand Forecast data submitted to the CAISO by the Load-following MSS.

- (3) Monthly RA Plan and Supply Plan.** The Scheduling Coordinator for a Load-following MSS must submit a monthly Resource Adequacy Plan and Supply Plan on the schedule set forth in the Business Practice Manual.

40.3 Local Capacity Area Resource Requirements for SCs for LSEs

40.3.1 Local Capacity Technical Study

On an annual basis, pursuant to the schedule set forth in the Business Practice Manual, the CAISO will, perform, and publish on the CAISO Website the Local Capacity Technical Study. The Local Capacity Technical Study shall identify Local Capacity Areas, determine the minimum amount of Local Capacity Area Resources in MW that must be available to the CAISO within each identified Local Capacity Area, and identify the Generating Units within each identified Local Capacity Area. The CAISO shall collaborate with the CPUC, Local Regulatory Authorities within the CAISO Balancing Authority Area, federal agencies, and Market Participants to ensure that the Local Capacity Technical Study is performed in accordance with this Section 40.3 and to establish for inclusion in the Business Practice Manual other parameters and assumptions applicable to the Local Capacity Technical Study and a schedule that provides for: (i) reasonable time for review of a draft Local Capacity Technical Study, (ii) reasonable time for Participating TOs to propose operating solutions, and (iii) release of the final Local Capacity Technical Study no later than 120 days prior to the date annual Resource Adequacy Plans must be submitted under this Section 40.

40.3.1.1 Local Capacity Technical Study Criteria

The Local Capacity Technical Study will determine the minimum amount of Local Capacity Area Resources needed to address the Contingencies identified in Section 40.3.1.2. In performing the Local Capacity Technical Study, the CAISO will apply those methods for resolving Contingencies considered appropriate for the performance level that corresponds to a particular studied Contingency, as provided in NERC Reliability Standards TPL-001-0, TPL-002-0, TPL-003-0, and TPL-004-0, as augmented by CAISO Reliability Criteria in accordance with the Transmission Control Agreement and Section 24.2.1. The CAISO Reliability Criteria shall include:

- (1) Time Allowed for Manual Readjustment: This is the amount of time required for the Operator to take all actions necessary to prepare the system for the next Contingency.

California Independent System Operator Corporation
Fifth Replacement Electronic Tariff

This time should not be more than thirty (30) minutes.

- (2) No voltage collapse or dynamic instability shall be allowed for a Contingency in Category D – extreme event (any B1-4 system readjusted (Common Mode) L-2), as listed in Section 40.3.1.2.

40.3.1.2 Local Capacity Technical Study Contingencies.

The Local Capacity Technical Study shall assess the following contingencies:
Contingency Component(s)
NERC/WECC Performance Level A – No Contingencies
<u>NERC/WECC Performance Level B – Loss of a single element</u>
1. Generator (G-1)
2. Transmission Circuit (L-1)
3. Transformer (T-1)
4. Single Pole (dc) Line
5. G-1 system readjusted L-1
<u>NERC/WECC Performance Level C – Loss of two or more elements</u>
3. L-1 system readjusted G-1
3. G-1 system readjusted T-1 or T-1 system readjusted G-1
3. L-1 system readjusted T-1 or T-1 system readjusted L-1
3. G-1 system readjusted G-1
3. L-1 system readjusted L-1
4. Bipolar (dc) Line
5. Two circuits (Common Mode) G-2
WECC-S3. Two generators (Common Mode) G-2
<u>D – Extreme event – loss of two or more elements</u>
Any B1-4 system readjusted (Common Mode) L-2

40.3.2 Allocation of Local Capacity

The CAISO will allocate responsibility for Local Capacity Area Resources to Scheduling Coordinators for Load Serving Entities in the following sequential manner:

- (a) The responsibility for the aggregate Local Capacity Area Resources required for all Local Capacity Areas within each TAC Area as determined by the Local Capacity Technical Study will be allocated to all Scheduling Coordinators for Load Serving Entities that serve Load in the TAC Area in accordance with the Load Serving Entity's proportionate share of the LSE's TAC Area Load at the time of the CAISO's annual coincident peak Demand set forth in the annual peak Demand Forecast for the next Resource Adequacy Compliance Year as determined by the California Energy Commission. Expressed as a formula, the allocation of Local Area Capacity Resource obligations will be as follows: $(\sum \text{Local Capacity Area MW in TAC Area from the Local Capacity Technical Study}) * (\text{LSE Demand in TAC Area at CAISO annual coincident peak Demand}) / (\text{Total TAC Area Demand at the time of CAISO annual coincident peak Demand})$. This will result in a MW responsibility for each Load Serving Entity for each TAC Area in which the LSE serves Load. The LSE may meet its MW responsibility, as assigned under this Section, for each TAC Area in which the LSE serves Load by procurement of that MW quantity in any Local Capacity Area in the TAC Area.
- (b) For Scheduling Coordinators for Non-CPUC Load Serving Entities, the Local Capacity Area Resource obligation will be allocated based on Section 40.3.2(a) above.
- (c) For Scheduling Coordinators for CPUC Load Serving Entities, the CAISO will allocate the Local Capacity Area Resource obligation based on an allocation methodology, if any, adopted by the CPUC. However, if the allocation methodology adopted by the CPUC does not fully allocate the total sum of each CPUC Load Serving Entity's proportionate share calculated under Section 40.3.2(a), the CAISO will allocate the difference to all Scheduling Coordinators for CPUC Load Serving Entities in accordance with their proportionate share calculated under 40.3.2(a). If the CPUC does not adopt an allocation methodology, the CAISO will allocate Local Capacity Area Resources to Scheduling

California Independent System Operator Corporation
Fifth Replacement Electronic Tariff

Coordinators for CPUC Load Serving Entities based on Section 40.3.2(a).

Once the CAISO has allocated the total responsibility for Local Capacity Area Resources, the CAISO will inform the Scheduling Coordinator for each LSE of the LSE's specific allocated responsibility for Local Capacity Area Resources in each TAC Area in which the LSE serves Load.

40.3.3 Procurement of Local Capacity Area Resources by LSEs

Nothing in this Section 40 obligates any Scheduling Coordinator to demonstrate on behalf of a Load Serving Entity that the Load Serving Entity has procured Local Capacity Area Resources to satisfy capacity requirements for each Local Capacity Area identified in the technical study. Scheduling Coordinators for Load Serving Entities may aggregate responsibilities for procurement of Local Capacity Area Resources. If a Load Serving Entity has procured Local Capacity Area Resources that satisfy generation capacity requirements for Local Capacity Areas, the Scheduling Coordinator for such Load Serving Entity shall include this information in its annual and monthly Resource Adequacy Plan(s).

40.3.4 [Not Used]

40.4 General Requirements on Resource Adequacy Resources

40.4.1 Eligible Resources and Determination of Qualifying Capacity

The CAISO shall use the criteria provided by the CPUC or Local Regulatory Authority to determine and verify, if necessary, the Qualifying Capacity of all Resource Adequacy Resources; however, to the extent a resource is listed by one or more Scheduling Coordinators in their Resource Adequacy Plans, which apply the criteria of more than one Local Regulatory Authority that leads to conflicting Qualifying Capacity values for that resource, the CAISO will accept the methodology that results in the highest Qualifying Capacity value. Only if the CPUC, Local Regulatory Authority, or federal agency has not established any Qualifying Capacity criteria, or chooses to rely on the criteria in this CAISO Tariff, will the provisions of Section 40.8 apply.

40.4.2 Net Qualifying Capacity Report

The CAISO shall produce an annual report posted to the CAISO Website on the schedule set forth in the Business Practice Manual that sets forth the Net Qualifying Capacity of all Participating Generators. All other Resource Adequacy Resources may be included in the annual report under Section 40.4.2 upon their request. The Net Qualifying Capacity of any resource included in the annual report, once posted to

the CAISO Website, shall not be reduced by the CAISO for the next Resource Adequacy Compliance Year. Any change proposed to be made to a Net Qualifying Capacity value for a resource included in a prior annual report shall be explained, and any test results or analyses underlying the change provided, to the Scheduling Coordinator within ten (10) days of the CAISO's determination that a change to the resource's Net Qualifying Capacity is appropriate, which also must be at least fifteen (15) days prior to the posting on the CAISO Website of the annual report. Any disputes as to the CAISO's determination regarding Net Qualifying Capacity shall be subject to the CAISO ADR Procedures.

40.4.3 General Qualifications for Supplying Net Qualifying Capacity

Resource Adequacy Resources included in a Resource Adequacy Plan submitted by a Scheduling Coordinator on behalf of a Load Serving Entity serving Load in the CAISO Balancing Authority Area must:

- (1) Be available for testing by the CAISO to validate Qualifying Capacity, which can be no less than a resource's PMin as registered in the Master File even if the resource's contractual Resource Adequacy Capacity is less than its PMin, and determine Net Qualifying Capacity for the next Resource Adequacy Compliance Year;
- (2) Provide any information requested by the CAISO to apply the performance criteria to be adopted by the CAISO pursuant to Section 40.4.5;
- (3) Submit Bids into the CAISO Markets as required by this CAISO Tariff;
- (4) Be in compliance, as of the date that the CAISO performs any testing or otherwise determines Net Qualifying Capacity for the next Resource Adequacy Compliance Year, with the criteria for Qualifying Capacity established by the CPUC, relevant Local Regulatory Authority, or federal agency and provided to the CAISO; and
- (5) Be subject to Sanctions for non-performance as specified in the CAISO Tariff; and
- (6) For a resource with contractual Resource Adequacy Capacity less than PMin as registered in the Master File, make the PMin available to the CAISO for commitment or dispatch at PMin, subject to Section 11.8 provisions for Bid Cost Recovery, so that the resource's Resource Adequacy Capacity can be utilized as required by this CAISO Tariff.

40.4.4 Reductions for Testing

In accordance with the procedures specified in the Business Practice Manual, the Generating Unit of a

California Independent System Operator Corporation
Fifth Replacement Electronic Tariff

Participating Generator or other Generating Units, System Units or Loads of Participating Loads, Reliability Demand Response Resources, or Proxy Demand Resources included in a Resource Adequacy Plan submitted by a Scheduling Coordinator on behalf of a Load Serving Entity can have its Qualifying Capacity reduced, for purposes of the Net Qualifying Capacity annual report under Section 40.4.2 for the next Resource Adequacy Compliance Year, if a CAISO testing program determines that it is not capable of supplying the full Qualifying Capacity amount.

40.4.5 Reductions for Performance Criteria

No later than 12 months after the effective date of this Section 40, the CAISO will issue a report outlining a proposal with respect to performance criteria for Resource Adequacy Resources. The CAISO will collaborate with the CPUC and other Local Regulatory Authorities to develop the performance criteria to be submitted to FERC. The Scheduling Coordinator for a Resource Adequacy Resource shall provide or make available to the CAISO, subject to the confidentiality provisions of this CAISO Tariff, all documentation requested by the CAISO to determine, develop or implement the performance criteria, including, but not limited to, NERC Generating Availability Data System data.

40.4.6 Reductions for Deliverability

40.4.6.1 Deliverability within the CAISO Balancing Authority Area

In order to determine Net Qualifying Capacity from Resource Adequacy Resources subject to this Section 40.4, the CAISO will determine that a Resource Adequacy Resource is available to serve the aggregate of Load by means of a deliverability study. Documentation explaining the CAISO's deliverability analysis will be posted on the CAISO Website. The deliverability study will be performed annually and shall focus on peak Demand conditions. The results of the deliverability study shall be incorporated into the Net Qualifying Capacity annual report under Section 40.4.2 and will be effective for the next Resource Adequacy Compliance Year. To the extent the deliverability study shows that the Qualifying Capacity is not deliverable to the aggregate of Demand under the conditions studied, the Qualifying Capacity of the Resource Adequacy Resource will be reduced on a MW basis for the capacity that is undeliverable. Resources will be electrically grouped in a manner consistent with the CAISO Deliverability Assessment methodology posted on the CAISO Website. For Resource Adequacy Resources in the same electrical group which have identified deliverability constraints, the Qualifying Capacity of the Resource Adequacy

California Independent System Operator Corporation
Fifth Replacement Electronic Tariff

Resources that obtained Full Capacity Deliverability Status or partial deliverability through Section 8.2 of Appendix Y to this CAISO Tariff will be reduced prior to reducing the Qualifying Capacity of those resources which were originally provided Full Capacity Deliverability Status pursuant to inclusion in an Interconnection Study Cycle under Appendix Y to this CAISO Tariff.

40.4.6.2 Deliverability of Imports

40.4.6.2.1 Available Import Capability Assignment Process

For Resource Adequacy Plans covering any period after December 31, 2007, total Available Import Capability will be assigned on an annual basis for a one-year term to Scheduling Coordinators representing Load Serving Entities serving Load in the CAISO Balancing Authority Area and, in limited circumstances, to Scheduling Coordinators representing Participating Generators or System Resources, as described by the following sequence of steps. However, should the CPUC modify by decision its compliance period from January to December of the calendar year to May through April of the calendar year, the CAISO shall extend the effectiveness of the assignment for Resource Adequacy Compliance Year 2008 through April 2009.

Step 1: Determination of Maximum Import Capability on Interties into the CAISO Balancing Authority Area: The CAISO shall establish the Maximum Import Capability for each Intertie into the CAISO Balancing Authority Area, and will post those values on the CAISO Website in accordance with the schedule and process set forth in the Business Practice Manual.

Step 2: Determination of Available Import Capability by Accounting for Existing Contracts and Transmission Ownership Rights Held by Out-of- Balancing Authority Area LSEs: For each Intertie, the Available Import Capability will be determined by subtracting from the Maximum Import Capability established in Step 1 for each Intertie the import capability on each Intertie associated with (i) Existing Contracts and (ii) Transmission Ownership Rights held by load serving entities that do not serve Load within the CAISO Balancing Authority Area. The remaining sum of all Intertie Available Import Capability is the Total Import Capability. Total Import Capability shall be used to determine the Load Share Quantity for each Load Serving Entity that serves Load within the CAISO Balancing Authority Area.

California Independent System Operator Corporation
Fifth Replacement Electronic Tariff

Step 3: Determination of Existing Contract Import Capability by Accounting for Existing Contracts and Transmission Ownership Rights Held by CAISO Balancing Authority Area LSEs: From the Available Import Capability remaining on each Intertie after Step 2 above, Existing Contracts and Transmission Ownership Rights held by Load Serving Entities that serve Load within the CAISO Balancing Authority Area shall be reserved for the holders of such commitments and will not be subject to reduction under any subsequent steps in this Section. The import capability reserved pursuant to this Step 3 is the Existing Contract Import Capability.

Step 4: Assignment of Pre-RA Import Commitments: From the Available Import Capability remaining on each Intertie after reserving Existing Contract Import Capability under Step 3 above, the CAISO will assign to Load Serving Entities serving Load within the CAISO Balancing Authority Area Pre-RA Import Commitment Capability on a particular Intertie based on Pre-RA Import Commitments in effect (where a supplier has an obligation to deliver the Energy or make the capacity available) at any time during the Resource Adequacy Compliance Year for which the Available Import Capability assignment is being performed. The Pre-RA Import Commitment will be assigned to the Intertie selected by the Load Serving Entity during the Resource Adequacy Compliance Year 2007 import capability assignment process, which was required to be based on the Intertie upon which the Energy or capacity from the Pre-RA Import Commitment had been primarily scheduled or, for a Pre-RA Import Commitment without a scheduling history at the time of the Resource Adequacy Compliance Year 2007 import capability assignment process, the primary Intertie upon which the Energy or capacity was anticipated to be scheduled. To the extent a Pre-RA Import Commitment was not presented during the Resource Adequacy Compliance Year 2007 import capability assignment process, the Load Serving Entity shall select the Intertie upon which the Pre-RA Import Commitment is primarily anticipated to be scheduled during the term of the Pre-RA Import Commitment and that selection shall be utilized in future annual Available Import Capability assignment processes. If a Pre-RA Import Commitment submitted on behalf of a LSE with Existing Contract Import Capability is assigned under this Section to the same Intertie on which the LSE holds Existing Contract Import Capability, the Pre-RA Import Commitment will be assumed to deliver over the Existing Contract Import Capability

California Independent System Operator Corporation
Fifth Replacement Electronic Tariff

until exhausted, unless the LSE can demonstrate otherwise.

To the extent a particular Intertie becomes over requested with Pre-RA Import Commitments due to either Pre-RA Import Commitments not included in the Resource Adequacy Compliance Year 2007 import capability assignment process or changes in system conditions that decrease the Maximum Import Capability of the Intertie, such that the MW represented in all Pre-RA Import Commitments utilizing the Intertie exceed the Intertie's Available Import Capability in excess of that reserved for Existing Contracts and Transmission Ownership Rights under Steps 2 and 3, the Pre-RA Import Commitments will be assigned Pre-RA Import Commitment Capability, based on the Import Capability Load Share Ratio of each Load Serving Entity submitting Pre-RA Import Commitments on the particular Intertie. To the extent this initial assignment of Pre-RA Import Commitment Capability has not fully assigned the Available Import Capability of the particular over requested Intertie, the remaining Available Import Capability on the over requested Intertie will be assigned until fully exhausted based on the Import Capability Load Share Ratio of each Load Serving Entity whose submitted Pre-RA Import Commitment has not been fully satisfied by the previous Import Capability Load Share Ratio assignment iteration. The Available Import Capability assigned pursuant to this Step 4 is the Pre-RA Import Commitment Capability.

Step 5: Assignment of Remaining Import Capability Limited by Load Share Quantity: The Total Import Capability remaining after Step 4 will be assigned only to Load Serving Entities serving Load within the CAISO Balancing Authority Area that have not received Existing Contract Import Capability and Pre-RA Import Commitment Capability under Steps 3 and 4, that exceed the Load Serving Entity's Load Share Quantity. Only the MW quantity of any Pre-RA Import Commitment Capability assigned to Existing Contract Import Capability under Step 4 that exceeds the Existing Contract Import Capability on the particular Intertie will be counted for purposes of this Step 5. This Total Import Capability will be assigned until fully exhausted to those Load Serving Entities eligible to receive an assignment under this Step based on each Load Serving Entity's Import Capability Load Share Ratio up to, but not in excess of, its Load Share Quantity. The quantity of Total Import Capability assigned to the Load Serving Entity under this Step is the Load Serving Entity's Remaining Import Capability. This Step 5 does not assign Remaining Import Capability

California Independent System Operator Corporation
Fifth Replacement Electronic Tariff

on a specific Intertie.

Step 6: CAISO Posting of Assigned and Unassigned Capability: Following the completion of Step 5, the CAISO will post to the CAISO Website, in accordance with the schedule set forth in the Business Practice Manual the following information:

- (a) The Total Import Capability;
- (b) The quantity in MW of Existing Contracts and Transmission Ownership Rights assigned to each Intertie, distinguishing between Existing Contracts and Transmission Ownership Rights held by Load Serving Entities within the CAISO Balancing Authority Area and those held by load serving entities outside the CAISO Balancing Authority Area;
- (c) The aggregate quantity in MW, and identity of the holders, of Pre-RA Import Commitments assigned to each Intertie; and
- (d) The aggregate quantity in MW of Available Import Capability after Step 4, the identity of the Interties with Available Import Capability, and the MW quantity of Available Import Capability on each such Intertie.

Step 7: CAISO Notification of LSE Assignment Information: Following the completion of Step 5, in accordance with the schedule set forth in the Business Practice Manual, the CAISO will notify the Scheduling Coordinator for each Load Serving Entity of:

- (a) The Load Serving Entity's Import Capability Load Share;
- (b) The Load Serving Entity's Load Share Quantity; and
- (c) The amount of, and Intertie on which, the Load Serving Entity's Existing Contract Import Capability and Pre-RA Import Commitment Capability, as applicable, has been assigned; and
- (d) The Load Serving Entity's Remaining Import Capability.

Step 8: Transfer of Import Capability: In accordance with the schedule set forth in the Business Practice Manual, a Scheduling Coordinator for a Load Serving Entity shall be allowed to transfer some or all of its Remaining Import Capability to any other Scheduling Coordinator for a Load Serving Entity. The CAISO will accept transfers between Scheduling Coordinators only to the

California Independent System Operator Corporation
Fifth Replacement Electronic Tariff

extent such transfers are reported to the CAISO, in accordance with the schedule set forth in the Business Practice Manual and through the CAISO's Import Capability Transfer Registration Process, by the entity receiving the Remaining Import Capability who must set forth (1) the name of the counter-parties, (2) the MW quantity, (3) term of transfer, and (4) price on a per MW basis. The CAISO will post to the CAISO Website by August 8, 2007 for Resource Adequacy Compliance Year 2008 and for subsequent Resource Adequacy Compliance Years in accordance with the schedule set forth in the Business Practice Manual the information on transfers of Remaining Import Capability received under this Step 8.

Step 9: Initial Scheduling Coordinator Request to Assign Remaining Import Capability by Intertie:

In accordance with the schedule set forth in the Business Practice Manual, the Scheduling Coordinator for each Load Serving Entity shall notify the CAISO of its request to assign its post-trading Remaining Import Capability on a MW basis per available Intertie. Total requests for assignment of Remaining Import Capability by a Scheduling Coordinator cannot exceed the sum of the post-traded Remaining Import Capability of its Load Serving Entities. The CAISO will honor the requests to the extent an Intertie has not been over requested. If an Intertie is over requested, the requests for Remaining Import Capability on that Intertie will be assigned based on each Load Serving Entity's Import Capability Load Share Ratio in the same manner as set forth in Step 4. A Scheduling Coordinator for a Load Serving Entity without an Import Capability Load Share will be assigned the Import Capability Load Share equal to the average Import Capability Load Share of those Load Serving Entities from which it received transfers of Remaining Import Capability.

Step 10: CAISO Notification of Initial Remaining Import Capability Assignments and Unassigned Capability: In accordance with the schedule set forth in the Business Practice Manual, the CAISO will:

- (a) Notify the Scheduling Coordinators of accepted request(s) for assigning Remaining Import Capability under Step 9;
- (b) Publish on the CAISO Website aggregate unassigned Available Import Capability, if any, the identity of the Interties with unassigned Available Import

California Independent System Operator Corporation
Fifth Replacement Electronic Tariff

Capability, and the MW quantity of Available Import Capability, on each such Intertie; and

- (c) Issue a Market Notice to advise the Scheduling Coordinators that Step 10 is complete and to specify the time at which the CAISO will begin accepting requests for the Remaining Import Capability for Step 11.

