

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 ISO 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 --

Comment [NT1]: Not defined, but prefer this term over the newly defined term of LSE Flexible RA Capacity Plan. The terms closely mirror that of generic RA, inserting the words LSE and Resource will create more confusion.

- (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, for all or a portion of its capacity;
- (3) indicates the status of the resource as either in service or in development with its expected commercial operation date;
- (4) specifies the technology type, 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; and
- (5) describes the balancing services, if any, provided by an another balancing authority area for a wind or solar resource that is located outside of the CAISO Balancing Authority Area and this is owned by or contractually committed to the Load Serving Entity.

Comment [NT2]: Is the flexible capacity referring to the wind and solar resources? If so, is this referring to economic curtailment?

Comment [NT3]: Is this a catch all? or is this only related to data for internal CAISO resources?

(d) **Confidential Treatment.** The CAISO will treat the resource-specific information provided under Section 40.10.1.2(b) as confidential under Section 20.

Comment [NT4]: Missing (c)

(e) **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.

Comment [NT5]: This year, the ISO aggregated the data for LSEs based on CREZ area. Will the ISO provide guidelines of aggregation?

40.10.1.2.1 Incomplete or Inaccurate Information.

- (a) **Rerun of Study.** If the CAISO finds that incomplete or inaccurate information was submitted under Section 40.10.1.2(b) and was used in the calculation of the Flexible Capacity Need for the next calendar year, the CAISO may rerun its study to recalculate Flexible Capacity Need for the entire year and quantify the impact of the incorrect information. The CAISO will not recalculate the Flexible Capacity Need for 2015.
- (b) **Threshold for Rerun.** The CAISO will not rerun its study to recalculate the Flexible Capacity Need unless it determines, in its discretion, that the magnitude of the error in the incomplete or inaccurate information will have a material impact on the results of the study.
- (c) **Decreased Flexible Capacity Need.** If the CAISO reruns its study and determines that use of the incomplete or inaccurate information in the initial study decreased the Flexible Capacity Need allocated to the Scheduling Coordinator for the Load Serving Entity that submitted the incorrect data, the CAISO will –
- (1) charge that Scheduling Coordinator for the MW difference between the Flexible Capacity Need the Load Serving Entity was allocated and the higher Flexible Capacity Need it should have been allocated using the correct information;
 - (2) calculate the charge by applying the CPM Capacity price to the MW difference in the allocations; and

Comment [NT6]: Please clarify/define the wording material impact. It seems that the threshold is more of a discretion rather than the impact. Discretion shouldn't be the threshold.

(3) apportion the charge assessed under Section 40.10.2.1.1(c)(1) as payment to the Scheduling Coordinator for each Load Serving Entity that was allocated a higher Flexible Capacity Need than it would have been allocated using the correct information.

(d) **Increased Flexible Capacity Need.** If the CAISO reruns its study and determines that use of the incomplete or inaccurate information in the initial study increased the Flexible Capacity Need allocated to the Scheduling Coordinator for the Load Serving Entity that submitted the incorrect data, the CAISO will take no further -action.

Comment [NT7]: To be consistent with previous language in section (c)

40.10.1.3 Methodology

The ISO 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 load growth, and load 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 most severe single contingency or 3.5 percent of forecasted peak load, whichever is higher, for each month;
- (4) consider the extent to which the Maximum Three-Hour Net-Load Ramp and the most severe single contingency or forecasted peak load components reasonably represent the amount of flexible capacity

necessary to respond to actual system conditions, and, in its discretion, include a positive or negative forecast adjustment in its study to improve the accuracy of the calculation; 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 high greater of the most severe single contingency or 3.5 percent of the forecasted peak load, and the forecast adjustment, if any.

40.10.2. Allocation of Flexible Capacity Need

In addition to the Flexible Capacity Needs Assessment, the CAISO will calculate and provide to each Local Regulatory Authority its 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 this information no later than 120 days prior to the date that the annual Flexible RA Capacity Plans must be submitted under Section 40.

40.10.2.1 Calculation of LRA Allocations

- (a) **Allocation of Maximum Three-Hour Net-Load Ramp.** The CAISO will calculate the share of the Flexible Capacity Need for each Local Regulatory Authority in the CAISO's Balancing Authority Area in proportion to the total amount its jurisdictional Load Serving Entities contributed to the Maximum Three-Hour Net-Load Ramp each month. The Local Regulatory Authority's allocable share of the Flexible Capacity Need will be calculated 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 a month, as calculated under Section 40.10.2.1.

(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 its peak load ratio share and calculate each Local Regulatory Authority's allocable share based on the sum of its jurisdictional Load Serving Entities' shares.

Comment [NT8]: MSSC is undefined –Most Severe Single Contingency

(c) Allocation of Forecast Adjustment. If the CAISO includes a forecast adjustment in its study, it will include an explanation of the cause and allocation of the changed need in its Flexible Capacity Needs Assessment.

40.10.2.2 Allocation to Load-Following MSS

The CAISO will calculate the allocable share of the Flexible Capacity Need for each Load-following MSS in accordance with the provisions for Local Regulatory Authorities in Section 40.10.2.

40.10.3 Flexible Capacity Categories

40.10.3.1 Flexible Capacity Category Use. The CAISO shall use the Flexible Capacity Categories to –

- (1) set the minimum or maximum quantity (as applicable) of Flexible RA Capacity to be included in ~~LSE-Flexible RA Capacity Plans~~ for each Flexible Capacity Category for each month of the next Resource Adequacy Compliance Year, as provided in Section 40.10.3.2;
- (2) validate the monthly ~~LSE-Flexible RA Capacity Plans~~, as provided in

Comment [NT9]: Recommend changing term to Flexible RA Capacity Plans to conform to the generic Resource Adequacy Plans of LSEs.

Section 40.10.5.3:

(3) establish the must-offer obligation for the Flexible RA Capacity

Resourcesresources included in each Flexible Capacity Category, as
provided in Section 40.10.6; and

Comment [NT10]: The term Flexible RA Capacity Resource is not defined.

(4) allocate the costs of a CPM Flexible Capacity designation to the

Comment [NT11]: Not defined. Is this supposed to be Flexible Capacity CPM?

Scheduling Coordinator of each Load Serving Entity that failed to meet its
total monthly Flexible RA Capacity Requirement or its procurement
obligation for a Flexible Capacity Category and that is also jurisdictional to
a Local Regulatory Authority where the Flexible RA Capacity included in
all of the jurisdictional LSE-Flexible RA Capacity Plans was less than the
Local Regulatory Authority's allocable share of the Flexible Capacity Need
for that month as provided in Section 43.8.8(b).

40.10.3.2 Flexible Capacity Category-- Base Ramping Resources

(a) **Minimum Quantity of Capacity Allowed.** The ISO will set the minimum
quantity of Flexible Capacity needed in this category on a seasonal basis, based
on the system ramping characteristics identified in the Flexible Capacity Needs
Assessments and the change in MWs of the Secondary Three-Hour Net-Load
Ramp for the season.