Step 11: Secondary Scheduling Coordinator Request to Assign Remaining Import Capability by Intertie: To the extent Remaining Import Capability remains unassigned as disclosed by Step 10, in accordance with the schedule set forth in the Business Practice Manual, Scheduling Coordinators for Load Serving Entities shall notify the CAISO of their requests to assign any Remaining Import Capability on a MW per available Intertie basis. Step 10 must be completed before a Scheduling Coordinator may submit a request under this step for any Remaining Import Capability. Any requests received prior to the time stated in the Market Notice issued at the completion of Step 10 will not be honored by the CAISO. The CAISO will honor the timely requests received to the extent an Intertie has not been over requested. If an Intertie is over requested, the requests on that Intertie will be assigned based on each Load Serving Entity's Import Capability Load Share Ratio, as used in Steps 4 and 9.

Step 12: Notification of Secondary Remaining Import Capability Assignments and Unassigned Capability: In accordance with the schedule set forth in the Business Practice Manual, the CAISO will:

- (a) Notify the Scheduling Coordinator for each Load Serving Entity of the Load Serving Entity's accepted request(s) for assigning Remaining Import Capability under Step 11;
- (b) Publish on the CAISO Website unassigned aggregate Available Import Capability, if any, the identity of the Interties with Available Remaining Import Capability, and the MW quantity of Availability Import Capability on each such Intertie; and
- (c) Issue a Market Notice to advise the Scheduling Coordinator for each Load Serving Entity that Step 12 is complete and to specify the time at which the

California Independent System Operator Corporation
Fifth Replacement Electronic Tariff

CAISO will begin accepting requests for the Balance of Year Unassigned Available Import Capability for Step 13.

Step 13: Requests for Balance of Year Unassigned Available Import Capability: To the extent total Available Import Capability remains unassigned as disclosed by Step 12, Scheduling Coordinators for Load Serving Entities, Participating Generators, or System Resources may notify the CAISO of a request for unassigned Available Import Capability on a specific Intertie on a per MW basis. Step 12 must be completed before a Scheduling Coordinator may submit a request under this step for any remaining unassigned Import Capability. Any requests received prior to the time stated in the Market Notice issued at the completion of Step 12 will not be honored by the CAISO. Each request must include the identity of Load Serving Entity, Participating Generator, or System Resource on whose behalf the request is made. The CAISO will accept only two (2) requests per calendar week from any Scheduling Coordinator on behalf of a single Load Serving Entity, Participating Generator, or System Resource. The CAISO will honor timely requests in priority of the time requests from Scheduling Coordinators were received until the Intertie is fully assigned and without regard to any Load Serving Entity's Load Share Quantity. Any honored request shall be for the remainder of the Resource Adequacy Compliance Year. The CAISO shall provide an electronic means, either through the Import Capability Transfer Registration Process or otherwise, of notifying the Scheduling Coordinator of the time the request was deemed received by the CAISO and, within seven (7) days of receipt of the request, whether the request was honored. If a request made on behalf of a Load Serving Entity is honored, it shall be the responsibility of the Scheduling Coordinator and its Load Serving Entity to notify the CPUC or applicable Local Regulatory Authority of the acceptance of the request for unassigned Available Import Capability. If the request is not honored because the Intertie requested was fully assigned, the request will be deemed rejected and the Scheduling Coordinator, if it still seeks to obtain unassigned Available Import Capability, will be required to submit a new request for unassigned Available Import Capability on a different Intertie. The CAISO will update on its website the list of unassigned Available Import Capability by Intertie in accordance with the schedule set forth in the Business Practice Manual.

California Independent System Operator Corporation
Fifth Replacement Electronic Tariff

This multi-step process for assignment of Total Import Capability does not guarantee or result in any actual transmission service being assigned and is only used for determining the import capability that can be credited towards satisfying the Reserve Margin of a Load Serving Entity under this Section 40. Upon the request of the CAISO, Scheduling Coordinators must provide the CAISO with information on Pre-RA Import Commitments and any transfers or sales of assigned Total Import Capability.

40.4.6.2.2 Bilateral Import Capability Transfers and Registration Process

40.4.6.2.2.1 Eligibility Registration for Bilateral Import Capability Transfers

To be eligible to engage in any bilateral assignment, sale, or other transfer of Remaining Import Capability under Step 8 of Section 40.4.6.2.1 or Section 40.4.6.2.2.2 or Existing Contract Import Capability, and Pre-RA Import Commitment Capability under Section 40.6.2.2.2, a Load Serving Entity or other Market Participant must provide the CAISO through the Import Capability Transfer Registration Process the following information:

- (a) Name of the Load Serving Entity or Market Participant
- (b) E-mail contact information

The CAISO will post to the CAISO Website the information received under this Section on a monthly basis in accordance with the schedule set forth in the Business Practice Manual. Any assignment, sale, or other transfer of Existing Contract Import Capability, Pre-RA Import Commitment Capability, or Remaining Import Capability may only be made by or to a Load Serving Entity or Market Participant whose information received under this Section has been posted to the CAISO Website prior to the date of the assignment, sale, or other transfer of the Existing Contract Import Capability, Pre-RA Import Commitment Capability, or Remaining Import Capability. It shall be the exclusive responsibility of the Scheduling Coordinator for the Load Serving Entity or Market Participant to ensure that the information posted to the CAISO Website under this Section is accurate and up to date.

40.4.6.2.2.2 Reporting Process for Bilateral Import Capability Transfers

This Section shall apply to all transfers of Existing Contract Import Capability, Pre-RA Import Commitment Capability, or Remaining Import Capability other than that provided for in Step 8 of Section 40.4.6.2.1. Any Load Serving Entity or other Market Participant that has obtained Existing Contract Import Capability, Pre-RA Import Commitment Capability, or Remaining Import Capability may assign, sell, or otherwise

California Independent System Operator Corporation
Fifth Replacement Electronic Tariff

transfer such Existing Contract Import Capability, Pre-RA Import Commitment Capability, or Remaining Import Capability in MW increments. The import capability subject to each transfer shall remain on the Intertie assigned pursuant to Section 40.4.6.2.1.

The Scheduling Coordinator for the Load Serving Entity or Market Participant receiving the transferred Existing Contract Import Capability, Pre-RA Import Commitment Capability, or Remaining Import Capability must report the transfer to the CAISO through the CAISO's Import Capability Transfer Registration Process by providing the following information:

- (a) Identity of the counter-party(ies);
- (b) The MW quantity;
- (c) The Intertie on which the Existing Contract Import Capability, Pre-RA Import Commitment Capability, or Remaining Import Capability was assigned;
- (d) Term of the transfer;
- (e) Price on a per MW basis; and
- (f) Whether the import capability assignment being transferred is Existing Contract Import Capability, Pre-RA Import Commitment Capability, or Remaining Import Capability.

The CAISO will promptly post to the CAISO Website the information on transfers received under this Section except for the information received pursuant to subpart (f) of this Section. On a quarterly basis, the CAISO shall also report to FERC the transfer information received under this Section and Step 8 of Section 40.4.6.2.1. Transfer information received in accordance with this Section after the 20th calendar day of any month shall not be permitted to be included in the Load Serving Entity's Resource Adequacy Plan submitted in the same month as the transfer submission.

40.4.6.2.2.3 Other Import Capability Information Postings

The CAISO will post to the CAISO Website on a monthly basis in accordance with the schedule set forth in the Business Practice Manual, for each Intertie, the holder and that holder's quantity in MW of import capability assigned on the particular Intertie as of the reporting date.

The CAISO will also post to the CAISO Website following submission of the annual Resource Adequacy Plans under Sections 40.2.1.1, 40.2.2.4, 40.2.3.4, and 40.2.4, for each Intertie, by a "yes" or "no" designation, whether each holder of import capability assigned on the particular Intertie has fully included

the assigned import capability in the holder's annual Resource Adequacy Plans.

40.4.6.3 Deliverability of Distributed Generation

The CAISO will perform an annual Deliverability Assessment, as described in Section 40.4.6.3.1, to determine MW quantities of Potential DGD at specific Nodes of the CAISO Controlled Grid for assigning Deliverability Status to Distributed Generation Facilities interconnected or seeking interconnection to the Distribution System of a Utility Distribution Company or a Metered Subsystem pursuant to the interconnection procedures of the Utility Distribution Company or Metered Subsystem, where such interconnection and Potential Deliverability Status can be provided:

- (i) without any additional Delivery Network Upgrades (although Reliability Network Upgrades, Distribution Upgrades or other mitigation may be needed);
- (ii) without the need for the CAISO to conduct any further Deliverability Assessment; and
- (iii) without degrading the Deliverability Status of Generation in Commercial Operation, proposed Generating Facilities in the CAISO Interconnection queue, or the Distributed Generation Facilities of interconnection customers who have previously requested Full Capacity or Partial Capacity Deliverability Status.

Following the CAISO's publication of the nodal Potential DGD quantities resulting from the Deliverability Assessment, applicable Utility Distribution Companies and Metered Subsystems will assign Full Capacity Deliverability Status or Partial Capacity Deliverability Status to specific Distributed Generation Facilities pursuant to the rules set forth in Section 40.4.6.3.2.

This Section 40.4.6.3 is intended to supplement, and not to preclude or limit, the ability of an interconnection customer for a Distributed Generation Facility to seek and receive Full Capacity Deliverability Status or Partial Capacity Deliverability Status through applicable interconnection procedures. Nothing in this Section 40.4.6.3 is intended to relieve the interconnection customer for a Distributed Generation Facility from the requirements to request and achieve interconnection to the Distribution System through the applicable interconnection procedures. In addition, the amount of Resource Adequacy Capacity a Distributed Generation Facility may provide in any given Resource Adequacy Compliance Year is subject to the CAISO's annual Net Qualifying Capacity determination, as specified in Section 40.4.6.1.

40.4.6.3.1 Deliverability Assessment to Determine Potential DGD

This Section describes the annual DG Deliverability Assessment the CAISO will perform to determine nodal MW amounts of Potential DGD available to Utility Distribution Companies and Metered Subsystems for assigning Deliverability Status to Distributed Generation Facilities in accordance with Section 40.4.6.3.2. The DG Deliverability Assessment and its results will be based on the assumption that the Distributed Generation Facilities that are eventually assigned Deliverability Status under Section 40.4.6.3 complete all requirements for interconnection to the Distribution System under the applicable interconnection process and that these Distributed Generation Facilities will be supported by needed Reliability Network Upgrades, Distribution Upgrades or other mitigation that would be needed to safely and reliably interconnect to the Distribution System and deliver Energy from the Distribution System to the appropriate CAISO Controlled Grid Node.

40.4.6.3.1.1 Developing the Assessment Model

To develop the base case model for the DG Deliverability Assessment, the CAISO will include:

- (i) The most recent GIP or GIDAP Queue Cluster Phase II Interconnection Study deliverability power flow base case, which includes Distributed Generation Facilities of interconnection customers with active interconnection requests who have requested Full Capacity or Partial Capacity Deliverability Status;
- (ii) Those Generating Facilities that have obtained Deliverability using the annual full capacity deliverability option under either Section 8.2 of the GIP, Section 9.2 of the GIDAP, or equivalent process(es) under the applicable Utility Distribution Company tariffs;
- (iii) Transmission additions and upgrades approved in the final comprehensive Transmission Plan for the most recent Transmission Planning Process cycle;
- (iv) Any Generating Facilities in the most recent GIDAP Phase I Interconnection Study that have been determined to be deliverable in accordance with their requested Deliverability Status (including Distributed Generation Facilities of interconnection customers with active interconnection requests who have requested Full Capacity or Partial Capacity Deliverability Status) and were not assigned any Delivery Network Upgrade costs in the

California Independent System Operator Corporation
Fifth Replacement Electronic Tariff

Phase I Interconnection Study;

- (v) Delivery Network Upgrades that have received governmental approvals or for which Construction Activities have commenced;
- (vi) The MW amounts of resources interconnected to the Distribution System below specific Nodes of the CAISO Controlled Grid contained in the most recent Transmission Planning Process base portfolio, except that the CAISO will remove each Node (by using a zero MW value) located within electrical areas for which the most recently completed GIP or GIDAP Phase I or Phase II Interconnection Study has identified a need for a Delivery Network Upgrade or for which the most recent Phase II Interconnection Study identified and then removed a Delivery Network Upgrade to support Deliverability for MW amounts in the Interconnection queue;
- (vii) Actual distributed generation development based on the MW amount of distributed generation in applicable Utility Distribution Company and Metered Subsystem interconnection queues including non-net-energy-metering resources requesting interconnection through state-jurisdictional interconnection processes;
- (viii) Any additional information provided by each Utility Distribution Company and Metered Subsystem regarding anticipated distributed generation development on its Distribution System; and
- (ix) Other information that the CAISO, in its reasonable discretion, determines is necessary.

40.4.6.3.1.2 Performing the DG Deliverability Assessment

The CAISO will perform the DG Deliverability Assessment using the Deliverability Assessment procedures described in GIDAP Section 6.3.2 to determine the availability of transmission system capability, as reflected in the study model described above, to provide Deliverability Status for targeted amounts of additional distributed generation at given Nodes of the CAISO Controlled Grid. Except for Nodes that the CAISO removes by assigning a zero MW value pursuant to Section 40.4.6.3.1.1(vi), the targeted amounts of additional distributed generation at each Node shall be at least as large as the maximum of the corresponding nodal MW amounts determined in accordance with Sections 40.4.6.3.1.1(vi), 40.4.6.3.1.1(vii) or 40.4.6.3.1.1(viii). The CAISO may use larger targeted amounts as it

deems appropriate to enhance the information provided by the DG Deliverability Assessment. The DG Deliverability Assessment will preserve modeled transmission system capability to provide requested levels of deliverability for the Generating Facilities of Interconnection Customers or the Distributed Generation Facilities of interconnection customers under a wholesale distribution access tariff who have previously requested Full Capacity or Partial Capacity Deliverability Status. Therefore, at each Node where all modeled Generating Facilities, including the distributed generation target amounts, cannot be simultaneously dispatched to the modeled output levels corresponding to their Full Capacity or Partial Capacity Deliverability Status without violating operating limits of the CAISO Controlled Grid, the CAISO will reduce the modeled distributed generation target amounts as needed to achieve a feasible Dispatch.

40.4.6.3.1.3 Publishing Results of the DG Deliverability Assessment

The CAISO will publish the results of the DG Deliverability Assessment by posting on the CAISO Website. The results will identify all Nodes modeled in the assessment with the corresponding nodal MW amounts of Potential DGD that (a) were studied as targeted amounts in the DG Deliverability Assessment; (b) were found to be deliverable in the DG Deliverability Assessment; and (c) are available for use by Utility Distribution Companies and Metered Subsystems to assign Deliverability Status to Distributed Generation Facilities in accordance with Section 40.4.6.3.2. The nodal MW amounts of Potential DGD available for assignment of Deliverability Status by Utility Distribution Companies and Metered Subsystems to individual Distributed Generation Facilities will be denominated in 0.01 MW increments and will not exceed the maximum of the corresponding nodal MW amounts determined in accordance with Sections 40.4.6.3.1.1(vi), 40.4.6.3.1.1(vii) or 40.4.6.3.1.1(viii), even though the amounts that were studied and found to be deliverable may be larger.

With respect to those Nodes at which more than one Utility Distribution Company's or Metered Subsystem's Distribution System is connected, the CAISO will publish, at the same time it publishes the results of the DG Deliverability Assessment, each Utility Distribution Company's or Metered Subsystem's respective share of the Potential DGD available to provide Deliverability Status to Distributed Generation Facilities at these Nodes based on the ratio of Load served via the facilities of each affected Utility Distribution Company and Metered Subsystem at such Nodes.

40.4.6.3.1.4 Bilateral Transfers of Potential DGD at Shared Nodes

A Utility Distribution Company or Metered Subsystem shall be entitled to transfer all or a portion of its MW share of Potential DGD at a Node that is shared with the Distribution System of another Utility Distribution Company or Metered Subsystem, in quantities no smaller than 0.01 MW. A Utility Distribution Company that is also an IOU Participating Transmission Owner shall be entitled to transfer a MW share of Potential DGD to another Utility Distribution Company or Metered Subsystem only to the extent that the total MW quantity associated with Distributed Generation Facilities connected or seeking interconnection to the IOU Participating Transmission Owner's Distribution System at the Node that are eligible to receive Deliverability Assignments pursuant to Section 40.4.6.3.2.2.1 is less than the available Potential DGD for that Node as indicated in the DG Deliverability Assessment for the current cycle. Both Utility Distribution Companies or Metered Subsystems participating in a transfer pursuant to this Section 40.4.6.3.1.4 shall notify the CAISO of the transfer. Utility Distribution Companies and Metered Subsystems may engage in such transfers during the period from the date they received notification of their shares of Potential DGD at shared Nodes under Section 40.4.6.3.1.3 through the date on which Deliverability Status assignments must be provided to the CAISO, pursuant to Section 40.4.6.3.2.

40.4.6.3.2 Assignment of Deliverability Status to Distributed Generation Facilities

After completion of the DG Deliverability Assessment associated with the current cycle of the process described in Section 40.4.6.3, and in accordance with a Market Notice setting out the schedule for the cycle, each Utility Distribution Company and Metered Subsystem will assign Deliverability Status to individual Distributed Generation Facilities interconnected, or seeking interconnection, to the Distribution System of the Utility Distribution Company or Metered Subsystem below each Node where the CAISO's DG Deliverability Assessment for the current cycle has indicated the availability of Potential DGD, consistent with the rules set forth in this Section 40.4.6.3.2, and will report all such assignments to the CAISO in accordance with the schedule for the cycle.

Upon receipt of this information the CAISO will validate that the Utility Distribution Company's or Metered Subsystem's assignments of Deliverability Status to specific Distributed Generation Facilities is consistent with (i) the MW quantities of Potential DGD available to that Utility Distribution Company or Metered Subsystem at specific Nodes; the CAISO's methodology for associating the Deliverability Status of a

specific generating resource type with a MW quantity of Potential DGD, as set forth in Section 40.4.6.3.2.1; and (iii) the time limit on a Distributed Generation Facility's expected future Commercial Operation date, as set forth in Section 40.4.6.3.2.2. If the CAISO identifies an inconsistency between a Utility Distribution Company's or Metered Subsystem's assignment of Deliverability Status to a Distributed Generation Facility and any of these requirements, the CAISO will notify the Utility Distribution Company or Metered Subsystem, and the Utility Distribution Company or Metered Subsystem in consultation with the CAISO will adjust its assignments of Deliverability Status as needed. The CAISO will then inform the Utility Distribution Company or Metered Subsystem that the validation process has been completed, and the Utility Distribution Company or Metered Subsystem will notify the Distributed Generation Facilities of their Deliverability Status assignments.

40.4.6.3.2.1 Associating MW of Potential DGD with Deliverability Status of a Distributed Generation Facility

As described further in a Business Practice Manual, Utility Distribution Company's or Metered Subsystem's association of a MW quantity of Potential DGD at a specific Node with the Deliverability Status of a specific Distributed Generation Facility shall be commensurate with the MW Energy production level appropriate to the type of generating resource comprising the facility modeled in the Deliverability Assessment, the qualifying capacity determination method for that resource type, the installed capacity of the facility, and the Deliverability Status (Full Capacity or Partial Capacity) to be assigned to the facility, and shall be consistent with the CAISO's methodology for modeling resources in its deliverability studies.

40.4.6.3.2.2 Eligibility of Distributed Generation Facilities to Obtain Deliverability Status Assignment

To be eligible to receive a Deliverability Status assignment, a Distributed Generation Facility must satisfy the requirements of the applicable application process pursuant to this Section 40.4.6.3.2.2 and, if the Distributed Generation Facility is not in Commercial Operation, it must have an expected Commercial Operation date set forth in its current interconnection request or interconnection agreement that is no later than three (3) years from the last date on which applications may be submitted for the current DG Deliverability Assessment cycle.

**40.4.6.3.2.2.1 Eligibility to Obtain Deliverability Status Assignment from IOU Participating
Transmission Owners**

Distributed Generation Facilities interconnected, or seeking interconnection, to the Distribution System of an IOU Participating Transmission Owner may apply to the applicable IOU Participating Transmission Owner to be eligible to receive a Deliverability Status assignment in the current DG Deliverability Assessment cycle as follows:

- (i) Distributed Generation Facilities that are already in Commercial Operation and interconnected to the Distribution System of an IOU Participating Transmission Owner that do not have Deliverability Status may submit an application to be eligible for Full or Partial Capacity Deliverability Status, and those that have Partial Capacity Deliverability Status may apply to be eligible for a higher level of Partial Capacity Deliverability Status or Full Capacity Deliverability Status.
- (ii) Distributed Generation Facilities with an active interconnection request in the interconnection queue of an IOU Participating Transmission Owner that have not requested Deliverability Status in the underlying interconnection process but have received their Phase I interconnection study results or the equivalent thereof may submit an application to be eligible to receive Partial Capacity Deliverability Status or Full Capacity Deliverability Status.
- (iii) Distributed Generation Facilities with an active interconnection request in the interconnection queue of an IOU Participating Transmission Owner that have not received their Phase I interconnection study results or the equivalent thereof, irrespective of whether they requested Deliverability Status in their interconnection request, may submit an application to be eligible to receive Partial Capacity Deliverability Status or Full Capacity Deliverability Status.

Distributed Generation Facilities with an active interconnection request in the interconnection queue of an IOU Participating Transmission Owner that have requested Deliverability Status in the underlying interconnection process and have already received Phase I interconnection study results or the equivalent thereof are not eligible to be assigned Deliverability Status pursuant to Section 40.4.6.3

because their Deliverability Status is protected in accordance with the provisions of Section 40.4.6.3.1 and will be assigned through the applicable IOU Participating Transmission Owner's interconnection process. Applications from Distributed Generation Facilities in the eligible categories specified above must be submitted by the deadline specified in the schedule for the current DG Deliverability Assessment cycle in order for the Distributed Generation Facility to be treated as eligible to receive a Deliverability Status assignment in the current cycle. Distributed Generation Facilities that fail to apply in a timely manner will be assumed not to be seeking Deliverability Status in the current cycle. The CAISO will issue a Market Notice announcing the deadline for submitting applications. The deadline will be no earlier than thirty (30) days after the CAISO publishes the results of the DG Deliverability Assessment. The form of the application shall be specified in a Business Practice Manual. The application shall be submitted to the applicable Participating Transmission Owner, which shall provide a copy of the application to the CAISO within five (5) Business Days after the application was submitted.

40.4.6.3.2.2 Eligibility to Obtain Deliverability Status Assignment from Utility Distribution

Companies and Metered Subsystems that are Not IOU Participating Transmission Owners

Distributed Generation Facilities interconnected, or seeking interconnection, to the Distribution System of a Utility Distribution Company or Metered Subsystem that is not an IOU Participating Transmission Owner may apply to the applicable Utility Distribution Company or Metered Subsystem to be eligible to receive a Deliverability Status assignment in the current DG Deliverability Assessment cycle pursuant to individual interconnection procedures of the Utility Distribution Company or Metered Subsystem.

40.4.6.3.2.3 Assignment of Deliverability Status to Distributed Generation Facilities by IOU Participating Transmission Owners

Utility Distribution Companies that are also IOU Participating Transmission Owners will assign Deliverability Status on a first-come, first-served basis to those Distributed Generation Facilities either interconnected or seeking interconnection to their Distribution Systems at each applicable Node, and that are eligible for assignment pursuant to Section 40.4.6.3.2.2.1, in the following priority order:

- (1) Distributed Generation Facilities already in Commercial Operation and interconnected to the Distribution System of the applicable IOU Participating Transmission Owner as of the

California Independent System Operator Corporation
Fifth Replacement Electronic Tariff

deadline for submitting applications pursuant to Section 40.4.6.3.2.2.1, in order of the date they achieved Commercial Operation, from earliest to most recent. At Nodes where there is insufficient Potential DGD indicated in the DG Deliverability Assessment to fulfill all Deliverability Status applications received during the current cycle from Distributed Generation Facilities already in Commercial Operation, and two or more such Distributed Generation Facilities next in order to obtain the last remaining increment of Potential DGD at a Node have the same Commercial Operation date, each such resource shall receive a pro rata share of the remaining Potential DGD in proportion to its MW Energy production level as modeled by the CAISO for the purpose of the CAISO's Deliverability Assessment methodology, in accordance with the level of Deliverability Status applied for in the current cycle.

- (2) Distributed Generation Facilities with an active interconnection request in the interconnection queue of the applicable IOU Participating Transmission Owner that have submitted an application pursuant to Section 40.4.6.3.2.2.1 to obtain Deliverability Status through the process set forth in Section 40.4.6.3, in order of their queue position in the applicable interconnection process. At Nodes where there is insufficient Potential DGD indicated in the DG Deliverability Assessment to provide Deliverability Status to eligible Distributed Generation Facilities with active interconnection requests, and two or more such Distributed Generation Facilities next in order to obtain the last remaining increment of Potential DGD have the same interconnection queue position, the remaining amount of Potential DGD will be allocated in order of expected Commercial Operation date, from earliest to furthest in the future. For purposes of this determination, the expected Commercial Operation date shall be the Commercial Operation date specified in the Distributed Generation Facility's interconnection agreement, or if no interconnection agreement has yet been executed, the Distributed Generation Facility's application submitted pursuant to Section 40.4.6.3.2.2.1. If two or more such Distributed Generation Facilities have the same expected Commercial Operation date, each such resource shall receive a pro rata share of the remaining Potential DGD in proportion to its expected MW

California Independent System Operator Corporation
Fifth Replacement Electronic Tariff

Energy production level as modeled by the CAISO for the purpose of the CAISO's Deliverability Assessment methodology, in accordance with the level of Deliverability Status requested in the current cycle.

Pursuant to this process, an IOU Participating Transmission Owner shall, during each cycle, fully utilize the maximum amount of Potential DGD available at each Node to provide Deliverability Status to eligible Distributed Generation Resources. If, however, the total MW quantity associated with eligible Distributed Generation Resources at a particular Node is less than the available Potential DGD for that Node as indicated in the DG Deliverability Assessment for the current cycle, then the excess quantity of Potential DGD shall be treated as unassigned Potential DGD in accordance with Section 40.4.6.3.3.

40.4.6.3.2.4 Assignment of Deliverability Status to Distributed Generation Facilities by Utility Distribution Companies and Metered Subsystems that are Not IOU Participating Transmission Owners

Utility Distribution Companies and Metered Subsystems that are not IOU Participating Transmission Owners will assign Deliverability Status to individual Distributed Generating Facilities interconnected, or seeking interconnection, to the Distribution System of such Utility Distribution Company or Metered Subsystem based on the Potential DGD available at applicable Nodes pursuant to their individual interconnection procedures. Such Utility Distribution Companies and Metered Subsystems may report assignments of Deliverability Status to the CAISO at any time. However, only those assignments of Deliverability Status that are reported to the CAISO in accordance with the assignment schedule established by the CAISO for the current DG Deliverability Assessment cycle will be eligible for inclusion in the CAISO's annual Net Qualifying Capacity determination as specified in Section 40.4.6.1 and thereby eligible to be designated as Resource Adequacy Resources for the next Resource Adequacy Compliance Year.

40.4.6.3.3 Unassigned Potential DGD

If a Utility Distribution Company or Metered Subsystem does not fully utilize the MW quantity of Potential DGD available to assign Deliverability Status to specific Distributed Generation Facilities during an annual DG Deliverability Assessment cycle, the CAISO will preserve the unassigned Potential DGD for that Utility Distribution Company or Metered Subsystem through the next cycle.

40.4.6.3.4 Deliverability Status of Distributed Generation Facilities

Once a Utility Distribution Company or Metered Subsystem has assigned Deliverability Status to a specific Distributed Generation Facility and reported such assignment to the CAISO, and the CAISO has validated and accepted the reported information as specified under Section 40.4.6.3.2, the Deliverability Status becomes an attribute of the Distributed Generation Facility to which it was assigned. A Distributed Generation Facility assigned Deliverability Status pursuant to an application submitted under Section 40.4.6.3.2.2.1(iii) will be subject to the provisions of Section 40.4.6.3 with regard to its assigned Deliverability Status and will continue through the interconnection process for all other purposes as a request for Energy-Only Deliverability Status.

Distributed Generation Facilities that are assigned Deliverability Status pursuant to Section 40.4.6.3 prior to achieving Commercial Operation must, in order to retain such assignment, achieve Commercial Operation no later than six months after the Commercial Operation date specified in the Distributed Generation Facility's interconnection agreement, or if no interconnection agreement had been executed at the time the assignment was made, the Distributed Generation Facility's application submitted pursuant to Section 40.4.6.3.2.2. However, if the Distributed Generation Facility submitted its application pursuant to Section 40.4.6.3.2.2.1(ii), such assignment shall not be revoked if the Distributed Generation Facility's failure to achieve Commercial Operation within six months of its indicated Commercial Operation date is due to a delay in the Utility Distribution Company's or Metered Subsystem's completion of the upgrades necessary for the Distributed Generation Facility's interconnection. The applicable Utility Distribution Company or Metered Subsystem must report any such revocations and delays to the CAISO in accordance with the date set forth in a Business Practice Manual or in a Market Notice establishing the schedule for the annual DG Deliverability Assessment cycle.

With respect to a Distributed Generation Facility that meets this retention requirement, once that Distributed Generation Facility has achieved Commercial Operation, it will retain its assigned Deliverability Status for as long it remains in Commercial Operation. This also applies to Distributed Generation Facilities that were already in Commercial Operation at the time the assignment was made. Any loss of Deliverability Status granted pursuant to Section 40.4.6.3, due to either permanent cessation of commercial operation of a Distributed Generation Facility or revocation due to failure to meet the

Commercial Operation date requirement set forth above, will be appropriately modeled by the CAISO in the next DG Deliverability Assessment cycle. Depending on other changes that may have occurred on the CAISO Controlled Grid and connected Distribution Systems, or in associated interconnection queues, additional Potential DGD may be available in the next cycle for assignment of Deliverability Status in accordance with the process set forth in Section 40.4.6.3.

40.4.7 Submission of Supply Plans

40.4.7.1 Schedule for Submission of Supply Plans

Scheduling Coordinators representing Resource Adequacy Resources supplying Resource Adequacy Capacity shall provide the CAISO with annual and monthly Supply Plans, as follows:

- (a) The annual Supply Plan shall be submitted to the CAISO on the schedule set forth in the Business Practice Manual and shall verify their agreement to provide Resource Adequacy Capacity during the next Resource Adequacy Compliance Year.
- (b) The monthly Supply Plans or the same information as required to be included in the monthly Supply Plan, plus any other information the CAISO requires as identified in the Business Practice Manual, shall be submitted to the CAISO at least 45 days in advance of the first day of the month covered by the plan, and in accordance with the schedule and in the reporting format(s) set forth in the Business Practice Manual, and shall verify their agreement to provide Resource Adequacy Capacity during that resource adequacy month.
- (c) The Scheduling Coordinator for the Resource Adequacy Resource may submit, at any time from 45 days through 11 days in advance of the relevant month, a revision to its monthly Supply Plan to correct an error in the plan. The CAISO will not accept any revisions to a monthly Supply Plan from 10 days in advance of the relevant month through the end of the month, unless the Scheduling Coordinator for the Resource Adequacy Resource demonstrates good cause for the change and explains why it was not possible to submit the change earlier.
- (d) The monthly Supply Plan may indicate the willingness of the resource to offer capacity for procurement as backstop capacity under the Capacity Procurement Mechanism pursuant

to Section 43, and provide the identity of the resource, the available capacity amount, the time periods when the capacity is available, and other information as may be specified in the Business Practice Manual.

40.4.7.2 Form of Supply Plans

The Supply Plan must be in the form of the template provided on the CAISO Website, which shall include an affirmative representation by the Scheduling Coordinator submitting the Supply Plan that the CAISO is entitled to rely on the accuracy of the information provided in the Supply Plan to perform those functions set forth in this Section 40.

40.4.7.3 Validation of Supply Plans

The CAISO shall be entitled to take reasonable measures to validate the accuracy of the information submitted in Supply Plans under this Section. Supply Plan validation measures may include the following:

- (a) The CAISO may compare a Resource Adequacy Resource's Resource Adequacy Capacity against the Resource Adequacy Resource's Net Qualifying Capacity, if applicable. To the extent the Resource Adequacy Capacity of a Resource Adequacy Resource included in a Supply Plan is greater than the Resource Adequacy Resource's Net Qualifying Capacity, the CAISO will notify the respective Scheduling Coordinators for the Resource Adequacy Resource and each Load Serving Entity that has included the Resource Adequacy Resource in its Resource Adequacy Plan that the Resource Adequacy Capacity from the Resource Adequacy Resource shall be reduced to the Resource Adequacy Resource's Net Qualifying Capacity and that it will be considered a mismatch under Section 40.7. If the CAISO is not advised as to how the reduction in Resource Adequacy Capacity to conform with the Resource Adequacy Resource's Net Qualifying Capacity shall be allocated among each Load Serving Entity that included the Resource Adequacy Resource on its Resource Adequacy Plan, the CAISO will apply a pro rata reduction based on the Supply Plan.
- (b) The CAISO may verify whether the Resource Adequacy Capacity listed in the monthly Supply Plan is scheduled to take an Approved Maintenance Outage during the month.

California Independent System Operator Corporation
Fifth Replacement Electronic Tariff

To the extent the Resource Adequacy Capacity of a Resource Adequacy Resource included in a Supply Plan is greater than the Resource Adequacy Capacity designated for the resource in the Resource Adequacy Plan, or includes Resource Adequacy Capacity that is scheduled to take an Approved Maintenance Outage during the month, the CAISO will notify the Scheduling Coordinator for the Resource Adequacy Resource and the respective Scheduling Coordinators for each Load Serving Entity that has included the Resource Adequacy Resource in its Resource Adequacy Plan that there is a discrepancy, which will be treated as a mismatch under Section 40.7. To the extent the Resource Adequacy Capacity of a Resource Adequacy Resource included in a Supply Plan is less than the Resource Adequacy Capacity designated for the resource in the Resource Adequacy Plan, or includes Resource Adequacy Capacity that is scheduled for an Approved Maintenance Outage during the month, the CAISO will notify the Local Regulatory Authority, the Scheduling Coordinator for the Resource Adequacy Resource, and the respective Scheduling Coordinators for each Load Serving Entity that has included the Resource Adequacy Resource in its Resource Adequacy Plan that there is a discrepancy, which will be treated as a mismatch under Section 40.7.

- (c) Other errors or inaccuracies identified by the CAISO in a Supply Plan shall be treated as a mismatch under Section 40.7.

Disputes regarding the CAISO's determination of Net Qualifying Capacity shall be subject to Section 40.5.2. The provisions of this Section shall not affect a Resource Adequacy Resource's Net Qualifying Capacity posted by the CAISO under Section 40.5.2.

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

This Section 40.6 does not apply to Resource Adequacy Resources of Load-following MSSs. Scheduling Coordinators supplying Resource Adequacy Capacity shall make the Resource Adequacy Capacity listed in the Scheduling Coordinator's monthly Supply Plans under Section 40.4.7 available to the CAISO each hour of each day of the reporting month in accordance with this Section 40.6 and Section 9.3.1.3.

40.6.1 Day-Ahead Availability

Scheduling Coordinators supplying Resource Adequacy Capacity shall make the Resource Adequacy Capacity, available Day-Ahead to the CAISO, except as provided in Section 40.6.1.1 for specific resource types, and Section 40.6.4 for Use-Limited Resources, as follows:

- (1) Resource Adequacy Resources physically capable of operating must submit: (a) Economic Bids for Energy and/or Self-Schedules for all their Resource Adequacy Capacity and (b) Economic Bids for Ancillary Services and/or a Submission to Self-Provide Ancillary Services in the IFM for all of their Resource Adequacy Capacity that is certified to provide Ancillary Services. For Resource Adequacy Capacity that is certified to provide Ancillary Services and is not covered by a Submission to Self-Provide Ancillary Services, the resource must submit Economic Bids for each Ancillary Service for which the resource is certified. For Resource Adequacy Capacity subject to this requirement for which no Economic Energy Bid or Self-Schedule has been submitted, the CAISO shall insert a Generated Bid in accordance with Section 40.6.8. For Resource Adequacy Capacity subject to this requirement for which no Economic Bids for Ancillary Services or Submissions to Self-Provide Ancillary Services have been submitted, the CAISO shall insert a Generated Bid in accordance with Section 40.6.8 for each Ancillary Service the resource is certified to provide.
- (2) Resource Adequacy Resources must be available except for limitations specified in the Master File, legal or regulatory prohibitions or as otherwise required by this CAISO Tariff or by Good Utility Practice.
- (3) Through the IFM co-optimization process, the CAISO will utilize available Resource Adequacy Capacity to provide Energy or Ancillary Services in the most efficient manner

California Independent System Operator Corporation
Fifth Replacement Electronic Tariff

to clear the Energy market, manage congestion and procure required Ancillary Services. In so doing, the IFM will honor submitted Energy Self-Schedules of Resource Adequacy Capacity unless the CAISO is unable to satisfy one hundred percent (100%) of the Ancillary Services requirements. In such cases, the CAISO may curtail all or a portion of a submitted Energy Self-Schedule to allow Ancillary Service-certified Resource Adequacy Capacity to be used to meet the Ancillary Service requirements. The CAISO will not curtail for the purpose of meeting Ancillary Service requirements a Self-Schedule of a resource internal to a Metered Subsystem that was submitted by the Scheduling Coordinator for that Metered Subsystem. If the IFM reduces the Energy Self-Schedule of Resource Adequacy Capacity to provide an Ancillary Service, the Ancillary Service Marginal Price for that Ancillary Service will be calculated in accordance with Section 27.1.2 using the Ancillary Service Bids submitted by the Scheduling Coordinator for the Resource Adequacy Resource or inserted by the CAISO pursuant to this Section 40.6.1, and using the resource's Generated Energy Bid to determine the Resource Adequacy Resource's opportunity cost of Energy. If the Scheduling Coordinator for the Resource Adequacy Resource believes that the opportunity cost of Energy based on the Resource Adequacy Resource's Generated Energy Bid is insufficient to compensate for the resource's actual opportunity cost, the Scheduling Coordinator may submit evidence justifying the increased amount to the CAISO and to the FERC no later than seven (7) days after the end of the month in which the submitted Energy Self-Schedule was reduced by the CAISO to provide an Ancillary Service.

The CAISO will treat such information as confidential and will apply the procedures in Section 20.4 of this CAISO Tariff with regard to requests for disclosure of such information. The CAISO shall pay any higher opportunity costs approved by FERC.

- (4) A Resource Adequacy Resources must participate in the RUC to the extent that the resource has available Resource Adequacy Capacity that is not reflected in an IFM Schedule. Resource Adequacy Capacity participating in RUC will be optimized using a zero dollar (\$0/MW-hour) RUC Availability Bid.

California Independent System Operator Corporation
Fifth Replacement Electronic Tariff

- (5) Capacity from Resource Adequacy Resources selected in RUC will not be eligible to receive a RUC Availability Payment.

40.6.1.1 Day-Ahead Availability – Specific RA Resource Types

(a) **Distributed Generation Facilities**

- (1) Distributed Generation Facilities that are not Use-Limited Resources under Section 40.6.4.1 shall comply with the IFM and RUC bidding requirements that apply to the same technology type of a resource connected to the CAISO Controlled Grid.
- (2) Distributed Generation Facilities that are Use-Limited Resources under Section 40.6.4.1 shall comply with the applicable IFM and RUC bidding requirements for Use-Limited Resources under Section 40.6.4.3.

(b) **Non-Generator Resources**

- (1) Non-Generator Resources that do not use Regulation Energy Management and are not Use-Limited Resources under Section 40.4.6.1 shall submit –
- (A) Economic Bids or Self-Schedules into the IFM for all RA Capacity for all hours of the month the resource is physically capable of operating; and
- (B) \$0/MW RUC Availability Bids for all RA Capacity for all hours of the month the resource is physically capable of operating,
- (2) Non-Generator Resources using Regulation Energy Management that are not Use-Limited Resources under Section 40.4.6.1 shall submit –
- (A) Economic Bids or Self-Schedules into the IFM for all RA Capacity for Regulation for all hours of the month the resource is physically capable of operating; and
- (B) \$0/MW RUC Availability Bids for all RA Capacity for all hours of the month the resource is physically capable of operating,
- (3) Non-Generator Resources that are Use-Limited Resources under Section 40.6.4.1 shall comply with the applicable IFM and RUC bidding requirements for Use-Limited Resources under Section 40.6.4.3.

California Independent System Operator Corporation
Fifth Replacement Electronic Tariff

- (c) **Extremely Long-Start Resources.** Extremely Long-Start Resources that are Resource Adequacy Resources must make themselves available to the CAISO by complying with –
- (1) the Extremely Long-Start Commitment Process under Section 31.7 or otherwise committing the ELS Resource upon instruction from the CAISO, if physically capable; and
 - (2) the applicable provisions of Section 40.6.1 regarding Day-Ahead availability for the Trading Days for which it was committed.

40.6.2 Real-Time Availability

- (a) **General Requirement.** Resource Adequacy Resources that have received an IFM Schedule for Energy or Ancillary Services or a RUC Schedule for all or part of their Resource Adequacy Capacity must remain available to the CAISO through Real-Time for Trading Hours for which they receive an IFM or RUC Schedule, including any Resource Adequacy Capacity of such resources that is not included in an IFM Schedule or RUC Schedule, except for Resource Adequacy Capacity that is subject to Section 40.6.4.
- (b) **Short Start Units or Long Start Units.** Short Start Units or Long Start Units that are Resource Adequacy Resources that do not have an IFM Schedule or a RUC Schedule for any of their Resource Adequacy Capacity for a given Trading Hour may be required to be available to the CAISO through Real-Time as specified in Sections 40.6.3 and 40.6.7. Resource Adequacy Resources with Resource Adequacy Capacity that is required to be available to the CAISO through Real-Time and does not have an IFM Schedule or a RUC Schedule for a given Trading Hour must submit to the RTM for that Trading hour: (a) Energy Bids and Self-Schedules for the full amount of the available Resource Adequacy Capacity, including capacity for which it has submitted Ancillary Services Bids or Submissions to Self-Provide Ancillary Services; and (b) Ancillary Services Bids and Submissions to Self-Provide Ancillary Services for the full amount of the available Ancillary Service-certified Resource Adequacy Capacity and for each Ancillary Service for which the resource is certified, including capacity for which it has submitted Energy Bids and Self-Schedules. The CAISO will insert Generated Bids in accordance with

California Independent System Operator Corporation
Fifth Replacement Electronic Tariff

Section 40.6.8 for any Resource Adequacy Capacity subject to the above requirements for which the resource has failed to submit the appropriate bids to the RTM.

- (c) **Self-Schedules.** The CAISO will honor submitted Energy Self-Schedules of Resource Adequacy Capacity unless the CAISO is unable to satisfy one hundred (100) percent of its Ancillary Services requirements. In such cases, the CAISO may curtail all or a portion of a submitted Energy Self-Schedule to allow Ancillary Service-certified Resource Adequacy Capacity to be used to meet the Ancillary Service requirements, as long as such curtailment does not lead to a real-time shortfall in energy supply. If the CAISO reduces a submitted Real-Time Energy Self-Schedule for Resource Adequacy Capacity when that capacity is needed to meet an Ancillary Services requirement, the Ancillary Service Marginal Price for that capacity will be calculated in accordance with Sections 27.1.2 and 40.6.1.

(d) **Distributed Generation Facilities**

- (1) Distributed Generation Facilities that are not Use-Limited Resources under Section 40.6.4.1 shall comply with the RTM bidding requirements that apply to the same technology type of resource connected to the CAISO Controlled Grid.
- (2) Distributed Generation Facilities that are Use-Limited Resources under Section 40.6.4.1 shall comply with the applicable RTM bidding requirements for Use-Limited Resources under Section 40.6.4.3.

(e) **Non-Generator Resources**

- (1) Non-Generator Resources that do not use Regulation Energy Management and are not Use-Limited Resources under Section 40.4.6.1 shall submit –
 - (A) Economic Bids or Self-Schedules into the RTM for any remaining RA Capacity scheduled in the IFM or RUC; and
 - (B) Economic Bids or Self-Schedules into the RTM for all RA Capacity not scheduled in the IFM,
- (2) Non-Generator Resources using Regulation Energy Management that are not Use-Limited Resources under Section 40.4.6.1 shall submit –

California Independent System Operator Corporation
Fifth Replacement Electronic Tariff

- (A) Economic Bids or Self-Schedules into the RTM for any remaining RA Capacity from resource scheduled in IFM or RUC; and
- (B) Economic Bids or Self-Schedules into the RTM for all RA Capacity not scheduled in IFM,
- (3) Non-Generator Resources that are Use-Limited Resources under Section 40.6.4.1 shall comply with the applicable RTM bidding requirements for Use-Limited Resources under Section 40.6.4.3.
- (f) **Extremely Long-Start Resources.** Once an Extremely Long Start Resource providing Resource Adequacy Capacity is committed by the CAISO, it shall comply with the applicable provisions of Section 40.6.2 regarding Real-Time availability for the Trading Days for which it was committed.