(b) **Resource Criteria.** Base Ramping Resources must meet all of the following
criteria --

Comment [NT12]: Should this be Non-Use Limited Resource Criteria? If not, then section (c) does not meet the Resource Criteria of Base Ramping

(1) The resource must be capable of providing Flexible RA Capacity to the
CAISO Markets through Energy Bids and Ancillary Service Bids, 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 at (upto) its full Effective Flexible Capacity value;
- (3) The resource must be capable of being available seven days a week;
- (4) The resource must be able to provide the minimum of two Start-Ups per day or 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(b).

Comment [NT13]: Should this be Flexible RA Capacity? The resource may not be fully committed at its maximum EFC. Or add the word upto if EFC is left intact.

(c) 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(b).
- (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(b).
- (3) The Flexible RA Capacity amount for the combined resource will be the lowest Effective Flexible Capacity value of a resource shown on the Flexible RA Capacity Plan in the combination.
- (4) Both resources in the combination shall be subject to the must-offer obligation up to the Flexible RA Capacity amount.

Comment [NT14]: Should this be a subset of (b)?

Comment [NT15]: SDG&E is concerned that the ISO's system is unable to accommodate a combined resource accurately. The model may dispatch the two resources simultaneously rather than sequentially. This may lead to increased CPM backstop.

Comment [NT16]: Flexible RA Capacity. It is not necessary that an LSE commits the full EFC of either resource.

(d) 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(b). 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) **Maximum Quantity of Capacity Allowed.** The ISO will set the maximum quantity of Flexible Capacity allowed seasonally in this category as the difference between a Local Regulatory Authority's base Flexible Capacity Need and the Local Regulatory Authority's total Flexible Capacity Need.
- (b) **Resource Criteria.** Peak Ramping Resources must meet all of the following criteria --
- (1) The resource must be capable of providing Flexible RA Capacity to the CAISO Markets through Energy Bids, and Ancillary Service Bids 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 hours at (upto) its full Effective Flexible Capacity value;
 - (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(b).

Comment [NT17]: Recommend inserting the word "upto" or change the term to at its Flexible RA Capacity committed.

(c) **Use-Limited Resource.** A Use-Limited Resource may be included in this category if it meets the criteria in Section 40.10.3.3(b).

(d) **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(b). A Non-Generator Resource that elects to provide Flexible RA Capacity and Regulation Energy Management is not eligible to be included in this category.

(e) **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 only meets the qualifications of this category as a Peak Ramping Resource does not qualify to be included in the Flexible Capacity Category for Base Ramping Resources.

40.10.3.4 Flexible Capacity Category -- Super-Peak Ramping Resources.

(a) **Maximum Quantity of Capacity Allowed.** The CAISO will set the maximum quantity of Flexible Capacity needed in this category as five percent of the total Flexible Capacity Need for the month

(b) **Resource Criteria.** Super-Peak Ramping Resources must meet all of the following criteria, except as provided in Section 40.10.3.4(e) --

(1) The resource must be capable of providing Flexible RA Capacity to the CAISO Markets through Energy Bids, and Ancillary Service Bids 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 hours at (upto) its full Effective Flexible Capacity value;
- (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.

(c) **Use-Limited Resource.** A Use-Limited Resource may be included in this category if it meets the criteria in Section 40.10.3.3(b).

(d) **Non-Generator Resource.** A Non-Generator Resource may be included in this category if it meets the criteria in Section 40.10.3.4(b) and is not registered in the CAISO's Master File as a Regulation Energy Management resource.

(e) **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 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.

(f) **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 only meets the qualifications of this category as a Super-Peak Ramping Resource does not qualify to be included in the Flexible Capacity Category for Base Ramping Resources or Peak Ramping Resources.

40.10.3.5 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 that submitted at least one Economic Bid for Energy in the Real-Time Market on at least 10 days in the previous calendar year, or in the most recent 12-month period for which data is available. The CAISO shall publish the draft list of the Effective Flexible Capacity values for such resources on the CAISO Website by September 1 each year, and the final list of the Effective Flexible Capacity values by October 1 each year for use in the next calendar year.

40.10.4.1 Effective Flexible Capacity Use. The CAISO shall use the Effective Flexible Capacity to –

(1) validate the annual and monthly ~~LSE~~-Flexible RA Capacity Plans, as

Comment [NT18]: The draft NQC list is developed/posted by end of July. Why can't the ISO post the draft EFC list at the same time?

provided in Section 40.10.5.3;

(2) establish the must-offer obligation for the Flexible RA Capacity Resources included in each Flexible Capacity Category, as provided in Section 40.10.6;

Comment [NT19]: Not defined

(3) determine whether there is a collective deficiency in the annual or monthly LSE-Flexible RA Capacity Plans, as provided in 43.2.7(a) and (b); and

(4) allocate the costs of a CPM Flexible Capacity designation to the Scheduling Coordinator of each Load Serving Entity that failed to meet its total monthly Flexible RA Capacity Requirement or its procurement obligation for a Flexible RA-Capacity Category, that is also jurisdictional to a Local Regulatory Authority where the Flexible RA Capacity included in all of the jurisdictional LSE Flexible RA Capacity Plans was less than the Local Regulatory Authority's allocable share of the Flexible Capacity Need for that month, as provided in Section 43.8.8(b).

Comment [NT20]: Flex RA Cap Category not defined

40.10.4.2 Effective Flexible Capacity Calculation

(a) **General Rule** Flexible Resources. The Effective Flexible Capacity value of a resource will be determined as follows:

Comment [NT21]: Recommend changing term to Flexible Resources

(1) If the Start-Up Time of the resource is greater than 90 minutes, the Effective Flexible Capacity value shall be the lesser of the resource's MW of capacity between Pmin and Net Qualifying Capacity or Pmin and the ramping capability average Ramp Rate over three hours.

Comment [NT22]: Ramping capability is undefined and vague. The draft final proposal uses the term RRavg which is the average ramp rate. Ramp rate is defined however.

(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 lesser of the resource's MW of capacity between zero and Net Qualifying Capacity or zero and the ~~ramping capability~~ average Ramp Rate over three hours.

(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 ~~not to exceed its Net Qualifying Capacity~~.

Comment [NT23]: It's unclear whether or not the EFC is limited by the NQC as this is technology specific unlike the General Rule section above.

(c) **Demand Response Resource.** The Effective Flexible Capacity of a Demand Response Resource will be based on the resource's actual MWs of load reduction in response to a dispatch by the CAISO during a test event. 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 baseline load data, as described in the ~~CAISO Tariff or Business Practice Manual~~, to measure the load reduction for the demand response resource being tested; and
- (3) pay the resource's bid price for the testing period.

Comment [NT24]: Is it currently in the CAISO Tariff? If not, why not just use the BPM?

(d) **Energy Storage Resource.** The Effective Flexible Capacity value for an energy storage resource will be determined as follows --

Comment [NT25]: SDG&E recommends CAISO continue to work with the CPUC to harmonize its EFC calculation methodology such that LSEs do not have different sets of EFC values to use which could increase the risk of CPM.

- (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 upward increasing Ramp Rate.