40.6.3 Additional Availability Requirements or Resources that are Not Long Start Units or Extremely Long Start Resources

A resource that is not a Long Start Unit or an Extremely Long-Start Resource that is a Resource Adequacy Resource and that does not have an IFM Schedule or a RUC Schedule for any of its capacity for a given Trading Hour is required to participate in the Real Time Market in accordance with Section 40.6.2. Such a resource that is also a Use-Limited Resource subject to Section 40.6.4 is required, consistent with their applicable use plan, to submit Economic Bids or Self Schedules for Resource Adequacy Capacity into the Real Time Market.

The CAISO may waive these availability obligations for a resource that is not a Long Start Unit or an Extremely Long-Start Resource that does not have an IFM Schedule or a RUC Schedule based on the procedure to be published on the CAISO Website.

40.6.4 Use-Limited Resources Additional Availability Requirements

40.6.4.1 Registration of Use-Limited Resources

Hydroelectric Generating Units, Proxy Demand Resources, Reliability Demand Response Resources, and Participating Load, including Pumping Load, are deemed to be Use-Limited Resources for purposes of this Section 40 and are not required to submit the application described in this Section 40.6.4.1.

Scheduling Coordinators for other Use-Limited Resources must provide the CAISO an application in the

California Independent System Operator Corporation
Fifth Replacement Electronic Tariff

form specified on the CAISO Website requesting registration of a specifically identified resource as a Use-Limited Resource. This application shall include specific operating data and supporting documentation including, but not limited to:

- (1) a detailed explanation of why the resource is subject to operating limitations;
- (2) historical data to show attainable MWhs for each 24-hour period during the preceding year, including, as applicable, environmental restrictions for NOx, SOx, or other factors;
and
- (3) further data or other information as may be requested by the CAISO to understand the operating characteristics of the unit.

Within five (5) Business Days after receipt of the application, the CAISO will respond to the Scheduling Coordinator as to whether or not the CAISO agrees that the facility is eligible to be a Use-Limited Resource. If the CAISO determines the facility is not a Use-Limited Resource, the Scheduling Coordinator may challenge that determination in accordance with the CAISO ADR Procedures.

40.6.4.2 Use Plan

The Scheduling Coordinator shall provide for the following Resource Adequacy Compliance Year a proposed annual use plan for each Use-Limited Resource that is a Resource Adequacy Resource. For each Use-Limited Resource that is a Resource Adequacy Resource but is not a Reliability Demand Response Resource, the proposed annual use plan will provide the information described in the Business Practice Manual. The CAISO will have an opportunity to discuss the proposed annual use plan with the Scheduling Coordinator and suggest potential revisions to meet reliability needs of the system. The Scheduling Coordinator shall then submit its final annual use plan. Scheduling Coordinators for Use-Limited Resources must submit the proposed and final annual use plans, and any updates to those use plans, in accordance with the schedule set forth in the Business Practice Manual. The annual use plan must reflect the potential operation of the Use-Limited Resource at a level no less than the minimum criteria set forth by the Local Regulatory Authority for qualification of the resource.

40.6.4.3 Bidding Requirements on Use-Limited Resources

40.6.4.3.1 Non-Hydro, Non-RDRR, and Dispatchable Use-Limited Resources

Use-Limited Resources, other than those subject to the provisions of 40.6.4.3.2, must submit a Supply

California Independent System Operator Corporation
Fifth Replacement Electronic Tariff

Bid or Self-Schedule for their Resource Adequacy Capacity in the Day-Ahead Market whenever the Use-Limited Resources are physically capable of operating in accordance with their operating criteria, including environmental or other regulatory requirements. Use-Limited Resources will also provide a daily Energy limit as part of their Day-Ahead Market offer to enable the CAISO to schedule them for the period in which they are capable of providing the Energy. To the extent that the daily Energy limit has been reached through Self-Schedules, no further action will be taken by the CAISO, unless rescheduling of the Energy is necessary for System Reliability. Use-Limited Resources will attempt to reschedule the Energy in recognition of the System Reliability concern, to the extent that the change is possible without violating a Use-Limited Resource's operating criteria.

40.6.4.3.2 Hydro, RDRR, and Non-Dispatchable Use-Limited Resources

(a) Must-Offer Obligation.

- (1) Hydroelectric Generating Units, Pumping Load, and Non-Dispatchable Use-Limited Resources, but not Reliability Demand Response Resources, shall submit Self-Schedules or Bids in the Day-Ahead Market for their expected available Energy or their expected as-available Energy, as applicable, in the Day-Ahead Market and RTM. Such resources shall also revise their Self-Schedules or submit additional Bids in RTM based on the most current information available regarding Expected Energy deliveries.
- (2) Hydroelectric Generating Units, Pumping Load, Reliability Demand Response Resources, Non-Dispatchable Use-Limited Resources, and Resource Adequacy Resources providing Regulatory Must-Take Capacity are not required to submit RUC Availability Bids for that capacity, but any such bids they do submit must be \$0/MW RUC Availability Bids.
- (3) Participating Load that is Pumping Load shall submit Non-Spin Ancillary Services Bids and/or a Submission to Self-Provide Non-Spin Ancillary Services in the Day-Ahead Market for its Resource Adequacy Capacity that is certified to provide Non-Spinning Reserve Ancillary Service, and Economic Bids for Energy in the Real-Time Market for its Non-Spinning Reserve Capacity that receives an

California Independent System Operator Corporation
Fifth Replacement Electronic Tariff

Ancillary Service Award in the Day-Ahead Market.

- (b) **Determination of Non-Dispatchable Status.** The CAISO will retain discretion as to whether a particular resource should be considered a Non-Dispatchable Use-Limited Resource, and this decision will be made in accordance with the provisions of Section 40.6.4.1.

40.6.4.3.3 Availability of Use-Limited Resources During System Emergencies

All Use-Limited Resources remain subject to Section 7.7.2.3 regarding System Emergencies to the extent the Use-Limited Resource is owned or controlled by a Participating Generator.

40.6.4.3.4 Availability of Intermittent Resources

Any Eligible Intermittent Resource that provides Resource Adequacy Capacity may, but is not required to, submit Bids in the Day-Ahead Market.

40.6.4.3.5 Proxy Demand Resources

- (a) Short Start and Medium Start Proxy Demand Resources that provide Resource Adequacy Capacity shall submit \$0/MW RUC Availability Bids for all of their Resource Adequacy Capacity for all hours of the month the resource is physically available; however, any RUC schedule for these resources will not be binding.
- (b) Long Start Proxy Demand Resources are not required to submit Bids or Self Schedules in the RUC for their Resource Adequacy Capacity.

40.6.5 Additional Availability Requirements for System Resources

In the IFM, the multi-hour block constraints of a System Resource, other than a System Resource capable of submitting a Dynamic Schedule or a Resource-Specific System Resource, are honored in the optimization. Such a resource that is also a Resource Adequacy Resource must be capable of hourly scheduling by the CAISO in RUC if it is not fully scheduled in the IFM. If such a Resource Adequacy Resource is scheduled in the RUC, the CAISO will schedule the resource in the RTM for each hour of the resource's RUC schedule without regard to the multi-hour block constraint that was submitted to the IFM. For an existing System Resource that provides Resource Adequacy Capacity through a call-option that expires prior to the close of the IFM, such a System Resource listed on a Resource Adequacy Plan must be reported to the CAISO for consideration in the Extremely Long-Start Commitment Process.

40.6.5.1 Additional Availability Requirements for Dynamic and Non-Dynamic Resource-Specific System Resources

A Dynamic or Non-Dynamic Resource-Specific System Resource that supplies Resource Adequacy Capacity, and is not otherwise a Use-Limited Resource under Section 40.6.4, will be subject to the requirements of Sections 40.6.1, 40.6.2 and either Section 40.6.3 as a Short Start Unit or Section 40.6.7 as a Long Start Unit based upon the Dynamic Resource-Specific System Resource's registered physical operating characteristics.

40.6.5.2 Dynamic Non-Resource Specific System Resources

A Dynamic non-Resource-Specific System Resource that provides Resource Adequacy Capacity will be subject to the provisions of 40.6.1 and 40.6.2.

40.6.6 Requirement for Partial Resource Adequacy Resources

Only that output of a Partial Resource Adequacy Resource that is designated by a Scheduling Coordinator as Resource Adequacy Capacity in its monthly or annual Supply Plan shall have an availability obligation to the CAISO. Exports being supported by non-Resource Adequacy Capacity from a Partial Resource Adequacy Resource that becomes unavailable or unusable shall be considered as an export of non-Resource Adequacy Capacity based on the pro-rata allocation of derated capacity of the Partial Resource Adequacy Resource as follows:

- (a) Resource Adequacy Capacity – [(Resource Adequacy Capacity/PMax Capacity of Resource Adequacy Resource) x MW Derate or Outage]; or
- (b) [1- (Resource Adequacy Capacity/PMax Capacity of Resource Adequacy Resource)] x De-rated PMax].

40.6.7 Release of Long Start Units

Long Start Units not committed in the Day-Ahead Market will be released from any further obligation to submit Self-Schedules or Bids for the relevant Operating Day. Scheduling Coordinators for Long Start Units are not precluded from self-committing the unit after the Day-Ahead Market and submitting a Self-Schedule for Wheeling-Out in the RTM, unless precluded by terms of their contracts.

40.6.8 Use of Generated Bids

- (a) **Day-Ahead Market.** Prior to completion of the Day-Ahead Market, the CAISO will determine if Resource Adequacy Capacity subject to the requirements of Section 40.6.1 and for which the CAISO has not received notification of an Outage has not been reflected in a Bid and will insert a Generated Bid for such capacity into the CAISO Day-Ahead Market.
- (b) **Real-Time Market.** Prior to running the Real-Time Market, the CAISO will determine if Resource Adequacy Capacity subject to the requirements of Section 40.6.2 and for which the CAISO has not received notification of an Outage has not been reflected in a Bid and will insert a Generated Bid for such capacity into the Real-Time Market.
- (c) **Partial Bids for RA Capacity.** If a Scheduling Coordinator for an RA Resource submits a partial bid for the resource's RA Capacity, the CAISO will insert a Generated Bid only for the remaining RA Capacity. In addition, the CAISO will determine if all dispatchable Resource Adequacy Capacity from Short Start Units, not otherwise selected in the IFM or RUC, is reflected in a Bid into the Real-Time Market and will insert a Generated Bid for any remaining dispatchable Resource Adequacy Capacity for which the CAISO has not received notification of an Outage.
- (d) **Calculation of Generated Bids.** As provided in the Business Practice Manuals, a Generated Bid for Energy will be calculated and will include: (i) a greenhouse gas cost adder for a resource registered with the California Air Resources Board as having a greenhouse gas compliance obligation; and (ii) a volumetric Grid Management Charge adder that consists of: (i) the Market Services Charge; (ii) the System Operations Charge; and (iii) the Bid Segment Fee divided by the MW in the Bid segment. A Generated Bid for Ancillary Services will equal zero dollars (\$0/MW-hour).
- (e) **Exemptions.** Notwithstanding any of the provisions of Section 40.6.8, the CAISO will not insert any Bid in the Day-Ahead Market or Real-Time Market required under this Section 40 for Resource Adequacy Capacity of a Use-Limited Resource, Non-Generator Resource, Variable Energy Resource, or resource providing Regulatory Must-Take

California Independent System Operator Corporation
Fifth Replacement Electronic Tariff

Generation unless the resource submits an Energy Bid and fails to submit an Ancillary Service Bid.

- (f) **NRS-RA Resources.** The CAISO will submit a Generated Bid in the Day-Ahead Market or Real-Time Market for a non-Resource Specific System Resource in each RAAIM assessment hour, to the extent that the resource provides Resource Adequacy Capacity subject to the requirements of Sections 40.6.1 or 40.6.2 and does not submit an outage request or Bid for the entire amount of that Resource Adequacy Capacity.

40.6.8.1 Generated Bids for NRS-RA Resources

Generated Bids to be submitted by the CAISO pursuant to Section 40.6.8 for non-Resource-Specific System Resources that provide Resource Adequacy capacity shall be calculated in accordance with this Section.

40.6.8.1.1 Calculation Options for Generated Bids

The Scheduling Coordinator for each non-Resource Specific System Resource that provides Resource Adequacy Capacity shall select the price taker option, LMP-based option, or negotiated price option as the methodology for calculating the Generated Bids to be submitted by the CAISO under Section 40.6.8 for both the DAM and RTMs. If no selection is made, the CAISO will apply the price taker option to calculate the Generated Bids. For the first ninety (90) days after a resource becomes a non-Resource-Specific System Resource, the calculation of Generated Bids for Resource Adequacy capacity is limited to the price taker option or negotiated price option.

40.6.8.1.2 Price Taker Option

The price taker option is a Generated Bid of \$0/MWh plus the CAISO's estimate of the applicable grid management charge per MWh based on the gross amount of MWh scheduled in the DAM and RTM.

40.6.8.1.3 LMP-Based Option

The LMP-based option calculates the Generated Bid as the weighted average of the lowest quartile of LMPs, at the Intertie point designated for the non-Resource-Specific System Resource's Resource Adequacy Capacity in the Supply Plan, during periods in which the resource was dispatched in the preceding ninety (90) days for which LMPs that have passed the price validation and correction process set forth in Section 35 are available. The weighted average will be calculated based on the quantities

Dispatched within each segment of the Generated Bid curve. Each Bid segment created under the LMP-based option for Generated Bids will be subject to a feasibility test, as set forth in a Business Practice Manual, to determine whether there are a sufficient number of data points to allow for the calculation of an LMP-based Generated Bid. The feasibility test is designed to avoid excessive volatility of the Generated Bid under the LMP-based option that could result when calculated based on a relatively small number of prices. If the Scheduling Coordinator for the non-Resource Specific System Resource elects the LMP-based method, it must additionally select either the price-taker method or the negotiated-rate method as the alternative calculation method for the Generated Bids in the event that the feasibility test fails for the LMP-based method.

40.6.8.1.4 Negotiated Price Option

Under the negotiated price option, a Scheduling Coordinator shall submit a proposed Generated Bid along with supporting information and documentation as described in a Business Practice Manual. Within ten (10) Business Days of receipt, the CAISO or an Independent Entity selected by the CAISO will provide a written response. If the CAISO or Independent Entity accepts the proposed Generated Bid, it will become effective within three (3) Business Days from the date of acceptance by the CAISO and remain in effect until: (1) the Generated Bid is modified by FERC; (2) the Generated Bid is modified by mutual agreement of the CAISO and the Scheduling Coordinator; or (3) the Generated Bid expires, is terminated or is modified pursuant to any agreed upon term or condition or pertinent FERC order.

If the CAISO or Independent Entity selected by the CAISO does not accept the proposed Generated Bid, the CAISO or Independent Entity selected by the CAISO and the Scheduling Coordinator shall enter a period of good faith negotiations that terminates sixty (60) days following the date of submission of a proposed Generated Bid by a Scheduling Coordinator. If at any time during this period, the CAISO or Independent Entity selected by the CAISO and the Scheduling Coordinator agree upon the Generated Bid, it will become effective within three (3) Business Days of the date of agreement and remain in effect until: (1) the Generated Bid is modified by FERC; (2) the Generated Bid is modified by mutual agreement of the CAISO and the Scheduling Coordinator; or (3) the Generated Bid expires, is terminated or is modified pursuant to any agreed upon term or condition or pertinent FERC order.

If by the end of the sixty (60) day period the CAISO or Independent Entity selected by the CAISO and the

California Independent System Operator Corporation
Fifth Replacement Electronic Tariff

Scheduling Coordinator fail to agree on the Generated Bid to be used under the negotiated price option, the Scheduling Coordinator has the right to file a proposed Generated Bid with FERC pursuant to Section 205 of the Federal Power Act.

During the sixty (60) day period following the submission of a proposed negotiated Generated Bid by a Scheduling Coordinator, and pending FERC's acceptance in cases where the CAISO or Independent Entity selected by the CAISO fail to agree on the Generated Bid for use under the negotiated price option and the Scheduling Coordinator filed a proposed Generated Bid with FERC pursuant to Section 205 of the Federal Power Act, the Scheduling Coordinator has the option of electing to use any of the other options available pursuant to this Section.

The CAISO shall make an informational filing with FERC of any Generated Bids negotiated pursuant to this Section no later than seven (7) days after the end of the month in which the Generated Bids were established.

40.6.8.1.5 Partial Bids

If a Scheduling Coordinator for a non-Resource-Specific System Resource that provides Resource Adequacy Capacity submits a bid for a MW quantity less than the Resource Adequacy Capacity identified in the resource's Supply Plan, the CAISO will insert a Generated Bid only for the remaining Resource Adequacy Capacity by extending the last segment of the resource's bid curve to the full quantity (MWh) of the Resource Adequacy obligation.

40.6.8.1.6 Filings with FERC to Recover Actual Marginal Fuel Procurement Costs

A Scheduling Coordinator for a resource subject to a Generated Bid may seek to recover actual marginal fuel procurement costs pursuant to a filing with FERC in accordance with Section 30.12.

40.6.9 Firm Liquidated Damages Contracts Requirements

Resource Adequacy Capacity represented by a Firm Liquidated Damages Contract and relied upon by a Scheduling Coordinator in a monthly or annual Resource Adequacy Plan shall be submitted as a Self-Schedule or Bid in the Day-Ahead IFM to the extent such scheduling right exists under the Firm Liquidated Damages Contract.

40.6.10 Exports of Energy from Resource Adequacy Capacity

Resource Adequacy Capacity represented by a Firm Liquidated Damages Contract and relied upon by a

California Independent System Operator Corporation
Fifth Replacement Electronic Tariff

Scheduling Coordinator in a monthly or annual Resource Adequacy Plan shall be submitted as a Self-Schedule or Bid in the Day-Ahead IFM to the extent such scheduling right exists under the Firm Liquidated Damages Contract.

40.6.11 Curtailment of Exports in Emergency Situations

At its sole discretion, the CAISO may curtail exports from Resource Adequacy Capacity to prevent or alleviate a System Emergency. An Export Bid or a Self-Schedule to provide exports included in a binding Schedule accepted in the IFM or RTM will not be distinguished from a Demand Bid or Self-Schedule to serve Load within the CAISO Balancing Authority Area included in a binding Schedule accepted in the IFM or RTM for purposes of curtailment under this Section, except as consistent with Good Utility Practice.

40.6.12 Participating Load, PDRs, and RDRRs

Participating Loads, Reliability Demand Response Resources, or Proxy Demand Resources that are included in a Resource Adequacy Plan and Supply Plan, if the Scheduling Coordinator for the Participating Loads, Reliability Demand Response Resources, or Proxy Demand Resources is not the same as that for the Load Serving Entity, will be administered by the CAISO in accordance with the terms and conditions established by the CPUC or the Local Regulatory Authority.

40.7 Compliance

The CAISO will evaluate Resource Adequacy Plans and Supply Plans as follows:

- (a) The CAISO will evaluate whether each annual and monthly Resource Adequacy Plan submitted by a Scheduling Coordinator on behalf of a Load Serving Entity demonstrates Resource Adequacy Capacity sufficient to satisfy the Load Serving Entity's (i) allocated responsibility for Local Capacity Area Resources under Section 40.3.2 and (ii) applicable Demand and Reserve Margin requirements. If the CAISO determines that a Resource Adequacy Plan does not demonstrate Local Capacity Area Resources sufficient to meet its allocated responsibility under Section 40.3.2, compliance with applicable Demand and Reserve Margin requirements, or compliance with any other resource adequacy requirement in this Section 40 or adopted by the CPUC, Local Regulatory Authority, or federal agency, as applicable, the CAISO will notify the relevant Scheduling Coordinator,

California Independent System Operator Corporation
Fifth Replacement Electronic Tariff

CPUC, Local Regulatory Authority, or federal agency with jurisdiction over the relevant Load Serving Entity, or in the case of a mismatch between Resource Adequacy Plan(s) and Supply Plan(s), the relevant Scheduling Coordinators, in an attempt to resolve any deficiency in accordance with the procedures set forth in the Business Practice Manual. The notification will be made at least 25 days in advance of the first day of the month covered by the plan and will include the reasons the CAISO believes a deficiency exists. If the deficiency relates to the demonstration of Local Capacity Area Resources in a Load Serving Entity's annual Resource Adequacy Plan, and the CAISO does not provide a written notice of resolution of the deficiency as set forth in the Business Practice Manual, the Scheduling Coordinator for the Load Serving Entity may demonstrate that the identified deficiency is cured by submitting a revised annual Resource Adequacy Plan within thirty (30) days of the beginning of the Resource Adequacy Compliance Year. For all other identified deficiencies, at least ten (10) days prior the effective month of the relevant Resource Adequacy Plan, the Scheduling Coordinator for the Load Serving Entity shall (i) demonstrate that the identified deficiency is cured by submitting a revised Resource Adequacy Plan or (ii) advise the CAISO that the CPUC, Local Regulatory Authority, or federal agency, as appropriate, has determined that no deficiency exists.

- (b) The CAISO will evaluate whether each monthly Resource Adequacy Plan submitted by a Scheduling Coordinator on behalf of a Load Serving Entity demonstrates operationally available Resource Adequacy Capacity, excluding capacity scheduled to take an Approved Maintenance Outage during the resource adequacy month, that is equal to or greater than the Load Serving Entity's applicable forecasted monthly Demand and Reserve Margin. For each day of the month where the CAISO determines that the criteria set forth in Section 9.3.1.3.2.3(b) is not met, if a monthly Resource Adequacy Plan (i) includes capacity scheduled to take an Approved Maintenance Outage on that day that has not been replaced pursuant to Sections 9.3.1.3.1, or 9.3.1.3.2, and (ii) does not demonstrate operationally available Resource Adequacy Capacity equal to or greater than the Load Serving Entity's applicable forecasted monthly Demand and Reserve

California Independent System Operator Corporation
Fifth Replacement Electronic Tariff

Margin, the CAISO will require outage replacement and will provide notice of the outage replacement requirement to the Local Regulatory Authority, the Scheduling Coordinator for the Load Serving Entity, and the Scheduling Coordinator for the Resource Adequacy Resource scheduled to take the Approved Maintenance Outage. The notification will be made at least 25 days in advance of the first day of the month covered by the plan and will include the reasons why the CAISO believes an outage replacement requirement exists. At least eleven (11) days prior to the resource adequacy month, the Scheduling Coordinator for either the Load Serving Entity or the Resource Adequacy Resource may demonstrate that the identified outage replacement requirement is cured by submitting to the CAISO a revision or update to the monthly Resource Adequacy Plan or Supply Plan, as applicable. If neither the Scheduling Coordinator for the Load Serving Entity nor the Scheduling Coordinator for the Resource Adequacy Resource timely advises the CAISO that the identified outage replacement requirement is cured, the CAISO may exercise its authority to procure backstop capacity under the Capacity Procurement Mechanism pursuant to Section 43.

- (c) In the case of a mismatch between Resource Adequacy Plan(s) and Supply Plan(s), if resolved, the relevant Scheduling Coordinator(s) must provide the CAISO with revised Resource Adequacy Plan(s) or Supply Plans, as applicable, at least ten (10) days prior to the effective month. If the CAISO is not advised that the deficiency or mismatch is resolved at least ten (10) days prior to the effective month, the CAISO will use the information contained in the Supply Plan to set the obligations of Resource Adequacy Resources under this Section 40 and/or to assign any costs incurred under this Section 40 and Section 43.

40.7.1 Other Compliance Issues

Scheduling Coordinators representing Generating Units, System Units or System Resources supplying Resource Adequacy Capacity that fail to provide the CAISO with an annual or monthly Supply Plan, as applicable, as set forth in Section 40.7, shall be subject to Section 37.6.1. Further, Scheduling Coordinators representing Generating Units, System Units or System Resources supplying Resource

Adequacy Capacity that fail to provide the CAISO with information required for the CAISO to determine Net Qualifying Capacity shall not be eligible for inclusion in the Net Qualifying Capacity annual report under Section 40.4.2 for the next Resource Adequacy Compliance Year and shall be subject to any applicable Sanctions under Section 37.6.1.

40.7.2 Penalties for Non-Compliance

The failure of a Resource Adequacy Resource or Resource Adequacy Capacity to be available to the CAISO in accordance with the requirements of this Section 40 or Section 9.3.1.3, and the failure to operate a Resource Adequacy Resource by placing it online or in a manner consistent with a submitted Bid or Generated Bid shall be subject to the applicable Sanctions set forth in Section 37.2.4. However, any failure of the Resource Adequacy Resource to satisfy any obligations prescribed under this Section 40 or Section 9.3.1.3 during a Resource Adequacy Compliance Year for which Resource Adequacy Capacity has been committed to a Load Serving Entity shall not limit in any way, except as otherwise established under Section 40.4.5 or requirements of the CPUC, Local Regulatory Authority, or federal agency, as applicable, the ability of the Load Serving Entity to whom the Resource Adequacy Capacity has been committed to use such Resource Adequacy Capacity for purposes of satisfying the resource adequacy requirements of the CPUC, Local Regulatory Authority, or federal agency, as applicable. In addition, an LSE shall not be subject to any sanctions, penalties, or other compensatory obligations under this Section 40 on account of a Resource Adequacy Resource's satisfaction or failure to satisfy its obligations under this Section 40 or Section 9.3.1.3.

40.8 CAISO Default Qualifying Capacity Criteria

40.8.1 Applicability

The criteria in this Section 40.8 shall apply only: (i) where the CPUC or Local Regulatory Authority has not established and provided to the CAISO criteria to determine the types of resources that may be eligible to provide Qualifying Capacity and for calculating Qualifying Capacity for such eligible resource types and (ii) until the CAISO has been notified in writing by the CPUC of its intent to overturn, reject or fundamentally modify the capacity-based framework in CPUC Decisions 04-01-050 (Jan. 10, 2004), 04-10-035 (Oct. 28, 2004), and 05-10-042 (Oct. 31, 2005). The types of resources specified in this Section 40.8.1 will be eligible to provide Qualifying Capacity to the extent they meet the criteria for each type of

resource set forth in this Section 40.8.1.

40.8.1.2 Nuclear and Thermal

Nuclear and thermal Generating Units, other than Qualifying Facilities with Existing QF Contracts addressed in Section 40.8.1.8 below, must be a Participating Generator or a System Unit. The Qualifying Capacity of nuclear and thermal units, other than Qualifying Facilities addressed in Section 40.8.1.8, will be based on net dependable capacity defined by NERC Generating Availability Data System information.

40.8.1.3 Hydro

Hydroelectric Generating Units, other than Qualifying Facilities with Existing QF Contracts, must be either Participating Generators or System Units. The Qualifying Capacity of a pond or Pumped-Storage Hydro Unit, other than a QF, will be determined based on net dependable capacity defined by NERC GADS minus variable head derate based on an average dry year reservoir level. The Qualifying Capacity of a pond or Pumped-Storage Hydro Unit that is a QF will be determined based on historic performance during the hours of noon to 6:00 p.m. The Qualifying Capacity of all run-of-river hydro units, including Qualifying Facilities, will be based on net dependable capacity defined by NERC GADS minus an average dry year conveyance flow, stream flow, or canal head derate. As used in this section, average dry year reflects a one-in-five year dry hydro scenario (for example, using the 4th driest year from the last 20 years on record). p.m., using a three-year rolling average.

40.8.1.4 Unit-Specific Contracts

Unit-specific contracts with Participating Generators or System Units will qualify as Resource Adequacy Capacity subject to the verification that the total MW quantity of all contracts from a specific unit do not exceed the total Net Qualifying Capacity (MW) consistent with the Net Qualifying Capacity determination for that unit.

40.8.1.5 Contracts with Liquidated Damage Provisions

Firm Energy contracts with liquidated damages provisions, as generally reflected in Service Schedule C of the Western Systems Power Pool Agreement or the Firm LD product of the Edison Electric Institute pro forma agreement, or any other similar firm Energy contract that does not require the seller to source the Energy from a particular unit, and specifies a delivery point internal to the CAISO Balancing Authority Area entered into before October 27, 2005 shall be eligible to count as Qualifying Capacity until the end

of 2008. A Scheduling Coordinator, however, cannot have more than twenty-five percent (25%) of its portfolio of Qualifying Capacity met by contracts with liquidated damage provisions for 2008.

40.8.1.6 Wind and Solar

As used in this Section, wind units are those wind Generating Units without backup sources of Generation and solar units are those solar Generating Units without backup sources of Generation. Wind and solar units, other than Qualifying Facilities with Existing QF Contracts, must be Participating Intermittent Resources or subject to availability provisions of Section 40.6.4.3.4.

The Qualifying Capacity of all wind or solar units, including Qualifying Facilities, for each month will be based on their monthly historic performance during that same month during the hours of noon to 6:00 p.m., using a three-year rolling average. For wind or solar units with less than three years operating history, all months for which there is no historic performance data will utilize the monthly average production factor of all units (wind or solar, as applicable) within the TAC Area, or other production data from another area determined by the CAISO to be appropriate if the unit is not within a TAC Area, in which the Generating Unit is located.

40.8.1.7 Geothermal

Geothermal Generating Units, other than Qualifying Facilities with Existing QF Contracts addressed in Section 40.8.1.8, must be Participating Generators or System Units. The Qualifying Capacity of geothermal units, other than Qualifying Facilities addressed in Section 40.8.1.8, will be based on NERC GADS net dependable capacity minus a derate for steam field degradation.

40.8.1.8 Treatment of Qualifying Capacity for Qualifying Facilities

Qualifying Facilities must be subject to an effective Participating Generator Agreement or Net Scheduled Participating Generator Agreement or must be System Units, unless they have an Existing QF Contract. Except for hydro, wind, and solar Qualifying Facilities addressed pursuant to Sections 40.8.1.3 and 40.8.1.6, the Qualifying Capacity of Qualifying Facilities under Existing QF Contracts, will be based on historic monthly Generation output during the hours of noon to 6:00 p.m. (net of Self-provided Load) during a three-year rolling average.

40.8.1.9 Participating Loads

The Qualifying Capacity of Participating Loads shall be the average reduction in Demand over a three-

year period on a per Dispatch basis or, if the Load does not have three years of performance history, based on comparable evaluation data using similar programs. Loads of Participating Loads must be available at least 48 hours, and if the Loads can only be dispatched for a maximum of two hours per event, then only 0.89 percent of a Scheduling Coordinator's portfolio may be made up of such Loads.

40.8.1.10 Jointly-Owned Facilities

A jointly-owned facility must be either a Participating Generator or a System Unit. The Qualifying Capacity for the entire facility will be determined based on the type of resource as described elsewhere in this Section 40.8.1. In addition, the Scheduling Coordinator must provide the CAISO with a demonstration of its entitlement to the output of the jointly-owned facility's Qualified Capacity and an explanation of how that entitlement may change if the facility's output is restricted.

40.8.1.11 Facilities under Construction

The Qualifying Capacity for facilities under construction will be determined based on the type of resource as described elsewhere in this Section 40.8. In addition, the facility must have been in commercial operation for no less than one month to be eligible to be included as a Resource Adequacy Resource in a Scheduling Coordinator's monthly Resource Adequacy Plan.

40.8.1.12 System Resources and Pseudo-Ties

40.8.1.12.1 Dynamic System Resources and Pseudo-Ties

Dynamic System Resources and Pseudo-Ties of Generating Units to the CAISO Balancing Authority Area shall be treated similar to resources within the CAISO Balancing Authority Area, except with respect to the deliverability screen under Section 40.4.6.1 and with respect to the limitation on the Qualifying Capacity of wind and solar resources set forth in Section 40.8.1.6. However, eligibility as a Resource Adequacy Resource is contingent upon a showing by the Scheduling Coordinator that the Dynamic System Resource or Pseudo-Tie of a Generating Unit to the CAISO Balancing Authority Area has secured transmission through any intervening Balancing Authority Areas for the Operating Hours that cannot be curtailed for economic reasons or bumped by higher priority transmission and that the Load Serving Entity for which the Scheduling Coordinator is submitting Demand Bids has an allocation of import capacity at the import Scheduling Point under Section 40.4.6.2 that is not less than the Resource Adequacy Capacity provided by the Dynamic System Resource or Pseudo-Tie of a Generating Unit to the

CAISO Balancing Authority Area.

40.8.1.12.2 Non-Dynamic System Resources

For Non-Dynamic System Resources, the Scheduling Coordinator must demonstrate that the Load Serving Entity for which the Scheduling Coordinator is scheduling Demand has an allocation of import capacity at the import Scheduling Point under Section 40.4.6.2 that is not less than the Resource Adequacy Capacity from the Non-Dynamic System Resource. The Scheduling Coordinator must also demonstrate that the Non-Dynamic System Resource is covered by Operating Reserves, unless unit contingent, in the sending Balancing Authority Area. Eligibility as Resource Adequacy Capacity is contingent upon a showing by the Scheduling Coordinator of the System Resource that it has secured transmission through any intervening Balancing Authority Areas for the Operating Hours that cannot be curtailed for economic reasons or bumped by higher priority transmission. With respect to Non-Dynamic System Resources, any inter-temporal constraints, such as multi-hour run blocks, must be explicitly identified in the monthly Resource Adequacy Plan, and no constraints may be imposed beyond those explicitly stated in the plan.

40.8.1.13 Proxy Demand Resources

A Proxy Demand Resource must have the ability to (i) be dispatched for at least twenty-four hours per month, (ii) be dispatched on at least three consecutive days, and (iii) respond for at least four hours per dispatch in order to qualify as Resource Adequacy Capacity. The Qualifying Capacity of a Proxy Demand Resource, for each month, will be based on the resource's average monthly historic demand reduction performance during that same month during the Availability Assessment Hours, as described in Section 40.9.3, using a three-year rolling average. For a Proxy Demand Resource with fewer than three years of performance history, for all months for which there is no historic data, the CAISO will utilize a monthly megawatt value as certified and reported to the CAISO by the Demand Response Provider; otherwise, where available, the CAISO will use the average of historic demand reduction performance data available, by month, for a Proxy Demand Resource.

40.8.1.14 Reliability Demand Response Resources

The Net Qualifying Capacity of a Reliability Demand Response Resource, for each month, will be based on the resource's average monthly historic demand reduction performance during that same month

during the Availability Assessment Hours, as described in Section 40.9.3, using a three-year rolling average. For a Reliability Demand Response Resource with fewer than three years of performance history, for all months for which there is no historic data, the CAISO will use a monthly megawatt value as certified and reported to the CAISO by the Demand Response Provider; otherwise, where available, the CAISO will use the average of historic demand reduction performance data available, by month, for a Reliability Demand Response Resource.

40.8.1.15 Distributed Generation Facilities

- (a) Distributed Generation Facilities that meet the applicable requirements in Section 4.6 qualify as Resource Adequacy Capacity.
- (b) The CAISO will determine the Net Qualifying Capacity of each Distributed Generation Facility for each Resource Adequacy Compliance Year consistent with similar resource classifications connected to the transmission system, as provided in Section 40.4.6.1.
- (c) The Scheduling Coordinator for individual Distributed Generation Facilities, with the same resource type and PMax values less than 0.5 MW, that seek to operate as a combined Distributed Generation Facility, must submit to the CAISO a request that the initial Net Qualifying Capacity be determined and approved as a combined Distributed Generation Facility.

40.8.1.16 Non-Generator Resources

- (a) Non-Generator Resources must be either Participating Generators or System Units to qualify as Resource Adequacy Capacity.
- (b) The CAISO will determine the Net Qualifying Capacity of each Non-Generator Resource based on the CAISO testing of the resource's sustained output over a four-hour period; however, the Net Qualifying Capacity shall not exceed the resource's maximum instantaneous discharge capability.

40.9 Resource Adequacy Availability Incentive Mechanism

40.9.1 Transition to RAAIM

The CAISO shall use RAAIM to determine the availability of resources providing local and/or system Resource Adequacy Capacity and Flexible RA Capacity during the Availability Assessment Hours each

month and then assess the resultant Availability Incentive Payments and Non-Availability Charges through the CAISO's settlements process; except that, for an advisory period of two calendar months following the effective date of RAAIM, the CAISO will calculate and publish the Availability Incentive Payments and Non-Availability Charges on Settlement Statements but will not include those payments and charges on Invoices for financial settlement.

40.9.2 Exemptions

- (a) **Capacity Exempt from RAAIM – All Provisions.** The entire capacity of a resource in any of the following categories is exempt from the RAAIM provisions in Section 40.9 –
 - (1) Resources with a PMax less than 1.0 MW;
 - (2) Non-specified resources that provide Resource Adequacy Capacity under contracts for Energy delivered within the CAISO Balancing Authority Area;
 - (3) Participating Load that is also Pumping Load; and
 - (4) RMR Units.
- (b) **Capacity Exempt from RAAIM – Local/System**
 - (1) The entire capacity of a resource in any of the following categories is exempt from the RAAIM provisions in Section 40.9 applicable to local and system Resource Adequacy Capacity –
 - (A) Variable Energy Resources; and
 - (B) Combined Heat and Power Resources.
 - (2) The capacity of a resource with a Load-following MSS as its Scheduling Coordinator that is designated on a Load-following MSS's monthly Resource Adequacy Plan is exempt from the RAAIM provisions in Section 40.9 applicable to local and system Resource Adequacy Capacity, to the extent that the resource's capacity is also designated as Resource Adequacy Capacity on the monthly Supply Plan of that Load-following MSS or another Load-following MSS.
 - (3) Resources with Existing QF Contracts or Amended QF Contracts that are Resource Adequacy Resources are exempt from the RAAIM provisions in Section 40.9 applicable to local and system capacity --

California Independent System Operator Corporation
Fifth Replacement Electronic Tariff

- (A) if the QF resource previously provided Resource Adequacy Capacity pursuant to an Existing QF Contract that was executed prior to August 22, 2010 and remained in effect pursuant to California Public Utilities Commission Decision 07-09-040 that extended the term of expiring contracts until such time as the new contracts resulting from that decision are available; or
 - (B) until the QF Resource's Existing QF Contract or Amended QF Contract terminates or if requested by the Scheduling Coordinator for the resource, whichever is earlier.
- (c) **Capacity Exempt from RAAIM – Flexible Capacity.**
- (1) The capacity of Use-Limited Resources in a combination under Section 40.10.3.2(b), 40.10.3.3(b) or 40.10.3.4(b) is exempt from the RAAIM provisions in Section 40.9 applicable to Flexible RA Capacity to the extent that the resources are committed to provide Flexible RA Capacity as a combination on their respective monthly Supply Plans.
 - (2) The Capacity of a resource with a Load-following MSS as its Scheduling Coordinator that is designated on a Load-following MSS's monthly Flexible RA Plan is exempt from the RAAIM provisions in Section 40.10 applicable to Flexible RA Capacity, to the extent that the resource's capacity is also designated as Flexible RA Capacity on the monthly Supply Plan of that Load-following MSS or another Load-following MSS.

40.9.2.1 Acquired Resources.

- (a) **Exemption.** The entire capacity of an Acquired Resource is exempt from the RAAIM provisions in Section 40.9 applicable to local and system Resource Adequacy Capacity if the resource provides Resource Adequacy Capacity under a resource-specific power supply contract that –
 - (1) was exempt from the prior standard capacity product in Section 40.9 as of the RAAIM effective date, and continues to meet the requirements for that

California Independent System Operator Corporation
Fifth Replacement Electronic Tariff

exemption, under the provisions of Sections 40.9.2(1) or 40.9.2(2) contained in Appendix J.

- (2) includes an availability provision, or the resource under the power supply contract is located outside of the CAISO Balancing Authority Area and jointly operated with project participants located outside of the CAISO Balancing Authority Area, such that no single Load Serving Entity with contractual rights for the resource's output has the ability to effect changes to the resource's availability; and
 - (3) does not contain a provision that allows the contract to be modified for regulatory changes.
- (b) **Request.** To maintain the exemption, the Scheduling Coordinator for the Acquired Resource must annually request renewal of the exemption and –
- (1) for Resource Adequacy Compliance Year 2016, submit an affidavit to the CAISO, by either the Scheduling Coordinator or resource owner, demonstrating that the Acquired Resource meets the eligibility criteria in Section 40.9.2.1(a), in accordance with the process and schedule in the Business Practice Manual; and
 - (2) for each Resource Adequacy Compliance Year thereafter until the contract terminates, submit confirmation to the CAISO that the information in the affidavit is still accurate and the Acquired Resource continues to meet the eligibility criteria in Section 40.9.2.1(a), in accordance with the process and schedule in Business Practice Manual.
- (c) **Approval.** The CAISO shall review the information submitted and --
- (1) approve a request that contains the information required by Sections 40.9.2.1(a) and (b) and that demonstrates the resource meets the eligibility criteria in Section 40.9.2.1(a);
 - (2) advise the Scheduling Coordinator for the resource if the request does not contain all of the information required by Sections 40.9.2.1(a) and (b), and allow the opportunity for the Scheduling Coordinator to submit the additional required

California Independent System Operator Corporation
Fifth Replacement Electronic Tariff

information, in accordance with the process and schedule in the Business Practice Manual; or

- (3) deny the request and permanently terminate the exemption if --
 - (A) the Scheduling Coordinator for the resource does not timely submit a request under Section 40.9.2.1(b);
 - (B) the Scheduling Coordinator for the resource does not submit, or does not timely submit, additional information required to complete the request under Section 40.9.2(c)(2); or
 - (C) the CAISO determines the resource does not meet the eligibility criteria in Section 40.9.2.1(a).
- (d) **Failure to Request Renewal.** If the Scheduling Coordinator for the resource does not submit a request to renew the exemption under Section 40.9.2.1(b), the exemption shall terminate and the CAISO shall notify the Scheduling Coordinator of the termination in accordance with the process and schedule in Business Practice Manual.
- (e) **Notice of Termination.** The Scheduling Coordinator for an Acquired Resource must notify the CAISO within 10 days if the contract terminates or no longer meets the eligibility criteria in Section 40.9.2.1(a).

40.9.3 Availability Assessment

40.9.3.1 Local and System RA Capacity Availability

- (a) **Availability Assessment Hours**
 - (1) Prior to the start of each Resource Adequacy Compliance Year, the CAISO shall establish and publish in the Business Practice Manual the Availability Assessment Hours applicable for resources providing local and/or system Resource Adequacy Capacity for each month of that year.
 - (2) The Availability Assessment Hours shall be a pre-defined set of five consecutive hours for each month that –
 - (A) correspond to the operating periods when high demand conditions typically occur and when the availability of Resource Adequacy Capacity

California Independent System Operator Corporation
Fifth Replacement Electronic Tariff

is most critical to maintaining system reliability:

- (B) vary by season as necessary so that the coincident peak load hour typically falls within the five-hour range each day during the month, based on historical actual load data; and
- (C) apply to each Trading Day that is a weekday and not a federal holiday.

(b) **Must Offer Availability Assessment.** The CAISO shall determine the extent to which each resource providing local and/or system Resource Adequacy Capacity made that capacity available to the CAISO in each Availability Assessment Hour of the day by comparing –

- (1) the MWs of local and/or system Resource Adequacy Capacity for which the Scheduling Coordinator for the resource submitted Economic Bids or Self-Schedules in the Day-Ahead Market and the Real-Time Market; and
- (2) the MWs of local and/or system Resource Adequacy Capacity for which the Scheduling Coordinator for the resource was required to submit Economic Bids or Self-Schedules in the CAISO Markets under the must-offer requirements applicable under Section 40.6.

40.9.3.2 Flexible RA Capacity Availability

(a) **Availability Assessment Hours.** The Availability Assessment Hours for a Flexible RA Resource shall be the same period as the must-offer obligation for the Flexible Capacity Category that is designated on the Resource Flexible RA Capacity Plan for that month, as set forth in Section 40.10.6.

(b) **Must-Offer Availability Assessment.** The CAISO shall determine the extent to which each Flexible RA Resource made that capacity available in each Availability Assessment Hour of the day by comparing –

- (A) the MWs of Flexible RA Capacity for which the Scheduling Coordinator for the resource submitted Economic Bids in the Day-Ahead Market and the Real-Time Market; and
- (B) the MWs of Flexible RA Capacity for which the Scheduling Coordinator for the

California Independent System Operator Corporation
Fifth Replacement Electronic Tariff

resource was required to submit Economic Bids in the CAISO Markets under the must-offer requirements applicable under Section 40.10.6.