- (2) for an energy storage resource that provides Flexible RA Capacity and 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 calculated using the minimum of (i) the resource's Net Qualifying Capacity, or (ii) the difference between the resource's ~~maximum output~~ PMax and ~~minimum operating level~~ RMTMax limited by its average Ramp Rate ~~or its capability over three hours.~~

Comment [NT26]: Specifically defined for CHP resources and its minimum operating level

Comment [NT27]: This language is vague and does not reflect the CHP's operational characteristics. Recommend using the calculation of average Ramp Rate over 3 hours between the RMTMax and the PMAX

40.10.4.2.1 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 submit ~~documentation as described in the Business Practice Manual~~ no later than September 15 that shows the resource meets the criteria in Section ~~40.10.4.1(a).~~
- (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 15 that

Comment [NT28]: What kind of documentation is envisioned?

Comment [NT29]: There is no section 40.10.4.1 (a).

shows -the value is incorrect.

- (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.

Comment [NT30]: This schedule does not provide the CAISO staff with sufficient time to verify the changes if the SC of the resource submits it on 9/15

- (b) **Final List.** The final list of Effective Flexible Capacity values posted on the CAISO Website 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, Ramp Rate, Start-Up Times 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 or the Net Qualifying Capacity Report, 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 to the final list. The new resource is exempt from the criteria set in section 40.10.4.

Comment [NT31]: What's the turnaround time to change the Final EFC list

- (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; -and
- (3) include the 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.

Comment [NT32]: To be consistent with the language for Generic RA Plans

(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 as 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) demonstrate that the Load Serving Entity met the total monthly requirement determined by the CAISO within the minimum or maximum

quantity, as applicable, for each Flexible Capacity Category; or within the categories required by the Local Regulatory Authority, if the Local Regulatory Authority has established such requirement;

(3) identify all resources the Load Serving Entity will rely on to provide the Flexible RA Capacity; and

(4) include the 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 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 Supply Plans

(a) **Submission Requirement.** A Scheduling Coordinator must submit annual and monthly ~~Resource-Flexible~~ RA Capacity Supply 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 Supply Plan shall --

Comment [NT33]: This is more consistent with the term Generic RA Supply Plan

- (1) verify the resource's agreement to provide Flexible RA Capacity during the next Resource Adequacy Compliance Year; and
- (2) include the 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 Supply 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 the 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 Supply 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~~-Flexible RA Capacity Supply 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.

40.10.5.3 Validation of Flexible RA Capacity Plans

(a) **Validation.** The CAISO will validate the annual and monthly ~~LSE~~ Flexible RA Capacity Plans and determine whether each Load Serving Entity met its annual or monthly total Flexible RA Capacity Requirement, and whether it met the total monthly requirement within the minimum or maximum quantity, as applicable, for each Flexible Capacity Category.

(b) **Calculation of Flexible RA Capacity.** ~~The CAISO will calculate the amount of total Flexible RA Capacity included in the annual and monthly Flexible RA Capacity Plans using the Effective-Flexible RA Capacity values calculated under Section 40.10.4 for each resource designated in a plan as a Flexible RA Capacity Resource.~~

(c) **Allocated Flexible RA Capacity Requirement.** The CAISO will calculate the Load Serving Entity's allocated annual and monthly Flexible RA Capacity Requirement based on the CAISO's allocation methodology set forth in Section 40.10.2. ~~For Scheduling Coordinators for CPUC Load Serving Entities, the CAISO will calculate the annual and monthly Flexible RA Capacity Requirement based on an allocation methodology, if any, adopted by the CPUC.~~

Comment [NT34]: Not defined

Comment [NT35]: This section should be for the calculation of total Flexible RA Capacity committed. As written, this section repeats that the CAISO shall calculate the EFC value.

Comment [NT36]: Added to clarify that the ISO shall use the CPUC methodology to calculate the requirement for CPUC LSEs. This is consistent with current tariff language for Local/System RA.

40.10.5.4 Deficiency in LSE Flexible RA Capacity Plan

(a) **Finding and Notification.** If the CAISO's validation under Section 40.10.5.3 finds that the total amount of Flexible RA Capacity included in an annual or

monthly ~~LSE~~-Flexible RA Capacity Plan is not sufficient to satisfy does not meet the Load Serving Entity's allocated Flexible RA Capacity Requirement, or that the total monthly requirement was not met within the minimum or maximum quantity, as applicable, for each Flexible Capacity Category, the CAISO will

- (1) notify the relevant Scheduling Coordinator, and the CPUC, Local Regulatory Authority, or federal agency with jurisdiction over the relevant Load Serving Entity, in an attempt to resolve any deficiency 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 plan and include the reasons the CAISO believes a deficiency exists.

(b) **Resolved Deficiency.** If the CAISO issues a notice of deficiency under Section 40.10.5.4(a), and the deficiency is resolved, the Scheduling Coordinator for the Load Serving Entity shall demonstrate, no less than 11 days prior 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, or advise the CAISO that the Load Serving Entity's Local Regulatory Authority, or federal agency, as appropriate, has determined that no deficiency exists.

(c) **Unresolved Deficiency.** If the CAISO issues a notice of deficiency under Section 40.10.5.4(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.

40.10.5.5 Discrepancy Between Flexible RA Capacity Plans.

- (a) Finding and Notification.** If the CAISO's validation under Section 40.10.5.3 finds a discrepancy between an ~~LSE~~-Flexible RA Capacity Plan and a Resource Flexible RA Capacity Supply 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 Supply 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 that is capable of being economically dispatched for Energy must 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 applicable Trading Hours --
- (1) Flexible Capacity Category -- 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 -- 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 -- 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).
- (b) Availability Requirement.** Flexible RA Capacity 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.
- (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.** A Use-Limited Resource providing Flexible RA Capacity must be capable of responding to dispatch and, consistent with its use-limitations, must submit Economic Bids for Energy for the full amount of its Flexible RA Capacity, and Economic Bids for Ancillary Services for the full amount of its Flexible RA Capacity that is certified to provide Ancillary Services, in the Day-Ahead Market and the Real-Time Market for the Trading Hours applicable to the resource's Flexible Capacity Category that month.

(f) **Short Start Units or Long Start Units.** Short Start Units or 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 may be required to be available to the CAISO through Real-Time as specified in Sections 40.6.3 and 40.6.7. If availability is required under those Sections, 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: (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 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.

43. Capacity Procurement Mechanism

43.1 Interim Capacity Procurement Mechanism

Comment [NT37]: Not Used

~~The ICPM as well as changes made to other Sections to implement the ICPM shall expire at midnight on the last day of the twenty-fourth month following the effective date of this Section and shall be replaced with the CPM. ICPM designations in existence on the date the CPM becomes effective shall, as of that date, be subject to the CPM, including the provisions concerning compensation, cost allocation and Settlement, until~~

~~such time as the ICPM resources have been finally compensated for their services rendered under the ICPM prior to the termination of the ICPM, and the CAISO has finally allocated and recovered the costs associated with such ICPM compensation.~~

43.1.1 Capacity Procurement Mechanism Expiration

The CPM as well as changes made to other Sections to implement the CPM shall expire at midnight on the last day of the forty-eighth month following the effective date of this Section. CPM designations in existence on the expiration date shall continue in effect and remain subject to the CPM, including the provisions concerning compensation, cost allocation and Settlement, until such time as the CPM resources have been finally compensated for their services rendered under the CPM prior to the termination of the CPM, and the CAISO has finally allocated and recovered the costs associated with such CPM compensation. This section shall also apply to the Flexible Capacity CPM provisions in Section 43 and any Flexible Capacity CPM designations in existence on the expiration date.

43.2 Capacity Procurement Mechanism Designation

The CAISO shall have the authority to designate Eligible Capacity to provide CPM Capacity services under the CPM to address the following circumstances, as discussed in greater detail in Section 43:

1. Insufficient Local Capacity Area Resources in an annual or monthly Resource Adequacy Plan;
2. Collective deficiency in Local Capacity Area Resources;
3. Insufficient Resource Adequacy Resources in an LSE's annual or monthly Resource Adequacy Plan;

4. A CPM Significant Event;
5. A reliability or operational need for an Exceptional Dispatch CPM; ~~and~~
6. Capacity at risk of retirement within the current RA Compliance Year that will be needed for reliability by the end of the calendar year following the current RA Compliance Year; and
7. A collective deficiency in the total Flexible RA Capacity included in the annual or monthly Flexible RA Capacity Plans, or in a Flexible Capacity Category in the monthly Flexible RA Capacity Plans.

* * * * *

43.2.7 Collective Deficiency in Flexible RA Capacity

- (a) **Annual Plans.** A collective deficiency will exist in the annual LSE-Flexible RA Capacity Plans if the total amount of Flexible RA Capacity shown in the plans of all Load Serving Entities, based on the Effective Flexible Capacity value determined by the CAISO for each resource, is less than 90 percent of the annual Flexible Capacity Need determined by the CAISO pursuant to Section 40.10.1.
- (b) **Monthly Plans.** A collective deficiency will exist in the monthly Flexible RA Capacity Plans --
- (1) if the total amount of Flexible RA Capacity shown in the plans of all Load Serving Entities, based on the Effective Flexible Capacity value determined by the CAISO for each resource, is less than the applicable monthly Flexible Capacity Need determined by the CAISO pursuant to Section 40.10.1; or

(2) if the total amount of Flexible RA Capacity shown in a Flexible Capacity Category in the plans of all Load Serving Entities, based on the Effective Flexible Capacity value determined by the CAISO for each resources, is less than the minimum monthly requirement for that category or exceeds the maximum monthly requirement for that category determined by the CAISO pursuant to Section 40.10.1.

43.2.7.1 Final Opportunity to Resolve Deficiency

If the processes set forth in Section 40.10.5.4 and 40.10.5.5 do not fully resolve a deficiency or discrepancy in the annual or monthly Flexible RA Capacity Plans, and if the CAISO determines that a collective deficiency exists under Section 43.2.7 and that there is a need for ~~CPM-Flexible Capacity~~ CPM, but prior to issuing a CPM designation for the collective deficiency –

Comment [NT38]: Should this term be defined?

(1) the CAISO shall issue a Market Notice that describes the collective deficiency, ~~identifies the Load-Serving-Entities~~jurisdictional Local Regulatory Agencies that are deficient, and specifies the quantity of Flexible RA Capacity necessary to meet the applicable Flexible Capacity Need;

Comment [NT39]: The LCR collective deficiency does not name the LSEs that are deficient, but rather the LCA. Recommend listing the LRA that is deficient so that suppliers do not have market sensitive information of a deficiency.

(2) a Scheduling Coordinator for a Load Serving Entity that is deficient may submit a revised annual or monthly Flexible RA Capacity Plan demonstrating procurement of additional Flexible RA Capacity consistent with the Market Notice issued under this Section. A revised annual Flexible RA Capacity Plan must be submitted no later than December 31. A revised monthly -Flexible RA Capacity Plan must be submitted no less

than five days prior to the first day of the applicable month.

43.2.7.2 Designation

After the opportunity to resolve the collective deficiency under Section 40.10.5.6 has been exhausted, if the full quantity of total Flexible RA Capacity is not reported to the CAISO in the revised annual or monthly Flexible RA Capacity Plans does not meet the Flexible RA Capacity Need in accordance with this Section, the CAISO may issue a Flexible Capacity CPM designation in an amount sufficient to alleviate the deficiency.

Comment [NT40]: Section does not exist

43.3 Terms Of CPM Designation

* * * * *

43.3.8 Term – Flexible Capacity CPM Designation

- (a) **Annual Plan.** A Flexible Capacity CPM designation under Section 43.2.7 for the failure to show sufficient Flexible RA Capacity in an annual Flexible RA Capacity Plan shall have a minimum commitment term of one month and a maximum commitment term of one year, based on the period(s) of overall shortage reflected in the annual plans. The term of a Flexible Capacity CPM designation under this section must begin and end during the same calendar year.
- (b) **Monthly Plan.** A Flexible Capacity CPM designation under Section 43.2.7 for the failure to show sufficient Flexible RA Capacity in a monthly Flexible RA Capacity Plan shall have a commitment term of one month. The term of a Flexible Capacity CPM designation under this section must begin and end during the same calendar month.

43.4 Selection Of Eligible Capacity Under The CPM

In accordance with Good Utility Practice, the CAISO shall make designations of Eligible Capacity as CPM Capacity or CPM Flexible Capacity under Section 43.1 by applying the following criteria in the order listed:

Comment [NT41]: Should this term be defined?

- (1) the effectiveness of the Eligible Capacity at meeting the designation criteria specified in Section 43.2;
- (2) the capacity costs associated with the Eligible Capacity;
- (3) the quantity of a resource's available Eligible Capacity, based on a resource's PMin, relative to the remaining amount of capacity needed;
- (4) the operating characteristics of the resource, such as dispatchability, Ramp Rate, and load-following capability;
- (5) whether the resource is subject to restrictions as a Use-Limited Resource; and
- (6) for designations under Section 43.2.3, the effectiveness of the Eligible Capacity in meeting local and/or zonal constraints or other CAISO system needs.

In applying these selection criteria, the goal of the CAISO is to designate lower cost resources that will be effective in meeting the reliability needs underlying the CPM designations. In making this determination, the CAISO will apply the first criterion to identify the effective Eligible Capacity by considering the effectiveness of the resources at meeting the designation criteria for the type of CPM to be issued and at resolving the underlying reliability need. The CAISO will apply the second criterion by considering the

cost of the effective Eligible Capacity. The CAISO will endeavor to designate a resource at the CPM Capacity price determined in accordance with Section 43.6.1 before selecting a resource with a higher unit-specific CPM Capacity price specified under Section 43.6.2. The CAISO will endeavor to designate resources that have specified a capacity price before designating resources that have not specified a CPM Capacity price under Section 43.6.2.1. The CAISO will apply the third criterion by considering the quantity of a resource's Eligible Capacity. The CAISO will endeavor to select a resource that has a PMin at or below the capacity that is needed to meet the reliability need before selecting a resource that has a PMin that would result in over-procurement. The CAISO will apply the fourth criterion by considering specific operating characteristics of a resource, such as dispatchability, ramp rate, and load-following capability to the extent that such characteristics are an important factor in resolving the reliability need. The CAISO will apply the fifth criterion by considering whether a resource is use-limited and whether that status may restrict its ability to be available to the CAISO in the Day-Ahead Market and Real-Time Market throughout the period for which it is being procured. To the extent that use-limited resources are capable of performing the required service for the duration of the CPM designation, the CAISO will not unduly discriminate in favor of non-Use Limited resources when applying the selection criteria. The CAISO will apply the sixth criterion by considering the effectiveness of the Eligible Capacity to meet local and/or zonal constraints or other CAISO system needs for CPM designations under 43.2.3. If after applying these criteria, two or more resources that are eligible for designation equally satisfy these

criteria, the CAISO shall utilize a random selection method to determine the designation between those resources.