- (c) **Flexible Capacity Category.** If a Flexible RA Resource is designated to provide Flexible RA Capacity and/or RA Substitute Capacity in more than one Flexible Capacity Category on the same day, the CAISO will assess the availability of the resource using the must-offer obligation for the highest quality of Flexible Capacity Category designated.
- (d) **Start-Up Less Than 90 Minutes.** For resources with a start-up time less than 90 minutes, the CAISO will use the resource's MWs of capacity from zero to the EFC value to assess the availability of the designated Flexible RA Capacity; provided that the Scheduling Coordinator for the resource does not submit Self-Schedules for the capacity from zero to PMin or for any portion of the capacity under the must-offer obligation for Energy. If the Scheduling Coordinator for the resource submits a Self-Schedule, the CAISO will deduct the MW value of PMin from the calculation of the resource's Flexible RA Capacity availability,
- (e) **Start-Up Greater Than 90 Minutes.** For resources with a start-up time greater than 90 minutes, the CAISO will use the MWs of capacity between the resource's PMin and EFC value in the availability assessment and validate whether the Scheduling Coordinator for the resource submitted Economic Bids for all MWs designated on the Resource Flexible RA Capacity Plan.
- (f) **Variable Energy Resources**
 - (1) **Flexible RA Capacity Equal to EFC.** If the Flexible RA Capacity designated on the monthly Resource Flexible RA Capacity Plan is equal to the resource's EFC value, the CAISO will assess the availability of the designated Flexible RA Capacity based on the Economic Bids for Flexible RA Capacity the Scheduling Coordinator for the resource submitted up to the MWs in the Variable Energy Resource forecast applicable under Section 4.8.2.
 - (2) **Flexible RA Capacity Less Than EFC.** If the Flexible RA Capacity designated in the monthly Resource Flexible RA Capacity Plan is less than the EFC value for

California Independent System Operator Corporation
Fifth Replacement Electronic Tariff

the resource, the CAISO will assess availability using the ratio of the amount shown on the monthly plan to the relevant EFC value, and applies that ratio to the MWs of Economic Bids and the Variable Energy Resource forecast.

- (3) **VER Forecast Less Than Flexible RA Capacity.** If the MWs in the Variable Energy Resource forecast are less than the MWs of Flexible RA Capacity designated in the monthly Resource Flexible RA Capacity Plan, and the Economic Bids are greater than or equal to the forecast amount for that hour, the resource is 100 percent available up to the forecast amount.
- (4) **VER Forecast Greater Than Flexible RA Capacity.** If the MWs in the Variable Energy Resource forecast are greater than the MWs of Flexible RA Capacity designated in the monthly Resource Flexible RA Capacity Plan, the Scheduling Coordinator for the resource must submit Economic Bids equal to the forecast amount. If the Scheduling Coordinator for the resource submits Economic Bids for MWs above the forecast, or the resource generates above the forecast, the CAISO will limit the calculated availability to the forecast amount.
- (5) **No Day-Ahead Market Obligation.** For Variable Energy Resources that do not have an obligation to submit Economic Bids into the Day-Ahead Market, the CAISO will base the availability assessment of the Flexible RA Capacity only on the resource's Economic Bids in the Real-Time Market.

40.9.3.3 Availability for Overlapping Local/System and Flexible RA Capacity

- (a) **Overlap Determination.** The availability assessment for overlapping Resource Adequacy commitments shall apply to those hours in which a resource was subject to the must-offer obligations for local and/or system Resource Adequacy Capacity and Flexible RA Capacity in any Availability Assessment Hour and for any portion of the same capacity.
- (b) **Must-Offer Availability Assessment.** The CAISO shall determine the extent to which each resource with overlapping Resource Adequacy commitments made that capacity available to the CAISO in each overlapping Availability Assessment Hour of the day by

comparing –

- (1) the MWs of local and/or system Resource Adequacy Capacity and Flexible RA Capacity for which the Scheduling Coordinator for the resource submitted Economic Bids in the Day-Ahead Market and the Real-Time Market; and
 - (2) the MWs of local and/or system Resource Adequacy Capacity and Flexible RA Capacity for which the Scheduling Coordinator for the resource was required to submit Economic Bids in the CAISO Markets, in accordance with the applicable must-offer requirements in Sections 40.6 and 40.10.6.
- (c) **Calculation.** The CAISO's calculation of the Availability Assessment for overlapping RA commitments shall count-
- (1) any portion of the overlapping MW only once; and
 - (2) the total MWs of capacity at the higher of the Resource Adequacy Capacity commitment or the Flexible RA Capacity commitment.

40.9.3.4 Treatment of Maintenance Outages

- (a) **Replacement Not Required.** The RAAIM Availability Assessment for a Resource Adequacy Resource excludes the capacity, duration, and must-offer requirements for Resource Adequacy Capacity –
- (1) with an Approved Maintenance Outage or pending request for a Maintenance Outage as of 45 days prior to the start date of the Resource Adequacy month; however any subsequent incremental increase in the MWs or duration of the outage will be subject to RAAIM unless RA Replacement Capacity for the incremental outage is required and provided or is not required; or
 - (2) on an Approved Maintenance Outage during the Resource Adequacy month that does not require RA Replacement Capacity under Section 9.3.1.3.3.
- (b) **Replacement Requirement Provided.** For each Maintenance Outage that a Resource Adequacy Resource requests less than 45 days prior to the start of the relevant resource adequacy month and that requires RA Replacement Capacity –
- (1) the RAAIM Availability Assessment for the resource excludes the capacity,

duration, and must-offer requirement for Resource Adequacy Capacity on an

Approved Maintenance Outage to the extent the resource provides RA

Replacement Capacity for that outage as required under Section 9.3.1.3.3; and

- (2) the RAAIM Availability Assessment for the replacement resource includes the capacity, duration, and must-offer requirement for the RA Replacement Capacity commitment.

- (c) **Replacement Requirement Not Provided.** For each Maintenance Outage that a Resource Adequacy Resource requests less than 45 days prior to the start of the relevant resource adequacy month, the RAAIM Availability Assessment for the resource includes the capacity, duration, and must-offer requirement for Resource Adequacy Capacity on an Approved Maintenance Outage to the extent the resource does not provide RA Replacement Capacity for the outage as required under Section 9.3.1.3.3.

40.9.3.5 Treatment of Forced Outages

(a) RA Substitute Capacity - Local And System

- (1) The RAAIM Availability Assessment for a Resource Adequacy Resource includes the capacity, duration, and must-offer requirement for Resource Adequacy Capacity on a Forced Outage, except to extent the resource provides RA Substitute Capacity for the outage in accordance with Section 40.9.3.6.
- (2) The RAAIM Availability Assessment for the substitute resource includes the capacity, duration, and must-offer requirement for the RA Substitute Capacity.

(b) RA Substitute Capacity - Flexible

- (1) The RAAIM Availability Assessment for a Flexible RA Resource includes the capacity, duration, and must-offer requirement for Flexible RA Capacity on a Forced Outage, except to extent the resource provides RA Substitute Capacity for that outage in accordance with Section 40.9.3.6.
- (2) The RAAIM Availability Assessment for the substitute resource includes the capacity, duration, and must-offer requirement for the RA Substitute Capacity.
- (3) For each day the substitute resource is committed to provide Flexible RA

California Independent System Operator Corporation
Fifth Replacement Electronic Tariff

Capacity and/or RA Substitute Capacity in more than one Flexible Capacity Category, the RAAIM Availability Assessment applies the must-offer obligation for the highest quality Flexible Capacity Category to the total MWs of the flexible capacity requirement.

- (c) **Exclusions from RAAIM.** The RAAIM Availability Assessment excludes the capacity, duration, and must-offer requirement for local and/or system Resource Adequacy Capacity or Flexible RA Capacity on a Forced Outage in a nature of work category relating to an administrative action by the resource owner, a cause outside of the control of the resource owner, or a short-term use limitation, as those categories are specified in the Business Practice Manual.
- (d) Scheduling Coordinators for Resource Adequacy Resources with a PMax of at least one (1) MW but less than 10 MWs that do not meet the requirement to provide information on Forced Outages in accordance with Section 9.3.10 shall report outages and de-rates in accordance with the process set forth the Business Practice Manual.

40.9.3.6 Substitute Capacity

- (a) **Substitution**
 - (1) The Scheduling Coordinator for a Resource Adequacy Resource may provide RA Substitute Capacity for its local and/or system Resource Adequacy Capacity or Flexible RA Capacity on a Forced Outage or de-rate.
 - (2) If the Resource Adequacy Resource on outage and the substituting resource do not have the same Scheduling Coordinator, the Scheduling Coordinator for the substituting resource must confirm and approve the proposed substitution in accordance with the process set forth in the Business Practice Manual.
- (b) **Availability**
 - (1) RA Substitute Capacity must be operationally available to the CAISO:
 - (2) Capacity on, or scheduled to be on, a Forced Outage, Approved Maintenance Outage, or de-rate, is not operationally available and shall not qualify to be RA Substitute Capacity for the duration of the period that it is unavailable.

California Independent System Operator Corporation
Fifth Replacement Electronic Tariff

- (3) RA Replacement Capacity, RMR Capacity, CPM Capacity, and capacity committed to be Resource Adequacy Capacity in a monthly Supply Plan shall not qualify to be RA Substitute Capacity for the duration of that commitment.
- (4) RA Substitute Capacity shall not qualify to be RA Replacement Capacity, RMR Capacity, CPM Capacity, or Resource Adequacy Capacity in a monthly Supply Plan, for the duration of the substitution.
- (5) If a resource provides RA Substitute Capacity for multiple Resource Adequacy Resources under Section 40.9.3.6.3, the same capacity committed as RA Substitute Capacity for one Resource Adequacy Resource shall not qualify as RA Substitute Capacity for a different Resource Adequacy Resource during the same substitution period.
- (6) RA Substitute Capacity will be treated as Resource Adequacy Capacity during the period of substitution for purposes of a Forced Outage or de-rate allocation.

(c) **Timing of Substitution Request**

- (1) **Day-Ahead Market.** Requests for substitution in the Day-Ahead Market must be submitted in accordance with the timeline specified in the Business Practice Manual and be approved by the CAISO to be included in the Day-Ahead Market for the next Trading Day. Requests for substitution in the Day-Ahead Market submitted at or after the timeline specified in the Business Practice Manual and that are approved by the CAISO will be included in the Day-Ahead Market for the second Trading Day.
- (2) **Real-Time Market.** Requests for substitution in the Real-Time Market must be submitted in accordance with the timeline in the Business Practice Manual.

40.9.3.6.1 RA Substitute Capacity from a Single Source

- (a) **Option.** The Scheduling Coordinator for a Resource Adequacy Resource that is on a Forced Outage or de-rate may provide RA Substitute Capacity for that capacity from a single resource.
- (b) **Local Capacity Area Resource Substitution**

- (1) **Pre-Qualified Substitution.**
 - (A) **Annual Process.** The CAISO will annually conduct a process to assess the eligibility of resources to pre-qualify as RA Substitute Capacity for Local Capacity Resource Adequacy Resources. The CAISO will publish a list of the pre-qualified resources in accordance with the timeline in the Business Practice Manual.
 - (B) **Pre-Qualification Requirement.** The CAISO will pre-qualify a resource to provide RA Substitute Capacity that is located at the same bus as, or a compatible bus to, that of the Local Capacity Area Resource Adequacy Resource for which it could substitute.
 - (C) **Request.** To use a pre-qualified resource in the Day-Ahead Market or Real-Time Market as RA Substitute Capacity, the Scheduling Coordinator for the Local Capacity Area Resource Adequacy Resource on a Forced Outage or de-rate must submit a timely substitution request in accordance with Section 40.9.3.6(c).
 - (D) **Approval.** The CAISO will grant a request that meets the requirements in Sections 40.9.3.6.1(b)(1)(C) and 40.9.3.6(b).
- (2) **Non-Pre-Qualified Substitution.**
 - (A) **Day-Ahead Market.** The Scheduling Coordinator for a Local Capacity Area Resource Adequacy Resource on a Forced Outage or de-rate may submit a request to substitute a non-pre-qualified resource only in the Day-Ahead Market.
 - (B) **Request.** To use a non-pre-qualified resource as RA Substitute Capacity, the Scheduling Coordinator for the Local Capacity Area Resource Adequacy Resource must submit a timely substitution request in accordance with Section 40.9.3.6(c), and the alternate resource must be located in the same Local Capacity Area.
 - (C) **Approval.** The CAISO will grant a request that meets the requirements

California Independent System Operator Corporation
Fifth Replacement Electronic Tariff

in Sections 40.9.3.6.1(b)(2)(A) and (B), and 40.9.3.6(b).

(c) **Non-Local Capacity Area Resource Substitution**

- (1) **Request.** To use a resource as RA Substitute Capacity, the Scheduling Coordinator for a non-Local Capacity Area Resource Adequacy Resource that has a Forced Outage or de-rate must submit a timely substitution request in the Day-Ahead Market or Real-Time Market in accordance with Section 40.9.3.6(c).
- (2) **Approval.** The CAISO will grant the request if the alternate resource has adequate deliverable capacity to provide the RA Substitute Capacity and meets the requirements in Sections 40.9.3.6.1(c)(1) and 40.9.3.6(b).

(d) **External Resources**

- (1) **Request.** To use a Dynamic System Resource, Non-Dynamic System Resource, NRS-RA Resource, or Pseudo-Tie as RA Substitute Capacity, the Scheduling Coordinator for a Resource Adequacy Resource that has a Forced Outage or de-rate must submit a timely substitution request in the Day-Ahead Market in accordance with Section 40.9.3.6(c).
- (2) **Approval.** The CAISO will grant the request if the alternate resource is external to the CAISO Balancing Authority Area (including Pseudo-Ties), the Scheduling Coordinator for the resource has an adequate available import allocation at the resource's Scheduling Point to provide the RA Substitute Capacity, and meets the requirements in Sections 40.9.3.6.1(d)(1) and 40.9.3.6(b).

(e) **Flexible RA Capacity**

- (1) **Request.** To use a resource as RA Substitute Capacity, the Scheduling Coordinator for the Flexible RA Resource that has a Forced Outage or de-rate must submit a timely substitution request in the Day-Ahead Market or Real-Time Market in accordance with Section 40.9.3.6(c) and specify the MW of RA Substitute Capacity to be provided, which may not exceed the MWs of the outage.
- (2) **Approval.** The CAISO will grant the request if the alternate resource has

adequate deliverable capacity to provide the RA Substitute Capacity, meets the applicable requirements in Sections 40.9.3.6.1(e) and 40.9.3.6(b), and is capable of meeting the must-offer obligation in Section 40.10.6 applicable to the highest quality Flexible Capacity Category for the MWs of the Flexible RA Capacity commitments of the resource on outage and the alternate resource.

40.9.3.6.2 RA Substitute Capacity from Multiple Resources

- (a) **Option.** The Scheduling Coordinator for a Resource Adequacy Resource on a Forced Outage or de-rate may submit a request to substitute that capacity with RA Substitute Capacity from multiple alternate resources, including a resource already providing RA Substitute Capacity for one or more Resource Adequacy Resources.
- (b) **Local Capacity Area Resource Substitution**
 - (1) **Request.** To use RA Substitute Capacity from multiple resources, the Scheduling Coordinator for the Local Capacity Area Resource Adequacy Resource on a Forced Outage or de-rate must submit a timely substitution request in the Day-Ahead Market in accordance with Section 40.9.3.6(c) if any of the alternate resources are not pre-qualified to substitute for the resource on the outage; however, if all of the alternate resources are pre-qualified to provide RA Substitute Capacity for that resource, the request may be submitted in the Day-Ahead Market or Real-Time Market.
 - (2) **Approval.** The CAISO will grant the request if it meets the requirements in Sections 40.9.3.6.2(b)(1) and 40.9.3.6(c) and the alternate resources are either pre-qualified, or are not pre-qualified but are located in the same Local Capacity Area as the Resource Adequacy Resource.
- (c) **Non-Local Capacity Area Resources**
 - (1) **Request.** To use RA Substitute Capacity from multiple resources, the Scheduling Coordinator for a non-Local Capacity Area Resource Adequacy Resource on a Forced Outage or de-rate must submit a timely substitution request in the Day-Ahead Market or the Real-Time Market in accordance with

California Independent System Operator Corporation
Fifth Replacement Electronic Tariff

Section 40.9.3.6(c).

- (2) **Approval.** The CAISO will grant the request if all of the alternate resources meet the requirements in Sections 40.9.3.6.2(c)(1) and 40.9.3.6(c).

(d) **External Resources**

- (1) **Request.** To use multiple Dynamic System Resources, Non-Dynamic System Resources, NRS-RA Resources, or Pseudo-Ties as RA Substitute Capacity, the Scheduling Coordinator for a Resource Adequacy Resource that has a Forced Outage or de-rate must submit a timely substitution request in the Day-Ahead Market in accordance with Section 40.9.3.6(c).
- (2) **Approval.** The CAISO will grant the request if the alternate resources are external to the CAISO Balancing Authority Area (including Pseudo-Ties), and the Scheduling Coordinator of each alternate resource has an adequate available import allocation at the resource's Scheduling Point to provide the RA Substitute Capacity, and meet the requirements in Sections 40.9.3.6.e(d)(1) and 40.9.3.6(b).

(e) **Flexible RA Capacity**

- (1) **Request.** To use RA Substitute Capacity from multiple resources, the Scheduling Coordinator for a resource providing Flexible RA Capacity on a Forced Outage or de-rate must submit a timely substitution request in the Day-Ahead Market or the Real-Time Market and the alternate resources must be located in the CAISO Balancing Authority Area, which does not include a Pseudo-Tie of a Generating Unit or a Resource-Specific System Resource.
- (2) **Approval.** The CAISO will grant the request if the alternate resources meet the requirements in Sections 40.9.3.6.2(d)(1) and 40.9.3.6(c).

40.9.3.6.3 Multiple Substitution by One Resource

The Scheduling Coordinator for a resource already providing RA Substitute Capacity may provide RA Substitute Capacity for one or more additional Resource Adequacy Resources on a Forced Outage or de-rate, subject to approval by the CAISO pursuant to Section 40.9.3.6.1 or 40.9.3.6.2.

40.9.3.6.4 Resource Adequacy Obligation

To the extent a resource provides RA Substitute Capacity, the resource must meet and comply with all requirements in Section 40 applicable to RA Substitute Capacity for the duration of the substitution; except that RA Substitute Capacity shall be released from this obligation and the substitution requirements in Section 40.9 –

- (a) at the end of the approved substitution period; or
- (b) upon request by either the Scheduling Coordinator for the resource on Forced Outage or the Scheduling Coordinator for the substitute resource, and approval by the other Scheduling Coordinator, in accordance with the process set forth in the Business Practice Manual.

40.9.3.6.5 Treatment of Unbid Capacity

If the Scheduling Coordinator for RA Substitute Capacity does not submit Bids or Self-Schedules for all or a portion of that capacity in accordance with Section 40.6 or 40.10.6, the CAISO –

- (1) will treat the unbid capacity as unavailable for purposes of Section 40.9; and
- (2) will reflect that unavailability in the RAIM availability calculation for the Resource Adequacy Resource providing the RA Substitute Capacity.

40.9.4 Availability Assessment

- (a) The CAISO shall determine a resource's monthly average availability on a percentage basis, based on –
 - (1) the availability assessment of the resource's minimum daily availability of local and/or system Resource Adequacy Capacity under Section 40.9.3.1, Flexible RA Capacity under Section 40.9.3.2, and overlapping Resource Adequacy commitments under Section 40.9.3.3, in the Day-Ahead Market and Real-Time Market;
 - (2) including the capacity, duration, and must-offer requirement for local and/or system Resource Adequacy Capacity or Flexible RA Capacity on a Forced Outage, except to the extent the resource provides RA Substitute Capacity for the outage in accordance with Section 40.9.3.6, or the Forced Outage is

California Independent System Operator Corporation
Fifth Replacement Electronic Tariff

excluded from RAAIM under Section 40.9.3.5;

- (3) including the capacity, duration, and must-offer requirement for any RA Substitute Capacity, RA Replacement Capacity, or CPM Capacity the resource is committed to provide; and
 - (4) excluding the Maintenance Outages specified in Section 40.9.3.4.
- (b) If the resource's minimum daily availability is the same in the Day-Ahead Market and the Real-Time Market, the CAISO will use the availability in the Real-Time Market in the calculation of the monthly average availability.
 - (c) If the resource is committed to provide local and/or system RA capacity and Flexible RA Capacity in a month, but does not provide both for the full month, the CAISO prorates the number of days that local and/or system Resource Adequacy Capacity and Flexible RA Capacity was provided against the total number of days in the month.

40.9.5 Availability Standard

- (a) **Percentage.** The Availability Standard shall be 96.5 percent each month.
- (b) **Availability Range.** The CAISO shall apply the Availability Standard with a bandwidth of plus and minus two percent, which produces a range with a lower bound of 94.5 percent and an upper bound of 98.5 percent.

40.9.6 Non-Availability Charges and Availability Incentive Payments

- (a) **Non-Availability Charges.** A resource providing local and/or system Resource Adequacy Capacity, Flexible RA Capacity, or CPM Capacity that is subject to the availability assessment in accordance with Section 40.9.3 and whose monthly availability calculation under Section 40.9.4 is below the lower bound of the monthly Availability Standard of 94.5 percent will be subject to a Non-Availability Charge for the month.
- (b) **Availability Incentive Payments.** A resource providing local and/or system Resource Adequacy Capacity, Flexible RA Capacity, or CPM Capacity that is subject to the availability assessment under Section 40.9.3 and whose availability calculation under Section 40.9.4 is above the upper bound of the monthly Availability Standard of 98.5 percent will be eligible for an Availability Incentive Payment for the month.

California Independent System Operator Corporation
Fifth Replacement Electronic Tariff

- (c) **No Payment or Charge.** A resource providing local and/or system Resource Adequacy Capacity, Flexible RA Capacity, or CPM Capacity that is subject to the availability assessment under Section 40.9.3 and whose monthly availability calculation under Section 40.9.4 is equal to or between the lower bound of 94.5 percent and the upper bound of 98.5 percent of the Availability Standard will not be assessed a Non-Availability Charge nor paid an Availability Incentive Payment.
- (d) **Advisory Period.** During the advisory period of March 1, 2016 through April 30, 2016, the CAISO will show the Non-Availability Charges and Availability Incentive Payments on Settlement Statements but will not include those Non-Availability Charges and Availability Incentive Payments on Invoices for financial settlement.

40.9.6.1 Determination of Non-Availability Charge

(a) **Calculation**

- (1) **RA Capacity.** The Non-Availability Charge for a Resource Adequacy Resource providing local, system, or Flexible RA Capacity shall be determined by the resource's average monthly RA and Flexible RA MWs multiplied by the difference between the lower bound of the monthly Availability Standard of 94.5 percent and the resource's monthly availability percentage, and multiplying the product by the RAAIM price.
 - (2) **CPM Capacity.** The Non-Availability Charge for a Resource Adequacy Resource providing CPM Capacity shall be determined by the resource's average monthly CPM MWs multiplied by the difference between the lower bound of the monthly Availability Standard of 94.5 percent and the resource's monthly availability percentage, and multiplying the product by the maximum of the resource's CPM price and the RAAIM price.
- (b) **RAAIM Price.** The RAAIM price shall be 60 percent of the CPM Soft-Cap Price in Section 43.4.1.1.