43.4.1 Limitation of Eligibility for Flexible Capacity CPM Designation

- (a) **Committed Capacity.** Capacity committed as RA Capacity, RA Replacement Capacity, RA Substitute Capacity, RMR Capacity, or CPM Capacity shall not be eligible to receive a Flexible Capacity CPM designation for the duration of that commitment.
- (b) **Operationally Unavailable Capacity.** Capacity on, or scheduled to be on, a Forced Outage, Approved Maintenance Outage, or de-rate, is not operationally available and shall not be eligible to receive a Flexible Capacity CPM designation for the duration of that unavailability.

43.4.2 Designation Amount. While the CAISO does not have to designate the full capability of a resource, the CAISO may designate under the CPM an amount of CPM Capacity or CPM Flexible Capacity from a resource that exceeds the amount of capacity identified to ensure compliance with the Reliability Criteria set forth in Section 40.3 due to the PMin or other operational requirements/limits of a resource that has available capacity to provide CPM service. The CAISO shall not designate the capacity of a resource for an amount of capacity that is less than the resource's PMin.

43.4.3 Simultaneous Designations. In the event the CAISO determines that a CPM designation must be issued to resolve a collective deficiency of system RA Capacity under Section 43.2.3 and that Flexible Capacity CPM designation must be issued to resolve a collective deficiency of Flexible RA Capacity under Section 43.2.7 for annual or monthly plans covering the same or overlapping time periods, the CAISO

will apply the criteria in Section 43.4 and endeavor to designate capacity that will be effective at resolving both underlying reliability needs –

- (1) If the MW amount of the simultaneous or overlapping designation is sufficient to resolve both underlying reliability needs, no further designation of CPM Capacity or ~~CPM-Flexible Capacity~~ CPM will be issued.
- (2) If the MW amount of the simultaneous or overlapping designation is not sufficient to resolve both underlying reliability needs, the CAISO may designate additional CPM Capacity or ~~CPM-Flexible Capacity~~ CPM to cover the remaining deficiency.

43.5 Obligations Of A Resource Designated Under The CPM

43.5.1 Availability Obligations. Capacity ~~and CPM Flexible Capacity~~ from resources designated under the CPM shall be subject to all of the availability, dispatch, testing, reporting, verification and any other applicable requirements imposed under Section 40.6 on Resource Adequacy Resources identified in Resource Adequacy Plans. In accordance with those requirements, CPM Capacity ~~and CPM Flexible Capacity~~ designated under the CPM shall meet the Day-Ahead availability requirements specified in Section 40.6.1 and the Real-Time availability requirements of Section 40.6.2. Also in accordance with those requirements, Generating Units designated under the CPM that meet the definition of Short Start Units shall have the obligation to meet the additional availability requirements of Section 40.6.3, and Generating Units designated under the CPM that meet the definition of Long Start Units will have the rights and obligations specified in Section 40.6.7.1.

Comment [NT42]: The term is redundant in this sentence.

If the CAISO has not received an Economic Bid or a Self-Schedule for CPM Capacity, the CAISO shall utilize a Generated Bid in accordance with the procedures specified in Section 40.6.8. In addition to Energy Bids, resources designated under the CPM shall submit Ancillary Service Bids for their CPM Capacity and CPM Flexible Capacity to the extent that the resource is certified to provide the Ancillary Service.

43.5.2 Availability Obligations for Simultaneous Designations. To the extent a resource accepts simultaneous or overlapping designations as CPM Capacity and CPM Flexible Capacity under Section 43.4.3, that resource shall be subject to the must-offer obligations for both designations.

43.5.23 Obligation To Provide Capacity And Termination

The decision to accept an CPM designation shall be voluntary for the Scheduling Coordinator for any resource. If the Scheduling Coordinator for a resource accepts an CPM designation, it shall be obligated to perform for the full quantity and full period of the designation with respect to the amount of CPM Capacity and/or CPM Flexible Capacity for which it has accepted an CPM designation. If a Participating Generator's or Participating Load's Eligible Capacity is designated under the CPM after the Participating Generator or Participating Load has filed notice to terminate its Participating Generator Agreement, Net Scheduled PGA, Pseudo-Tie Participating Generator Agreement, or Participating Load Agreement or withdraw the Eligible Capacity from its Participating Generator Agreement, Net Scheduled PGA, Pseudo-Tie Participating Generator Agreement, or Participating Load Agreement, and the Scheduling Coordinator for the resource agrees to provide service under the CPM, then the Scheduling Coordinator shall enter into a new Participating Generator Agreement,

Net Scheduled PGA, Pseudo-Tie Participating Generator Agreement, or Participating Load Agreement, as applicable, with the CAISO.

43.6 Reports

The CAISO shall publish the following reports and notices.

43.6.1 CPM Designation Market Notice

The CAISO shall issue a Market Notice within two (2) Business Days of an CPM designation under Sections 43.2.1 through 43.2.6. CPM designations as a result of Exceptional Dispatches shall be subject to the reporting requirement set forth in Section 34.9.4. The Market Notice shall include a preliminary description of what caused the CPM designation, the name of the resource(s) procured, the preliminary expected duration of the CPM designation, the initial designation period, and an indication that a designation report is being prepared in accordance with Section 43.6.2. For Exceptional Dispatch CPM designations, the market notice shall additionally indicate whether the designation was made to address an Exceptional Dispatch CPM System Reliability Need or an Exceptional Dispatch CPM Non-System Reliability Need, specify the quantity of the Exceptional Dispatch CPM capacity that was procured and the Exceptional Dispatch CPM Term, and identify the engineering assessment the CAISO used to determine the quantity of capacity needed from the resource to address the reliability issue.

43.6.2 Designation Of A Resource Under The CPM

The CAISO shall post a designation report to the CAISO Website and provide a Market Notice of the availability of the report within the earlier of thirty (30) days of procuring a

resource under Sections 43.2.1 through 43.2.6 or ten (10) days after the end of the month. The designation report shall include the following information:

- (1) A description of the reason for the designation (LSE procurement shortfall, Local Capacity Area Resource effectiveness deficiency, or CPM Significant Event), and an explanation of why it was necessary for the CAISO to utilize the CPM authority);
- (2) The following information would be reported for all backstop designations:
 - (a) the resource name;
 - (b) the amount of CPM Capacity or CPM Flexible Capacity designated (MW),
 - (c) an explanation of why that amount of CPM Capacity or CPM Flexible Capacity was designated,
 - (d) the date CPM Capacity or CPM Flexible Capacity was designated,
 - (e) the duration of the designation; and
 - (f) the price for the CPM procurement; ~~and~~.
- (3) If the reason for the designation is an CPM Significant Event, the CAISO will also include:
 - (a) a discussion of the event or events that have occurred, why the CAISO has procured CPM Capacity, and how much has been procured;
 - (b) an assessment of the expected duration of the CPM Significant Event;
 - (c) the duration of the initial designation (thirty (30) days); and

- (d) a statement as to whether the initial designation has been extended (such that the backstop procurement is now for more than thirty (30) days), and, if it has been extended, the length of the extension.
- (4) If the reason for the designation is Exceptional Dispatch CPM Capacity, the CAISO will also include additional information about the CAISO's determination of the quantity and term of the designation, which supplements the information included in the market notice issued pursuant to Section 43.6.1.