40.9.6.2 Determination of Availability Incentive Payment

- (a) **Self-Funding.** The Availability Incentive Payment will be funded entirely through the

California Independent System Operator Corporation
Fifth Replacement Electronic Tariff

monthly Non-Availability Charges assessed.

- (b) **Eligible Capacity.** The capacity of a Resource Adequacy Resource providing local, system or Flexible RA Capacity that is eligible to receive an Availability Incentive Payment shall be the resource's average monthly MWs of capacity that exceed the upper bound of the Availability Standard.
- (c) **Calculation.**
 - (1) The monthly Availability Incentive Payment rate will equal the total Non-Availability Charges assessed for the month plus any unpaid funds under Section 40.9.6.2(d), divided by the total Resource Adequacy Capacity eligible to receive the Availability Incentive Payment that month.
 - (2) The Availability Incentive Payment rate shall not exceed three times the Non-Availability Charge rate.
 - (3) The Availability Incentive Payment the CAISO shall pay to each eligible resource shall equal the product of its eligible capacity and the Availability Incentive Payment rate.
- (d) **Unpaid Funds.** Any Non-Availability Charge funds that are not distributed to Resource Adequacy Resources eligible to receive Availability Incentive Payments in a month will be added to the funds available for Availability Incentive Payments in the next month and will continue to roll over to the successive month until paid out or December 31, at which time the funds will be distributed to Load Serving Entities based on their load ratio share for the year.

40.9.7 Reporting

By July 1 of each year, the CAISO will provide an informational report that will be posted on the CAISO Website and include information on the average actual availability each month of Resource Adequacy Resources, the total amount of Non-Availability Charges assessed and the total amount of Availability Incentive Payments made.

40.10 Flexible RA Capacity

40.10.1 Flexible Capacity Needs Assessment

The CAISO shall annually conduct a study to determine the Flexible Capacity Need of the CAISO Balancing Authority Area for each month of the next calendar year and provide the results of the study in the Flexible Capacity Needs Assessment.

40.10.1.1 Process

- (a) **Schedule.** The CAISO shall conduct the study pursuant to the schedule set forth in the Business Practice Manual, which shall include a process for stakeholders to review and provide input on the study methodology and assumptions and on the draft study results.
- (b) **Completion and Distribution.** The CAISO shall provide the final results of the Flexible Capacity Needs Assessment to each Local Regulatory Authority in the CAISO Balancing Authority Area and post the Flexible Capacity Needs Assessment on the CAISO Website no later than 120 days prior to the date that the annual Flexible RA Capacity Plans must be submitted under Section 40.

40.10.1.2 Required Information from LSEs

- (a) **Submission Requirement.** The Scheduling Coordinator for each Load Serving Entity in the CAISO Balancing Authority Area shall submit the information required by this Section, no later than January 15 each year, for use in the CAISO's study to generate minute-by-minute net-load data that will be used to determine the Maximum Three-Hour Net-Load Ramp for each month.
- (b) **Required Information.** The Scheduling Coordinator for each Load Serving Entity in the CAISO Balancing Authority Area must submit information that –
 - (1) covers the calendar year in which the information is submitted and each year in the next five-year period;
 - (2) identifies each wind and solar resource connected to the CAISO Controlled Grid, and distributed wind and solar resources, that is owned, in whole or in part, by the Load Serving Entity, or under contractual commitment to the Load Serving Entity or the Load-following MSS Load Serving Entity, for all or a portion of its

California Independent System Operator Corporation
Fifth Replacement Electronic Tariff

capacity;

- (3) indicates the status of the resource as either in service or in development with its expected commercial operation date;
- (4) for each wind and solar resource, specifies the MWs of installed capacity, renewable energy area location, MWs of flexible capacity owned by or contractually committed to the Load Serving Entity, and other information required by the Business Practice Manual;
- (5) describes the balancing services, if any, provided by another balancing authority area for a wind or solar resource that is located outside of the CAISO Balancing Authority Area and that is owned by or contractually committed to the Load Serving Entity; and
- (6) forecasts the MW of installed, behind-the-meter solar capacity in the Load Serving Entity's service area or part of its forecast served load.

- (c) **Confidential Treatment.** The CAISO will treat the resource-specific information provided under Section 40.10.1.2(b) as confidential under Section 20.
- (d) **Aggregated Information.** In addition to the required resource-specific information, the Scheduling Coordinator for each Load Serving Entity in the CAISO Balancing Authority Area shall submit the information required in Section 40.10.1.2(b) on an aggregated basis, as described in the Business Practice Manual, for inclusion in the Flexible Capacity Needs Assessment that will be posted on the CAISO Website.

40.10.1.2.1 Incomplete or Inaccurate Information.

- (a) **Rerun of Study.** If the CAISO finds that a Load Serving Entity submitted incomplete or inaccurate information under Section 40.10.1.2(b), which was used in the calculation of the Flexible Capacity Need for the next calendar year, the CAISO may rerun its study using corrected information to recalculate Flexible Capacity Need for the entire year.
- (b) **Criteria for Rerun.** The CAISO will not rerun its study to recalculate the Flexible Capacity Need unless:
 - (1) the incomplete or inaccurate information represents a net error in excess of

California Independent System Operator Corporation
Fifth Replacement Electronic Tariff

either (i) 200 MW; or (ii) one percent of the total MWs of wind and solar capacity submitted under Section 40.10.1.2(b) for any month; and

(2) the CAISO has sufficient time to obtain corrected information and complete rerunning the study for the next calendar year by May 1.

(c) **Revised Flexible Capacity Need.** If the CAISO determines that the requirements in Sections 40.10.1.2.1(a) and (b) are met, the CAISO will recalculate the Flexible Capacity Need for the next calendar year and will no later than May 1 post a revised Flexible Capacity Needs Assessment on the CAISO Website.

40.10.1.3 Flexible Capacity Need Methodology

The CAISO shall conduct the study to determine the Flexible Capacity Need for the system for each month of the next calendar year as follows:

- (1) forecast the minute-to-minute system load and net-load using actual load data, as adjusted for monthly peak load growth, and generation profiles for wind and solar resources that are in-service or expected to be in-service during the study period;
- (2) calculate the Maximum Three-Hour Net-Load Ramp for each month using the forecasted minute-to-minute system net-load;
- (3) determine the higher of the most severe single contingency or 3.5 percent of forecasted peak load for each month;
- (4) may include a forecast adjustment, as described in Section 40.10.1.4; and
- (5) compute the resultant Flexible Capacity Need for each month based on the sum of the Maximum Three-Hour Net-Load Ramp, and the higher of the most severe single contingency or 3.5 percent of the forecasted monthly peak load.

40.10.1.4 Flexible Capacity Need Forecast Adjustment

- (a) The Flexible Capacity Need determination may include a positive or negative forecast adjustment to capture a systemic difference between the value determined in Section 40.10.1.3(3) and the historic amount of Operating Reserves met by Flexible Capacity:
- (b) The CAISO will determine the need for a forecast adjustment in consultation with the CPUC and other Local Regulatory Authorities, and as part of the stakeholder process

California Independent System Operator Corporation
Fifth Replacement Electronic Tariff

under Section 40.10.1.1; and

- (c) The amount of the forecast adjustment calculated for each month shall not exceed the forecasted monthly peak Operating Reserves multiplied by the difference between (i) the historic percentage of Operating Reserves met by Flexible RA Capacity and (ii) the percentage calculation that results from dividing the quantity determined in Section 40.10.1.3(3) by the forecasted monthly peak Operating Reserves.

40.10.1.5 Flexible Capacity Category Need

- (a) The CAISO shall calculate the total system amount of Flexible Capacity needed in each Flexible Capacity Category, for each month of the next calendar year to ensure that forecast system operational needs will be met, as follows:
 - (1) The minimum quantity of Flexible Capacity needed in the Flexible Capacity Category for base ramping resources for each month will be calculated on a seasonal basis based on the system ramping characteristics identified in the Flexible Capacity Needs Assessment and the changes in MWs of the Maximum Secondary Three-Hour Net-Load Ramps for each month within a season, and will be specified in MW and as the percentage of total Flexible Capacity Needs.
 - (2) The maximum quantity of Flexible Capacity in the Flexible Capacity Category for peak ramping resources will be calculated for each month as the difference between the minimum quantity needed in the Flexible Capacity Category for base ramping resources and the total Flexible Capacity Need, and will be specified in MW and as the percentage of total Flexible Capacity Needs.
 - (3) The maximum quantity of Flexible Capacity in the Flexible Capacity Category for super-peak ramping resources will be five percent of the total Flexible Capacity Need.
- (b) The CAISO shall provide the results of the Flexible Capacity Category need determination with the Flexible Capacity Needs Assessment.

40.10.2 Allocation of Flexible Capacity Needs

The CAISO will calculate each Local Regulatory Authority's allocable share of the total system Flexible Capacity Need, and the contribution of each of the Local Regulatory Authority's jurisdictional Load Serving Entities to the Maximum Three-Hour Net-Load Ramp used to calculate its share of the total system Flexible Capacity Need. The CAISO shall provide these calculations to each Local Regulatory Authority no later than 120 days prior to the date that the annual Flexible RA Capacity Plans must be submitted under Section 40. Nothing in this Section 40 obligates any individual Load Serving Entity to demonstrate that it has procured Flexible Capacity Resources to satisfy a minimum or maximum quantity needed, as applicable, within each Flexible Capacity Category.

40.10.2.1 Calculation of LRA Allocations

- (a) **Allocation of Maximum Three-Hour Net-Load Ramp.** The CAISO will calculate the Local Regulatory Authority's allocable share of the Flexible Capacity Need as the average of the sum of its jurisdictional Load Serving Entities' change in load, minus the change in wind output, minus the change in solar PV output, minus the change in solar thermal output during the five highest three-hour net-load changes in the month.
- (b) **Allocation of MSSC or Forecasted Peak Load.** The CAISO will determine the higher of the most severe single contingency or 3.5 percent of forecasted peak load for each Load Serving Entity based on the respective Load Serving Entity's peak load ratio share, and calculate each Local Regulatory Authority's allocable share based on the sum of its jurisdictional Load Serving Entities' shares.
- (c) **Allocation of Forecast Adjustment.** If the CAISO includes a forecast adjustment in its draft study results, it will allocate the forecast adjustment using the same methodology set forth in Section 40.10.2.1(b).

40.10.2.2 Allocation to Load-Following MSS

- (a) The CAISO will calculate the allocable share of the Flexible Capacity Need for each Load-following MSS as –
 - (1) the Local Regulatory Authority's average percent contribution to the change in wind output, minus the change in solar PV output, minus the change in solar

California Independent System Operator Corporation
Fifth Replacement Electronic Tariff

thermal output, during the five highest three-hour net-load changes in the month, for resources not included in the Load-following MSS Load Serving Entity's resource portfolio; and

- (2) plus the lesser of the MSS contribution calculated under Section 40.10.2.2(a)(1) or 3.5 percent of its forecasted peak load.
 - (3) plus the Load-following MSS Load Serving Entity's allocable share of any forecast adjustment under Section 40.10.1.4.
- (b) The CAISO will deduct the Flexible Capacity Need allocated to each Load-following MSS from the calculation to determine whether a cumulative deficiency in Flexible RA Capacity exists under Section 43.2.7.
- (c) If the Load-following MSS Load Serving Entity's contribution to the three-hour net-load ramp calculated under Section 40.10.2.2(a)(1) is less than its contribution to the 3.5 percent of expected peak load, the CAISO will not reallocate that difference to other Local Regulatory Authorities to determine whether a cumulative deficiency in Flexible RA Capacity exists under Section 43.2.7.

40.10.3 Flexible Capacity Categories

40.10.3.1 Flexible Capacity Category Calculation

A resource qualifies to provide Flexible RA Capacity in each Flexible Capacity Category for which it meets the qualifications set forth in this Section 40.10.3.

40.10.3.2 Flexible Capacity Category – Base Ramping Resources

- (a) **Resource Criteria.** Base ramping resources must meet all of the following criteria, except as provided in Sections 40.10.3.2(b) and (c) –
- (1) The resource must be capable of providing Flexible RA Capacity to the CAISO Markets through Economic Bids for Energy and Economic Bids for Ancillary Services that are not flagged as Contingency Only in the Day-Ahead Market, if and to the extent the resource is certified to provide Ancillary Services, submitted daily for the 17-hour period from 5:00 a.m. through 10:00 p.m.;
 - (2) The resource must be capable of providing Energy for a minimum of six hours up

California Independent System Operator Corporation
Fifth Replacement Electronic Tariff

to its full Effective Flexible Capacity value including PMin;

- (3) The resource must be capable of being available seven days a week;
- (4) The resource must be able to provide the minimum of (i) two Start-Ups per day for every day of the month or sixty Start-Ups per month, or (ii) the number of Start-Ups allowed by its operational limits, including minimum up and minimum down time; and
- (5) The resource must not have annual or monthly limitations on the number of Start-Ups or the amount of energy produced that, on a daily basis, are lower than the requirements in Section 40.10.3.2(a)(1) through (4).

(b) **Use-Limited Resource**

- (1) A Use-Limited Resource may be included in this category if it meets the criteria in Section 40.10.3.2(a), except that use-limited resources providing Flexible RA Capacity are not required to submit bids for Ancillary Services in the Day-Ahead Market or the Real-Time Market.
- (2) A Load Serving Entity may include in this category a combined resource consisting of two Use-Limited Resources that do not individually meet the minimum operational and availability requirements but in combination meet the criteria in Section 40.10.3.2(a).
- (3) The Flexible RA Capacity amount for the combined resource will be less than or equal to the lowest Effective Flexible Capacity value shown on the Resource Flexible RA Capacity Plan for a resource in the combination.
- (4) The combined resource shall be subject to the must-offer obligation in Section 40.10.6.1(e)(2) for the Flexible RA Capacity amount shown on the monthly Resource Flexible RA Capacity Plan for the combination.

- (c) **Non-Generator Resource.** A Non-Generator Resource that elects to provide Flexible RA Capacity may be included in this category if it meets the criteria in Section 40.10.3.2(a). A Non-Generator Resource that elects to provide Flexible RA Capacity and Regulation Energy Management is not eligible to be included in this category.

40.10.3.3 Flexible Capacity Category – Peak Ramping Resources

- (a) **Resource Criteria.** Peak ramping resources must meet all of the following criteria, except as provided in Sections 40.10.3.3(b) and (c) --
- (1) The resource must be capable of providing Flexible RA Capacity to the CAISO Markets through Economic Bids for Energy and Economic Bids for Ancillary Services that are not flagged as Contingency Only in the Day-Ahead Market, if and to the extent the resource is certified to provide Ancillary Services, which must be submitted daily for a five-hour period to be determined by the CAISO on a seasonal basis;
 - (2) The resource must be capable of providing Energy for a minimum of three continuous hours up to its full Effective Flexible Capacity value including PMin;
 - (3) The resource must be capable of being available seven days a week.
 - (4) The resource must be capable of at least one Start-Up per day; and
 - (5) The resource must not have annual or monthly limitations on the number of unit Start-Ups or the amount of energy produced that, on a daily basis, are lower than the requirements in Section 40.10.3.3(a)(1) through (4).
- (b) **Use-Limited Resource.**
- (1) A Use-Limited Resource may be included in this category if it meets the criteria in Section 40.10.3.3(a), except that use-limited resources providing Flexible RA Capacity are not required to submit bids for Ancillary Services in the Day-Ahead Market or the Real-Time Market.
 - (2) A Load Serving Entity may include in this category a combined resource consisting of two Use-Limited Resources that do not individually meet the minimum operational and availability requirements but in combination meet the criteria in Section 40.10.3.3(a).
 - (3) The Flexible RA Capacity amount for the combined resource will be less than or equal to the lowest Effective Flexible Capacity value shown on the Resource Flexible RA Capacity Plan for a resource in the combination.

California Independent System Operator Corporation
Fifth Replacement Electronic Tariff

- (4) The combined resource shall be subject to the must-offer obligation in Section 40.10.6.1(e)(2) for the Flexible RA Capacity amount shown on the monthly Resource Flexible RA Capacity Plan for the combination.
- (c) **Non-Generator Resource.** A Non-Generator Resource that elects to provide Flexible RA Capacity may be included in this category if it meets the criteria in Section 40.10.3.3(a). A Non-Generator Resource that elects to provide Flexible RA Capacity and Regulation Energy Management is not eligible to be included in this category.
- (d) **Base Ramping Resource.** A resource that meets the qualifications of the Flexible Capacity Category for base ramping resources also qualifies to be included in this category as a peak ramping resource; however, a resource that meets only the qualifications of a peak ramping resource does not qualify as a base ramping resource.

40.10.3.4 Flexible Capacity Category – Super-Peak Ramping Resources.

- (a) **Resource Criteria.** Super-peak ramping resources must meet all of the following criteria, except as provided in Sections 40.10.3.4(b), (c) and (d) --
- (1) The resource must be capable of providing Flexible RA Capacity to the CAISO Markets through Economic Bids for Energy and Economic Bids for Ancillary Services Bids that are not flagged as Contingency Only in the Day-Ahead Market, if and to the extent the resource is certified to provide Ancillary Services, which must be submitted each weekday that is not holiday, for a five-hour period to be determined by the CAISO on a seasonal basis;
- (2) The resource must be capable of providing Energy for a minimum of three continuous hours up to its full Effective Flexible Capacity value including PMin;
- (3) The resource must be capable of being available on weekdays that are not holidays, as defined in the Business Practice Manual;
- (4) The resource must be capable of at least one Start-Up per day; and
- (5) The resource must be capable of responding to at least five CAISO dispatches per month, during the five-hour period of the must offer obligation, for the resource to Start-Up.

California Independent System Operator Corporation
Fifth Replacement Electronic Tariff

- (b) **Use-Limited Resource.**
- (1) A Use-Limited Resource may be included in this category if it meets the criteria in Section 40.10.3.4(a), except that use-limited resources providing Flexible RA Capacity are not required to submit bids for Ancillary Services in the Day-Ahead Market or the Real-Time Market.
 - (2) A Load Serving Entity may include in this category a combined resource consisting of two Use-Limited Resources that do not individually meet the minimum operational and availability requirements but in combination meet the criteria in Section 40.10.3.4(a).
 - (3) The Flexible RA Capacity amount for the combined resource will be less than or equal to the lowest Effective Flexible Capacity value shown on the Resource Flexible RA Capacity Plan for a resource in the combination.
 - (4) The combined resource shall be subject to the must-offer obligation in Section 40.10.6.1(e)(2) for the Flexible RA Capacity amount shown on the monthly Resource Flexible RA Capacity Plan for the combination.
- (c) **Non-Generator Resource.** A Non-Generator Resource may be included in this category if it meets the criteria in Section 40.10.3.4(a) and is not registered in the CAISO's Master File as a Regulation Energy Management resource.
- (d) **Non-Generator Resource, Regulation Energy Management.** A Non-Generator Resource that is a Regulation Energy Management resource may be included in this category if it meets the following criteria –
- (1) The resource must be capable of providing Regulation Energy Management to the CAISO Markets through Economic Bids for Regulation Up and Regulation Down submitted daily for a 17-hour period from 5:00 a.m. through 10:00 p.m.;
 - (2) The resource shall not submit bids to provide Energy;
 - (3) The resource must be capable of being available seven days a week;
 - (4) The resource must be capable of unlimited Start-Ups per day; and
 - (5) The resource must be registered as a Non-Generator Resource providing

Regulation Energy Management in the CAISO's Master File.

- (e) **Base Ramping and Peak Ramping Resources.** A resource that meets the qualifications of the Flexible Capacity Category for base ramping resources or peak ramping resources also qualifies to be included in this category as a super-peak ramping resource; however, a resource that meets only the qualifications of a super-peak ramping resource does not qualify as a base ramping resource or a peak ramping resource.

40.10.3.5 Flexible Capacity Category by Resource

The CAISO will provide to the Scheduling Coordinator of each resource a non-binding determination of the Flexible Capacity Category with the highest qualifications for which the resource qualifies to provide Flexible Capacity, as provided in Section 40.10.4.

40.10.3.6 Non-Eligible Resources

Intertie resources and imports, other than Pseudo-Ties and Dynamic Scheduled resources, are not eligible to provide Flexible RA Capacity.

40.10.4 Effective Flexible Capacity

The CAISO shall calculate the Effective Flexible Capacity value for each resource. The CAISO shall publish the draft and final lists of the Effective Flexible Capacity values for such resources and the Flexible Capacity Categories for which each resource qualifies to provide Flexible Capacity on the CAISO Website each year in accordance with the schedule for publishing the Net Qualifying Capacity values, as set forth in the BPM, for use in the next calendar year.

40.10.4.1 Effective Flexible Capacity Calculation

- (a) **Flexible Resources.** The CAISO will calculate the Effective Flexible Capacity value of a resource, for use (i) if a Local Regulatory Authority has not established criteria for calculating the Effective Flexible Capacity value for eligible resource types, and (ii) for determining if a cumulative deficiency exists under Sections 43.2.7(a) and (b), as follows, except as provided in Sections 40.10.4.1 (b) through (f) –

- (1) If the Start-Up Time of the resource is greater than 90 minutes, the Effective Flexible Capacity value shall be the weighted average ramp rate of the resource calculated from PMin to Net Qualifying Capacity multiplied by 180 minutes. The

California Independent System Operator Corporation
Fifth Replacement Electronic Tariff

Effective Flexible Capacity shall not exceed the difference between the PMin and PMax of the resource.