43.6.3 Non-Market And Repeated Market Commitment Of Non-RA Capacity

Within ten (10) calendar days after the end of each month, the CAISO shall post a report to the CAISO Website that identifies for the prior month:

- (1) Any non-market commitments of non-Resource Adequacy Capacity; and
- (2) All market commitments of non-Resource Adequacy Capacity.

The CAISO will provide a Market Notice of the availability of this report. The report will not include commitments of RMR Generation capacity, Resource Adequacy Capacity or designated CPM Capacity. The report shall include the following information:

- (a) the name of the resource;
- (b) the IOU Service Area and Local Capacity Area (if applicable);
- (c) the maximum capacity committed in response to the event (MW);
- (d) how capacity was procured (for example, by RUC or Exceptional Dispatch);
- (e) the reason capacity was committed; and

- (f) information as to whether or not all Resource Adequacy Resources and previously-designated CPM Capacity were used first and, if not, why they were not.

43.6.4 [Not Used]

43.7 Payments To Resources Designated Under The CPM

Scheduling Coordinators for Eligible Capacity may submit to the CAISO an intention to be paid a monthly CPM Capacity Payment under Section 43.7.1 or Section 43.7.2.

Scheduling Coordinators for Eligible Capacity will be able to change their selections annually within thirty (30) days of a CAISO Market Notice seeking such payment preferences. To the extent a Scheduling Coordinator for Eligible Capacity does not submit a selection to be compensated in accordance with Section 43.7.1, the Scheduling Coordinator shall be deemed to have selected to be paid on a resource-specific basis pursuant to Section 43.7.2, for purposes of the CAISO's CPM designation determinations.

43.7.1 Monthly CPM Capacity Payment

On February 16, 2012, the fixed CPM Capacity price of \$67.50/kW-year shall become effective and shall remain in effect for two (2) years. On February 16, 2014, the fixed CPM Capacity price shall increase by five (5) percent and the effective price shall be \$70.88/kW-year, which shall remain in effect for two (2) years until February 16, 2016.

The fixed CPM Capacity price shall also apply to CPM Flexible Capacity payments.

43.7.1.1 Calculation of Monthly CPM Capacity Payment

Scheduling Coordinators representing resources receiving payment under Section 43.7.1 shall receive a monthly CPM Capacity Payment for each month of CPM

designation equal to the product of the amount of their CPM Capacity or CPM Flexible Capacity, the relevant CPM Availability Factor for Forced Outages, as determined in accordance with Appendix F, Schedule 6, a monthly shaping factor as set forth in Appendix F, Schedule 6, the effective fixed CPM Capacity price per kW-year and the CPM Availability Percentage for Maintenance Outages, so that the formula for determining the monthly CPM Capacity Payment would be as follows:

$$\begin{aligned} & (\text{CPM Capacity MW}) \times (\text{CPM Availability Factor for Forced Outages}) \times \\ & (1/12 \text{ monthly shaping factor}) \times (\text{effective fixed CPM Capacity price per} \\ & \text{kW-year}) \times \text{CPM Availability Percentage for Maintenance Outages.} \end{aligned}$$

The CPM Availability Percentage for Maintenance Outages is equal to the ratio of: (1) the sum of the CPM Capacity MW for each hour of the month across all hours of the month, where the actual capacity MW available to the CAISO, if less than the CPM Capacity MW, shall be substituted for CPM Capacity MW for each hour the resource is not available due to a Maintenance Outage or non-temperature-related ambient derates to (2) the product of CPM Capacity MW and the total hours in the month.

The foregoing formula shall apply to all CPM Capacity and CPM Flexible Capacity receiving monthly CPM Capacity Payments under this Section 43.7.1 except for CPM Capacity designated to respond to a CPM Significant Event or an Exceptional Dispatch CPM, in which case the monthly CPM Capacity Payment shall be based proportionately on the actual number of days the resource was designated as CPM Capacity during the month to the total number of days in the month.

For purposes of CPM designations, except for designations for CPM Significant Events and Exceptional Dispatch CPM, the CPM Availability Factor for Forced Outages shall be

calculated as the ratio of: (1) the sum of the CPM Capacity MW for each hour of the month across all hours of the month, where the actual capacity MW available to the CAISO, if less than the CPM Capacity MW, shall be substituted for CPM Capacity MW for each hour the resource is not available due to a Forced Outage or temperature-related ambient de-rate, to (2) the product of CPM Capacity MW and the total hours in the month.

For purposes of CPM designations for CPM Significant Events and Exceptional Dispatch CPM, the CPM Availability Factor for Forced Outages shall be calculated as the ratio of: (1) the sum of the CPM Capacity MW for each hour across all hours of the month or part of the month for which a unit is designated, whichever is applicable, where the actual capacity MW available to the CAISO, if less than the CPM Capacity MW, shall be substituted for CPM Capacity MW for each hour the resource is not available due to a Forced Outage or temperature-related ambient de-rate, to (2) the product of CPM Capacity MW and the total hours in the month or part of the month for which a unit is designated, whichever is applicable.

43.7.1.2 Payments For Simultaneous Designations

If a resource accepts simultaneous or overlapping designations as CPM Capacity and CPM Flexible Capacity, the capacity payments for the period the designations overlap shall be based on the highest MW amount of either designation. The resource shall not be compensated twice for the same capacity.

43.7.2 Resource-Specific CPM Capacity Payment

If a Scheduling Coordinator for Eligible Capacity believes that the fixed CPM Capacity price per KW-year in effect under Section 43.7.1 will not compensate a resource for its

Comment [NT43]: What if the CPM is 50MWs but Flex CPM is 75MW, should the ISO only pay 50MWs for the 7 hours not overlapped with the Flex CPM? Assuming it's category 1.

going forward costs, as calculated in accordance with the formula provided in Section 43.7.2.2, the Scheduling Coordinator may annually in accordance with Section 43.7, inform the CAISO of what proposed higher CPM Capacity price or CPM Flexible Capacity price would compensate the resource for its going forward costs and which the Scheduling Coordinator is willing to have the CAISO use for purposes of the CPM designation process ("going forward cost offer price").

43.7.2.1 Failure to Submit Going Forward Cost Offer Price

A Scheduling Coordinator for a resource is not required to submit a specific going forward cost offer price for such resource under the process provided for in Section 43.7; however, except for an Exceptional Dispatch CPM designation, a Scheduling Coordinator that has not previously identified the going forward cost offer price for a resource must notify the CAISO of what that price is before any CAISO designation of that resource's capacity as CPM Capacity or CPM Flexible Capacity can become effective. In the case of an Exceptional Dispatch CPM designation on behalf of a resource that has not selected the supplemental revenues option, the CPM designation shall become effective notwithstanding the resource's failure to select compensation pursuant to Section 43.7.1 or to identify a going forward cost offer price pursuant to Section 43.7.2. In such a case, the CAISO shall use the compensation under Section 43.7.1 for both dispatch and compensation for the Exceptional Dispatch CPM Term. In the case of a Scheduling Coordinator that has not previously identified the going forward cost offer price for a resource, the cap on supplemental revenues under Section 39.10.4 will be calculated using the monthly capacity payment under Section 43.7.1.

43.7.2.1.1 Determination of Capacity Price

If the CAISO designates a resource that has proposed a CPM Capacity or CPM Flexible Capacity price above the fixed CPM Capacity price per kW-year in effect under Section 43.7.1, and the sales from the resource are under the jurisdiction of the FERC, the Scheduling Coordinator for the resource shall make a limited resource-specific filing before the FERC to determine the just and reasonable capacity price for the going forward costs for the resource to be used in applying the CAISO's FERC jurisdictional monthly CPM Capacity Payment formula. If the sales from the resource are not under the jurisdiction of the FERC, the Scheduling Coordinator for the resource shall make a non-jurisdictional filing with the FERC to determine the just and reasonable capacity price for the going forward costs for the resource to be used in applying the CAISO's FERC-jurisdictional monthly CPM Capacity Payment formula.

43.7.2.1.2 Going Forward Cost

In making the cost justification filing with FERC for an CPM Capacity or CPM Flexible Capacity price above the fixed CPM Capacity price per kW-year under Section 43.7.1, the Scheduling Coordinator for the resource may not propose -- and shall not get paid -- an amount higher than the going forward cost offer price that it had previously proposed to the CAISO as its going forward cost offer price under Section 43.7 or this Section 43.7.2, either prior to or at the time of CPM designation.

Going forward costs for any resource-specific filing under this Section shall be calculated based on the following formula:

(fixed operation & maintenance costs, plus ad valorem taxes, plus administrative
& general costs, plus ten (10) percent of the foregoing amounts),

provided such costs shall be converted to a fixed \$/kW-year amount.

43.7.2.2 Resource-Specific Monthly CPM Capacity Payment

Scheduling Coordinators representing resources receiving payment under Section 43.7.2 shall receive a monthly CPM Capacity Payment for each month of CPM designation equal to the product of the amount of their CPM Capacity or CPM Flexible Capacity, the relevant CPM Availability Factor for Forced Outages as determined in accordance with Appendix F, Schedule 6, a monthly shaping factor as set forth in Appendix F, Schedule 6, the resource-specific CPM Capacity price, as determined by FERC and the CPM Availability Percentage for Maintenance Outages, in accordance with the following formula:

$$\begin{aligned} & (\text{CPM Capacity MW}) \times (\text{CPM Availability Factor for Forced Outages}) \times \\ & (1/12 \text{ monthly shaping factor}) \times (\text{the resource-specific CPM Capacity price} \\ & \text{as determined by FERC}) \times \text{CPM Availability Percentage for Maintenance} \\ & \text{Outages.} \end{aligned}$$

The CPM Availability Percentage for Maintenance Outages is equal to the ratio of: (1) the sum of the CPM Capacity MW for each hour of the month across all hours of the month, where the actual capacity MW available to the CAISO, if less than the CPM Capacity MW, shall be substituted for CPM Capacity MW for each hour the resource is not available due to a Maintenance Outage or non-temperature-related ambient de-rate to (2) the product of CPM Capacity MW and the total hours in the month.

The foregoing formula shall apply to all CPM Capacity and CPM Flexible Capacity receiving monthly CPM Capacity Payments under Section 43.7.2 except for CPM Capacity designated to respond to an CPM Significant Event or Exceptional Dispatch CPM, in which case the monthly CPM Capacity Payment shall be based proportionately

on the actual number of days the resource was designated as CPM Capacity during the month and available to the CAISO to the total number of days in the month.

Prior to the determination by FERC of the resource-specific going forward costs for CPM Capacity or CPM Flexible Capacity designated and paid pursuant to Section 43.7.2, the CAISO shall proceed as follows. For the period between the CAISO's designation and the FERC's determination, the CAISO shall utilize the fixed CPM Capacity price per kW-year in effect under Section 43.7.1 for purposes of the resource-specific monthly CPM Capacity Payment for financial Settlement. This amount shall be subject to surcharge based on the outcome of the FERC proceeding so that the resource will receive any higher actual resource-specific payment as determined by FERC for the full period of the CPM designation. Once approved by FERC, the CAISO shall apply the higher of the fixed CPM Capacity price per kW-year in effect under Section 43.7.1 or the resource-specific CPM Capacity price as determined by the FERC.

For purposes of CPM and Flexible Capacity CPM designations, except for designations for CPM Significant Events, the CPM Availability Factor for Forced Outages shall be calculated as the ratio of: (1) the sum of the CPM Capacity MW for each hour of the month across all hours of the month, where the actual capacity MW available to the CAISO, if less than the CPM Capacity MW, shall be substituted for CPM Capacity MW for each hour the resource is not available due to a Forced Outage or temperature-related ambient de-rates, to (2) the product of CPM Capacity MW and the total hours in the month.

For purposes of CPM designations for CPM Significant Events, the CPM Availability Factor for Forced Outages shall be calculated as the ratio of: (1) the sum of the CPM Capacity MW for each hour across all hours of the month or part of the month for which a unit is designated, whichever is applicable, where the actual capacity MW available to the CAISO, if less than the CPM Capacity MW, shall be substituted for CPM Capacity MW for each hour the resource is not available and is not on an authorized Outage, to (2) the product of CPM Capacity MW and the total hours in the month or part of the month for which a unit is designated, whichever is applicable.

For purposes of this Section 43.7.2, an authorized Outage shall be limited to a CAISO Approved Maintenance Outage.

43.7.3 Market Payments

In addition to the CPM Capacity Payment identified in Section 43.7, CPM resources, including Flexible Capacity CPM resources, shall be entitled to retain any revenues received as a result of their selection in the CAISO Markets, provided, however, that CPM resources are required to participate in the RUC process will be optimized using a zero (\$0) dollar RUC Availability Bid and are not eligible to receive compensation through the RUC process.

43.8 Allocation Of CPM Capacity Payment Costs

For each month, the CAISO shall allocate the costs of CPM Capacity Payments made pursuant to Section 43.6 as follows:

* * * * *

43.8.8 Allocation of CPM Flexible Capacity Costs

(a) Calculation of Deficiency by LRA.

- (1) The CAISO will determine whether each Local Regulatory Authority met its allocable share of the Flexible Capacity Need based on the amount of Flexible RA Capacity that Local Regulatory Authority's jurisdictional Load Serving Entities included in their annual and monthly Flexible RA Capacity Plans in total and for each Flexible Capacity Category.
- (2) The CAISO will calculate the total amount of Flexible RA Capacity included in the annual and monthly Flexible RA Capacity Plans, and the total amount included in the monthly Flexible RA Capacity Plans for each Flexible Capacity Category using the minimum or maximum quantity, as applicable, for each category, and using the Effective Flexible Capacity value calculated under Section 40.10.4 for each resource designated in a plan as a Flexible RA Capacity Resource.

(b) Allocation By CAISO Method.