- (2) If the Start-Up Time of the resource is less than or equal to 90 minutes, the Effective Flexible Capacity value shall be the weighted average ramp rate of the resource calculated from zero to Net Qualifying Capacity multiplied by 180 minutes. The Effective Flexible Capacity shall not exceed the Net Qualifying Capacity of the resource.
- (b) **Hydroelectric Generating Unit.** The Effective Flexible Capacity of a hydroelectric generating unit will be the amount of capacity from which the resource can produce Energy consistently for 6 hours based upon the resource's physical storage capacity, which shall not exceed its Net Qualifying Capacity.
- (c) **Proxy Demand Resource.** The Effective Flexible Capacity of a Proxy Demand Resource will be based on the resource's actual MWs of load modification in response to a dispatch by the CAISO during a test event. In determining the Effective Flexible Capacity of a Proxy Demand Resource, the CAISO will –
- (1) conduct the test at a random time during the flexible capacity must-offer obligation period for the resource;
 - (2) use the applicable baseline load data, as described in the CAISO Tariff or Business Practice Manual, to measure the load modification of the Proxy Demand Resource being tested; and
 - (3) pay the resource's bid price for the testing period.
- (d) **Energy Storage Resource.** The Effective Flexible Capacity value for an energy storage resource will be determined as follows –
- (1) for an energy storage resource that provides Flexible RA Capacity but not Regulation Energy Management, the Effective Flexible Capacity value will be the MW output range the resource can provide over three hours of charge/discharge while constantly ramping.
 - (2) for an energy storage resource that provides Flexible RA Capacity and

California Independent System Operator Corporation
Fifth Replacement Electronic Tariff

Regulation Energy Management, the Effective Flexible Capacity value will be the resource's 15-minute energy output capability.

- (e) **Multi-Stage Generating Resource.** The Effective Flexible Capacity value for a Multi-Stage Generating Resource will be calculated using the longest Start-Up Time of the resource's configuration that has the lowest PMin.
- (f) **Combined Heat and Power Resource.** The Effective Flexible Capacity value of a Combined Heat and Power Resource will be the lesser of (i) the resource's Net Qualifying Capacity, or (ii) the MW difference between the CHP resource's maximum output and its minimum operating level, such quantity not to exceed the quantity of generating capacity capable of being delivered over a three-hour period.

40.10.4.2 EFC Omission or Correction

- (a) **Draft List.** The posted draft list of Effective Flexible Capacity values may be modified only as follows –
 - (1) If the Scheduling Coordinator for a resource that was not included on the draft list of Effective Flexible Capacity values seeks to have the resource included on the list, it must no later than September 1 submit a request to the CAISO either showing that the resource meets the criteria in Section in 40.10.4.1 or is capable of meeting the criteria, and provide documentation to enable the CAISO to determine the resource's Effective Flexible Capacity pursuant to the criteria in Section 40.10.4.1.
 - (2) If the Scheduling Coordinator for a resource that was included on the draft list of Effective Flexible Capacity values seeks to change the value for that resource, it must submit documentation no later than September 1 that supports such a change.
 - (3) The CAISO will review the information submitted and notify the Scheduling Coordinator whether the change was accepted at least 15 days prior to posting the final list of Effective Flexible Capacity values on the CAISO Website.
- (b) **Final List.** The CAISO will post on the CAISO Website the final list of Effective Flexible

California Independent System Operator Corporation
Fifth Replacement Electronic Tariff

Capacity values for resources that are in service and the Flexible Capacity Categories for which each resource qualifies to provide Flexible Capacity. The final list shall be used for the next calendar year and shall not be changed during that year, except as follows -

- (1) If the Net Qualifying Capacity or PMax of a resource included on the final list increases or decreases during the year, and that value is changed in the Master File, the Scheduling Coordinator for the resource may request that the Effective Flexible Capacity value be recalculated to account for the change; or
 - (2) If a new resource, achieves commercial operation during the year, the Scheduling Coordinator for the resource may request that the CAISO calculate and add its Effective Flexible Capacity value and the Flexible Capacity Categories for which the resource qualifies to provide Flexible Capacity to the final list as an in-service resource.
- (c) **Disputes.** Any disputes as to the CAISO's determination regarding Effective Flexible Capacity shall be subject to the CAISO ADR Procedure.

40.10.5 Flexible RA Capacity Plans

40.10.5.1 LSE Flexible RA Capacity Plans

- (a) **Submission Requirement.** A Scheduling Coordinator must submit annual and monthly LSE Flexible RA Capacity Plans for each Load Serving Entity it represents; except that an annual plan for 2015 is not required. A Load-Following MSS is not required to submit annual or monthly LSE Flexible RA Capacity Plans.
- (b) **Annual Plan.** Each annual LSE Flexible RA Capacity Plan must –
 - (1) demonstrate that the Load Serving Entity has procured for each month at least 90 percent of the annual Flexible RA Capacity requirement determined by the CAISO; or the amount of Flexible RA Capacity required by the Load Serving Entity's Local Regulatory Authority, if the Local Regulatory Authority has set such requirement;
 - (2) identify the resources the Load Serving Entity intends to rely on to provide the Flexible RA Capacity, but need not identify the flexible resource adequacy

California Independent System Operator Corporation
Fifth Replacement Electronic Tariff

categories; and

- (3) include all information and be submitted no later than the last Business Day in October, in accordance with the reporting requirements and schedule set forth in the Business Practice Manual.

(c) **Monthly Plan.** The monthly LSE Flexible RA Capacity Plan must –

- (1) demonstrate that the Load Serving Entity procured 100 percent of the total monthly Flexible RA Capacity requirement determined by the CAISO; or the monthly amount of Flexible RA Capacity required by the Local Regulatory Authority, if the Local Regulatory Authority has set such requirement;
- (2) include information for purposes of the validation under Section 40.10.5.3(a) and the evaluation for cumulative deficiency under Section 40.10.5.3(c) that shows the MW of Flexible RA Capacity the Load Serving Entity designates based on the total monthly requirement determined by the CAISO within the minimum or maximum quantity, as applicable, for each Flexible Capacity Category; or only if the Local Regulatory Authority has established its own flexible capacity requirement, shows the MW of Flexible RA Capacity the Load Serving Entity designates based on the total monthly requirement determined by the Local Regulatory Authority within the minimum or maximum quantity for each Flexible Capacity Category required by the Local Regulatory Authority, if applicable;
- (3) identify all resources the Load Serving Entity will rely on to provide the Flexible RA Capacity and for each resource specify the Flexible Capacity Category in which the Flexible RA Capacity will be provided; and
- (4) include all information and be submitted to the CAISO at least 45 days in advance of the first day of the month covered by the plan, in accordance with the reporting requirements and schedule set forth in the Business Practice Manual.

(d) **Correction to Monthly Plan.** The Scheduling Coordinator for the Load Serving Entity may submit at any time from 45 days through 11 days in advance of the first day of the month covered by the plan, a revision to its monthly LSE Flexible RA Capacity Plan to

California Independent System Operator Corporation
Fifth Replacement Electronic Tariff

correct an error in the plan. The CAISO will not accept any revisions to a monthly LSE Flexible RA Capacity Plan from 10 days in advance of the relevant month through the end of the month, unless the Scheduling Coordinator for the Load Serving Entity demonstrates good cause for the change and explains why it was not possible to submit the change earlier.

40.10.5.2 Resource Flexible RA Capacity Plans

- (a) **Submission Requirement.** A Scheduling Coordinator must submit annual and monthly Resource Flexible RA Capacity Plans for each resource it represents that provides Flexible RA Capacity; except that an annual plan is not required for 2015.
- (b) **Annual Plan.** The annual Resource Flexible RA Capacity Plan shall --
 - (1) verify the resource's agreement to provide Flexible RA Capacity during the next Resource Adequacy Compliance Year; and
 - (2) include all information and be submitted no later than the last Business Day in October, in accordance with the reporting requirements and schedule set forth in the Business Practice Manual.
- (c) **Monthly Plan.** The monthly Resource Flexible RA Capacity Plan shall --
 - (1) verify the resource's agreement to provide Flexible RA Capacity during the month;
 - (2) include an affirmative representation by the Scheduling Coordinator submitting the plan that the CAISO is entitled to rely on the accuracy of the information provided in the plan to perform those functions set forth in this Section 40; and
 - (3) include all information and be submitted to the CAISO at least 45 days in advance of the first day of the month covered by the plan, in accordance with the reporting requirements and schedule set forth in the Business Practice Manual.
- (d) **Correction to Monthly Plan.** The Scheduling Coordinator for the resource may correct an error in the plan by submitting a revision to its monthly Resource Flexible RA Capacity Plan at any time from 45 days through 11 days in advance of the first day of the month covered by the plan. The CAISO will not accept any revisions to a monthly Resource

California Independent System Operator Corporation
Fifth Replacement Electronic Tariff

Flexible RA Capacity Plan from 10 days in advance of the relevant month through the end of the month, unless the Scheduling Coordinator for the Resource demonstrates good cause for the change and explains why it was not possible to submit the change earlier.

40.10.5.3 Review of Flexible RA Capacity Plans

(a) Validation for Deficiency In An Individual LSE Plan.

- (1) If the Local Regulatory Authority has not established its own flexible capacity procurement requirements, the CAISO will validate the annual and monthly LSE Flexible RA Capacity Plans for that Local Regulatory Authority's jurisdictional Load Serving Entities, and will use the Effective Flexible Capacity value for each resource calculated under Section 40.10.4. The CAISO will determine whether each Load Serving Entity met its annual or monthly total Flexible RA Capacity Requirement, and for the monthly LSE Flexible RA Capacity Plan, whether it met the total monthly requirement within the minimum or maximum quantity, as applicable, for each Flexible Capacity Category.
- (2) If the Local Regulatory Authority has established its own flexible capacity procurement requirements, the CAISO will not validate the individual LSE Flexible Capacity Plans for that Local Regulatory Authority's jurisdictional Load Serving Entities.

(b) Identification of Discrepancy. The CAISO will compare all LSE Flexible RA Capacity Plans and Resource Flexible RA Capacity Plans to identify any discrepancy in the Resource Adequacy Resources listed or the amount of the Resource Adequacy Capacity committed.

(c) Evaluation for Cumulative Deficiency.

- (1) The CAISO will evaluate the annual LSE Flexible RA Capacity Plans of all Load Serving Entities on a cumulative basis to determine whether the total amount of Flexible RA Capacity shown in the plans meets 90 percent of the annual Flexible Capacity Need determined by the CAISO pursuant to Section 40.10.1 or whether

California Independent System Operator Corporation
Fifth Replacement Electronic Tariff

a cumulative deficiency may exist under Section 43.2.7(a).

- (2) The CAISO will evaluate the monthly Flexible RA Capacity Plans of all Load Serving Entities to determine whether (i) the total amount of Flexible RA Capacity shown in the plans, limited to the maximum monthly requirement for each category, meets the applicable monthly Flexible Capacity Need determined by the CAISO pursuant to Section 40.10.1 or whether a cumulative deficiency may exist under Section 43.2.7(b)(1); or (ii) the total amount of Flexible RA Capacity shown in the base ramping Flexible Capacity Category in the plans meets the minimum monthly requirement for the base ramping Flexible Capacity Category determined by the CAISO pursuant to Section 40.10.1.5 or whether a cumulative deficiency may exist under Section 43.2.7(b)(2).
- (d) **Calculation of Flexible RA Capacity.** The CAISO will calculate the amount of Flexible RA Capacity included in the annual and monthly Flexible RA Capacity Plans using the MW amount of Flexible RA Capacity for each resource designated in a plan as a Flexible RA Capacity Resource up to the Effective Flexible Capacity value for the resource calculated under Section 40.10.4.
- (e) **Allocated Flexible RA Capacity Requirement.** The CAISO will calculate the Load Serving Entity's allocated annual and monthly Flexible RA Capacity Requirement –
- (1) For Load Serving Entities within a Local Regulatory Authority that has not adopted its own allocation methodology, the CAISO will calculate the Load Serving Entity's allocated requirement based on the CAISO's allocation methodology set forth in Section 40.10.2.
 - (2) For Load Serving Entities within a Local Regulatory Authority that has adopted its own allocation methodology, the CAISO will use that Local Regulatory Authority's methodology for the Local Regulatory Authority's jurisdictional Load Serving Entities.

40.10.5.4 Deficiency in LSE Flexible RA Capacity Plan

- (a) **Finding and Notification.** If the CAISO's review under Section 40.10.5.3(b) finds a discrepancy between an LSE Flexible RA Capacity Plan and a Resource Flexible RA Capacity Plan, the CAISO will –
- (1) notify the relevant Scheduling Coordinators of the mismatch in an attempt to resolve the discrepancy in accordance with the procedures set forth in the Business Practice Manual; and
 - (2) provide the notice at least 25 days in advance of the first day of the month covered by the plans and include the reasons the CAISO believes a discrepancy exists.
- (b) **Resolved Discrepancy.** If the CAISO issues a notice of discrepancy under Section 40.10.5.5(a) and the discrepancy is resolved, the Scheduling Coordinator must provide the CAISO with a revised LSE Flexible RA Capacity Plan or Resource Flexible RA Capacity Plan, as applicable, no less than 11 days prior to the first day of the month covered by the plans.
- (c) **Unresolved Discrepancy.** If the CAISO issues a notice of discrepancy under Section 40.10.5.5(a) and is not advised that the discrepancy is resolved, the CAISO will use the information contained in the Resource Flexible RA Capacity Plan to set the obligations of resources under Section 40.10 and/or to assign any costs incurred under this Section 40 and Section 43.

40.10.5.5 Discrepancy Between Flexible RA Capacity Plans.

- (a) **Finding and Notification.** If the CAISO's review under Section 40.10.5.3(b) finds a discrepancy between an LSE Flexible RA Capacity Plan and a Resource Flexible RA Capacity Plan, the CAISO will --
- (1) notify the relevant Scheduling Coordinators of the mismatch in an attempt to resolve the discrepancy in accordance with the procedures set forth in the Business Practice Manual; and
 - (2) provide the notice at least 25 days in advance of the first day of the month

California Independent System Operator Corporation
Fifth Replacement Electronic Tariff

covered by the plans and include the reasons the CAISO believes a discrepancy exists.

- (b) **Resolved Discrepancy.** If the CAISO issues a notice of discrepancy under Section 40.10.5.5(a) and the discrepancy is resolved, the Scheduling Coordinator must provide the CAISO with a revised LSE Flexible RA Capacity Plan or Resource Flexible RA Capacity Plan, as applicable, no less than 11 days prior to the first day of the month covered by the plans.
- (c) **Unresolved Discrepancy.** If the CAISO issues a notice of discrepancy under Section 40.10.5.5(a) and is not advised that the discrepancy is resolved, the CAISO will use the information contained in the Resource Flexible RA Capacity Plan to set the obligations of resources under Section 40.10 and/or to assign any costs incurred under this Section 40 and Section 43.

40.10.5.6 LRA Deficiency

- (a) **Finding and Notification.** If the CAISO's evaluation under Section 40.10.5.3(c) finds a cumulative deficiency in Flexible RA Capacity, the CAISO will –
 - (1) identify each Local Regulatory Authority that did not meet its allocable share of the Flexible Capacity Need using the cumulative amount of Flexible RA Capacity that the Local Regulatory Authority's jurisdictional Load Serving Entities included in their annual and monthly Flexible RA Capacity Plans in total and, for the monthly Flexible RA Capacity Plans, in each Flexible Capacity Category;
 - (2) identify each Load Serving Entity that (i) is subject to the jurisdiction of a Local Regulatory Authority that did not meet its allocable share of the Flexible Capacity Need under Section 40.10.5.6, and (ii) did not include sufficient Flexible RA Capacity in an annual or monthly plan to meet its allocated Flexible RA Capacity Requirement or did not meet the monthly requirement within the minimum or maximum quantity, as applicable, for each Flexible Capacity Category, based on the allocation methodology of the Local Regulatory Authority if it has established its own methodology for allocating the Flexible Capacity Need to its jurisdictional

California Independent System Operator Corporation
Fifth Replacement Electronic Tariff

Load Serving Entities;

- (3) notify each Local Regulatory Authority identified under Section 40.10.5.6(a)(1) and the Scheduling Coordinator for each Load Serving Entity identified under Section 40.10.5.6(a)(2) of the cumulative deficiency in an attempt to resolve any deficiency in accordance with the procedures set forth in the Business Practice Manual; and
 - (4) provide the notice at least 25 days in advance of the first day of the month covered by the plan and include the reasons the CAISO believes a cumulative deficiency exists.
- (b) **Resolved Deficiency.** If the CAISO provides a notice of cumulative deficiency under Section 40.10.5.6(a), and the deficiency is resolved, the Scheduling Coordinator for the Load Serving Entity shall demonstrate, no less than 11 days prior to the first day of the month covered by the LSE Flexible RA Capacity Plan, that the identified deficiency is cured by submitting a revised LSE Flexible RA Capacity Plan.
- (c) **Unresolved Deficiency.** If the CAISO provides a notice of deficiency under Section 40.10.5.6(a) and is not advised that the deficiency is resolved, the CAISO will use the information contained in the Resource Flexible RA Capacity Plan to set the obligations of resources under Section 40.10 and/or to assign any costs incurred under this Section 40 and Section 43.

40.10.6 Flexible RA Capacity Must-Offer Obligation

40.10.6.1 Day-Ahead and Real-Time Availability

- (a) **Must-Offer Obligation.** The Scheduling Coordinator for a resource supplying Flexible RA Capacity must submit Economic Bids for Energy for the full amount of the resource's Flexible RA Capacity, and Economic Bids for Ancillary Services that are not flagged as Contingency Only in the Day-Ahead Market for the full amount of the resource's Flexible RA Capacity that is certified to provide Ancillary Services, in the Day-Ahead Market and the Real-Time Market for the applicable Trading Hours that is capable of being economically dispatched as follows, except as provided in Section 40.10.6.1(e)

California Independent System Operator Corporation
Fifth Replacement Electronic Tariff

through(h) –

- (1) Flexible Capacity Category for base ramping resources - the 17-hour period from 5:00 a.m. to 10:00 p.m., seven days a week;
 - (2) Flexible Capacity Category for peak ramping resources - the five-hour period determined for each season by the CAISO's Flexible Capacity Needs Assessment, seven days a week; and
 - (3) Flexible Capacity Category for super-peak ramping resources – the five-hour period determined for each season by the CAISO's Flexible Capacity Needs Assessment, weekdays, except holidays and as provided in Section 40.10.6.1(h), until the resource receives during the five-hour period of the must offer obligation and responds to five CAISO dispatches for Start-Up during the month, after which the resource will not be subject to a must-offer obligation as a super-peak ramping resource for the remainder of that month; however, any other must-offer obligations for Resource Adequacy Capacity will still apply.
- (b) **Availability Requirement.** During the period of the applicable must-offer obligation, a Flexible RA Capacity Resource must be operationally available except for limitations specified in the Master File, legal or regulatory prohibitions or as otherwise required by this CAISO Tariff or by Good Utility Practice.
- (c) **Co-optimization.** Through the IFM co-optimization process, the CAISO will utilize available Flexible RA Capacity to provide Energy or Ancillary Services in the most efficient manner to clear the Energy market, manage congestion and procure required Ancillary Services.
- (d) **Participation in RUC.** A Flexible RA Capacity Resource must participate in the RUC to the extent that the resource has available Flexible RA Capacity that is not reflected in an IFM Schedule. Resource Adequacy Capacity participating in RUC will be optimized using a zero dollar (\$0/MW-hour) RUC Availability Bid. Flexible RA Capacity selected in RUC will not be eligible to receive a RUC Availability Payment.
- (e) **Use-Limited Resources.**

California Independent System Operator Corporation
Fifth Replacement Electronic Tariff

- (1) A Use-Limited Resource providing Flexible RA Capacity must be capable of responding to Dispatch Instructions and, consistent with its use-limitations, must submit Economic Bids for Energy for the full amount of its Flexible RA Capacity in the Day-Ahead Market and the Real-Time Market for the Trading Hours applicable to the resource's Flexible Capacity Category for that month for the Trading Hours that it is capable of being economically dispatched.
 - (2) The Scheduling Coordinator for the Use-Limited Resources designated as a combined resource under Section 40.10.3.2(b), 40.10.3.3(b) or 40.10.3.4(b) must submit Economic Bids for Energy for either resource for the full amount of the Flexible RA Capacity required by the applicable must-offer obligation; however, Economic Bids for Energy must be submitted for only one resource in the combination per Trade Day.
- (f) **Short, Medium or Long Start Units.**
- (1) Short Start Units or Medium Start Units providing Flexible RA Capacity that do not have an IFM Schedule or a RUC Schedule for any of their Resource Adequacy Capacity for a given Trading Hour are required to participate in the Real-Time Market consistent with the provisions in Section 40.6.3 that apply to Short Start Units providing RA Capacity.
 - (2) Long Start Units providing Flexible RA Capacity that do not have an IFM Schedule or a RUC Schedule for any of their Resource Adequacy Capacity for a given Trading Hour are required to participate in the Real-Time Market consistent with the provisions in Section 40.6.7 that apply to Long Start Units providing RA Capacity.
 - (3) If availability is required under Section 40.6.3 or 40.6.7, the Scheduling Coordinator for the resource must submit to the RTM for that Trading hour for which the resource is capable of responding to Dispatch Instructions: (i) Energy Bids for the full amount of the available Flexible RA Capacity, including capacity for which it has submitted Ancillary Services Bids; and (ii) Ancillary Services Bids

California Independent System Operator Corporation
Fifth Replacement Electronic Tariff

for the full amount of its Flexible RA Capacity that is certified to provide Ancillary Services, and for each Ancillary Service for which the resource is certified, including capacity for which it has submitted Energy Bids.

- (g) **Extremely Long-Start Resources.** Flexible RA Capacity Resources that are Extremely Long-Start Resources must be available to the CAISO by complying with the Extremely Long-Start Commitment Process under Section 31.7 or otherwise committing the resource upon instruction from the CAISO, if physically capable. Once an Extremely Long-Start Resource is committed by the CAISO, it is subject to the provisions of Section 40.10.6 regarding Day-Ahead Availability and Real-Time Availability for the Trading Days for which it was committed.
- (h) **Non-Generator Resources, Regulation Energy Management.** Non-Generator Resources providing Flexible RA Capacity and Regulation Energy Management must submit Bids for Regulation Up and Regulation Down for Trading Hours in the 17-hour period from 5:00 a.m. to 10:00 p.m., seven days a week and shall not submit Bids for Energy or other Ancillary Services.

40.10.6.2 Failure to Bid

If the Scheduling Coordinator for a resource supplying Flexible RA Capacity does not submit Economic Bids for Energy for the full amount of the resource's Flexible RA Capacity, and Economic Bids for Ancillary Services for the full amount of the resource's Flexible RA Capacity that is certified to provide Ancillary Services, in the Day-Ahead Market and the Real-Time Market for the Trading Hours during the period of the applicable must-offer obligation –

- (1) the CAISO will not insert Generated Bids for any Flexible RA Capacity for which the resource did not submit bids; and
- (2) An Exceptional Dispatch instruction issued to the resource for all or a portion of its Flexible RA Capacity shall not be an Exceptional Dispatch CPM designation under Section 43.2.5.