- (1) If the amount of Flexible RA Capacity the jurisdictional Load Serving Entities included in their annual and monthly Flexible RA Capacity Plans, in total and in each Flexible Capacity Category, meets or exceeds the applicable Flexible Capacity Need allocated to their Local Regulatory Authority, the CAISO will not allocate any of the CPM Flexible Capacity costs to the Scheduling Coordinators for those Load Serving Entities-.
- (2) If the amount of Flexible RA Capacity the jurisdictional Load Serving Entities included in their annual and monthly Flexible RA Capacity Plans, either in total or for a Flexible Capacity Category, is less than the applicable Flexible Capacity Need allocated to their Local Regulatory

Authority, the CAISO will allocate the CPM Flexible Capacity costs proportionately to the Scheduling Coordinator of each jurisdictional Load Serving Entity that failed to meet its procurement obligation.

(c) Allocation by Local Regulatory Authority Method. If Load Serving Entities jurisdictional to a Local Regulatory Authority have a collective deficiency under Section 43.8.8(a) and the Local Regulatory Authority has established its own methodology for allocating the Flexible Capacity Need to its jurisdictional Load Serving Entities, the CAISO will use that methodology to allocate the CPM Flexible Capacity costs to the Scheduling Coordinator of each Load Serving Entity that is jurisdictional to that Local Regulatory Authority and that failed to meet its procurement obligation.

(d) Reduction of Cost Allocation. If the CAISO issues a Flexible Capacity CPM designation, a Scheduling Coordinator for a Load Serving Entity that was deficient, but provided additional Flexible RA Capacity in a revised annual or monthly Flexible RA Capacity Plan consistent with the Market Notice under Section 43.2.7(d)(1) --

(1) will be not be allocated a share of the Flexible Capacity CPM procurement costs if the additional Flexible RA Capacity resolved the total deficiency of that Load Serving Entity; or

(2) will be allocated a share of the Flexible Capacity CPM procurement costs on a proportionate basis to the extent that Load Serving Entity has a remaining partial deficiency.

43.9 Crediting Of CPM Capacity

The CAISO shall credit CPM designations to the resource adequacy obligations of Scheduling Coordinators for Load Serving Entities as follows:

- (a) To the extent the cost of CPM designation under Section 43.2.1.1 is allocated to a Scheduling Coordinator on behalf of a LSE under Section 43.8.1, the CAISO shall provide the Scheduling Coordinator on behalf of the LSE, for the term of the designation, credit towards (1) the LSE's Local Capacity Area Resource obligation under Section 40.3.2 in an amount equal to the LSE's pro rata share of the CPM Capacity designated under Section 43.2.1.1 and (2) the LSE's Demand and Reserve Margin requirements determined under Section 40 in an amount equal to the LSE's pro rata share of the CPM Capacity designated under Section 43.2.1.1.
- (b) To the extent the cost of CAISO designation under Section 43.2.2 is allocated to a Scheduling Coordinator on behalf of a LSE under Section 43.8.3, the CAISO shall provide the Scheduling Coordinator on behalf of the LSE, for the term of the designation, credit towards the LSE's Demand and Reserve Margin requirements determined under Section 40 in an amount equal to the LSE's pro rata share of the CPM Capacity designated under Section 43.2.2.
- (c) To the extent the cost of CPM designation under Section 43.2.3 is allocated to a Scheduling Coordinator on behalf of a LSE under

Section 43.8.4, and the designation is for greater than one month under Section 43.3.4, the CAISO shall provide the Scheduling Coordinator on behalf of the LSE, for the term of the designation, credit towards the LSE's Demand and Reserve Margin requirements determined under Section 40 in an amount equal to the LSE's pro rata share of the CPM Capacity designated under Section 43.2.3.

- (d) To the extent the cost of CPM designation under Section 43.2.6 is allocated to a Scheduling Coordinator on behalf of a LSE under Section 43.8.7, and the designation is for greater than one month under Section 43.3.7, the CAISO shall provide the Scheduling Coordinator on behalf of the LSE, for the term of the designation, credit towards the LSE's Demand and Reserve Margin requirements determined under Section 40 in an amount equal to the LSE's pro rata share of the CPM Capacity designated under Section 43.2.6.
- (e) The credit provided in this Section shall be used for determining the need for the additional designation of CPM Capacity under Section 43.2 and for allocation of CPM costs under Section 43.8.
- (f) For each Scheduling Coordinator that is provided credit pursuant to this Section, the CAISO shall provide information, including the quantity of capacity procured in MW, necessary to allow the CPUC, other Local Regulatory Authority, or federal agency with jurisdiction

over the LSE on whose behalf the credit was provided to determine whether the LSE should receive credit toward its resource adequacy requirements adopted by such agencies or authorities.

(g) To the extent the cost of Flexible Capacity CPM designation under Section 43.2.7 is allocated to a Scheduling Coordinator for an LSE under Section 43.8.8, and the designation is for greater than one month under Section 43.3.8, the CAISO shall provide the Scheduling Coordinator on behalf of the LSE, for the term of the designation, credit towards the LSE's Flexible Capacity requirements determined under Section 40 in an amount equal to the LSE's pro rata share of the CPM Flexible Capacity designated under Section 43.2.7.

43.10

[Not Used]

* * * * *

APPENDIX A MASTER DEFINITIONS

- Effective Flexible Capacity

The maximum MWs of Flexible Capacity a resource has the capability to provide based on defined counting criteria.

- Flexible Capacity

The capacity of a resource that has flexible capabilities and is operationally able to respond to Dispatch Instructions to manage variations in load and variable energy

resource output.

- Flexible Capacity Category

The classification of Flexible Capacity as base ramping, peak ramping, or super-peak ramping which a flexible resource is committed to provide Flexible RA Capacity and ~~ability to meet~~ minimum availability requirements of that category.

- Flexible Capacity CPM

Flexible Capacity designated under the Capacity Procurement Mechanism, for the term of the designation.

- Flexible RA Capacity

Flexible Capacity with an obligation to provide ~~Flexible RA Capacity~~ Energy and Ancillary Sservices bids during a resource adequacy month for the hours designated in the appropriate Flexible Capacity Category.

Comment [NT44]: Using the term in the definition doesn't define the term.

- Flexible Capacity Need

The MW of Flexible Capacity that the CAISO forecasts will be needed in ~~a the next~~ Resource Adequacy Compliance Year to reliably operate the CAISO Controlled Grid.

Comment [NT45]: The need is not only for the next compliance year, but for any year of a study

- Flexible Capacity Needs Assessment

The study performed by the CAISO to forecast the Flexible Capacity Need.

- LSE-Flexible RA Capacity Plan

A submission by a Scheduling Coordinator for a Load Serving Entity in the form required by the Business Practice Manual to satisfy the requirements of Section 40.10.

- Maximum Three-Hour Net Load Ramp

The highest daily increase in CAISO system load, net of wind and solar output, measured over a consecutive three-hour time period.

Resource-Flexible RA Capacity Supply Plan

A submission by a Scheduling Coordinator for a resource in the form required by the Business Practice Manual to satisfy the requirements of Section 40.10.

- Maximum Secondary Three-Hour Net-Load Ramp

The second highest daily increase in CAISO system load, net of wind and solar output, measured over a consecutive three-hour time period that does not correspond with the time period for the Maximum Three-Hour Net Load Ramp.