

******The provisions of Section 19 are new and not shown in redline here******

19. Reliability Coordinator

19.1 General Provisions

- (a) **RC Services.** Pursuant to Section 19, the CAISO will provide RC Services to RC Customers that execute the Reliability Coordinator Services Agreement (RCSA).
- (b) **Tariff Obligations.** RC Customers must comply with –
 - (1) the provisions of Section 19; and
 - (2) other provisions of the CAISO Tariff that apply to the extent such provisions –
 - (A) expressly refer to Section 19 or RC Customers;
 - (B) are cross referenced in Section 19; or
 - (C) are not limited in applicability to the CAISO Controlled Grid, the CAISO Balancing Authority Area, or the CAISO Markets.
- (c) **Inconsistency Between Provisions.** If there is an inconsistency between a provision in this Section 19 and another provision of the CAISO Tariff regarding the rights or obligations of RC Customers, the provision in Section 19 shall prevail to the extent of the inconsistency.
- (d) **Inconsistency With Requirements of NERC Reliability Standards.** If there is an inconsistency between a provision in this Section 19 and an obligation or requirement set forth in an applicable NERC Reliability Standard, the NERC Reliability Standard shall prevail to the extent of the inconsistency.

19.2 Access to RC Services

- (a) **In general.** The CAISO will –
 - (1) obtain certification from NERC and WECC to perform the functions of a Reliability Coordinator;
 - (2) maintain such certification as a Reliability Coordinator; and
 - (3) deliver RC Services in accordance with the NERC Reliability Standards to –
 - (A) transmission operators in the CAISO Balancing Authority Area;

- (B) other Balancing Authorities that request such services from the CAISO and execute the RCSA, including Balancing Authorities that are also registered as transmission operators; and
- (C) transmission operators within other Balancing Authority Areas that are not also registered as a Balancing Authority.

(b) **Implementation of RC Services.**

(1) **Balancing Authorities.** A Balancing Authority that wishes to receive Reliability Coordinator services from the CAISO must first execute an RCSA with the CAISO that establishes –

- (A) the Balancing Authority as an RC Customer of the CAISO;
- (B) the transmission operators within the Balancing Authority Area that will take RC Services from the CAISO, including itself if the Balancing Authority is also registered as a transmission operator;
- (C) the date upon which the Balancing Authority and the identified transmission operators will receive RC Services from the CAISO (the “RC Services Date”); and
- (D) the obligation of the Balancing Authority to complete the onboarding requirements in Section 19.2(b)(7)-(9) prior to the RC Services Date.

(2) **Transmission Operators in Balancing Authority Areas External to CAISO.**

Transmission operators in an RC Customer Balancing Authority Area must execute a RCSA that establishes –

- (A) whether the transmission operator will be invoiced by their associated Balancing Authority or invoiced directly by the CAISO; and
- (B) the date upon which the transmission operator will receive RC Services from the CAISO (the “RC Services Date”); and
- (C) the obligation of the transmission operator to complete the onboarding requirements set forth in Section 19.2(b)(7)-(9) prior to the RC Services Date.

- (3) **Transmission Operators in the CAISO BAA.** Transmission operators in the CAISO Balancing Authority Area must execute a RCSA that establishes the obligation of the transmission operator to complete the onboarding requirements in section 19.2(b)(7)-(9) prior to the RC Services Date for the CAISO Balancing Authority Area.
- (4) **RC Services Date.** The CAISO shall in its discretion determine the RC Services Date for each entity requesting RC Services, which will be targeted for April 1 of each calendar year except for the initial onboarding dates established in Section 19.2(b)(6).
- (5) **Onboarding Period.** The CAISO will in its discretion establish the onboarding period based on the complexity and compatibility of the Balancing Authority’s transmission and technology systems with the CAISO systems, certification requirements, and the planned timing of the CAISO’s implementation of RC Services.
- (6) **Initial Onboarding Dates.** The initial RC Services Dates will be –
 - (A) no earlier than July 1, 2019 for RC Customers within the CAISO’s Balancing Authority Area and for other RC Customers as the CAISO and the [A1] RC Customer may agree; and
 - (B) no earlier than September 1, 2019 for RC Customers outside of the CAISO’s Balancing Authority Area that have not already onboarded.
- (7) **Integration Testing and Shadow Operations.** The CAISO and the RC Customer will, prior to the RC Services Date, engage in –
 - ~~(A)~~ functional and system integration testing and other practices that confirms the RC Customer’s onboarding requirements are complete and sufficient to meet the readiness criteria as set forth in the Business Practice Manual for RC Services. ;
and
 - (B) ~~a [A2] period of shadow operations with the RC Customer’s current Reliability Coordinator service provider prior to the RC Services Date as~~

~~provided in the RC Customer implementation project plan.~~

- (8) **Readiness Determination.** No later than 30 days prior to the RC Services Date, the CAISO will determine, in consultation with the RC Customer, whether the systems and processes of the RC Customer and the CAISO will be ready for the CAISO to begin to provide the RC Customer with RC Services, according to the readiness criteria set forth in the Business Practice Manual for RC Services.
- (9) **Readiness Statement.** The CAISO and the RC Customer will exchange a readiness statement with each other at least 30 days prior to the RC Services Date in which a senior officer of each entity states –
- (A) that the processes and systems of the prospective RC Customer and the CASIO have satisfied or will have satisfied the readiness criteria set forth in the Business Practice Manual for RC Services;
 - (B) to any exceptions from the readiness criteria specified in the Business Practice Manual for RC Services and that despite such exceptions the criteria were met or will be met;
 - (C) that the RC Services Date is conditional on the resolution of the known issues identified in the statements and any unforeseen issues that undermine the satisfaction of the readiness criteria set forth in the Business Practice Manual for RC Services; and
 - (D) if, subsequent to exchanging readiness statements, the CAISO or the RC Customer determines that it cannot proceed with implementation on the RC Services Date, the CAISO or the RC Customer will notify the other of the delay, the reason for the delay, the proposed new RC Services Date, if it can be determined, and whether it will need to re-issue a portion or all of the readiness statement.
- (10) **Readiness Reporting.** The CAISO will report on the CAISO Website periodically, but not less than monthly during integration testing ~~and shadow operations~~, on progress towards achieving the readiness criteria set forth in the

Business Practice Manual for RC Services for RC Customers.

19.3 Supplemental Services - Hosted Advanced Network Applications (HANA)

- (a) **Scope of HANA Services.** The CAISO will also offer web-based HANA services to its RC Customers as those services are described in the Business Practice Manual for RC Services.
- (b) **Initial Commitment.** RC Customers that wish to obtain HANA services from the CAISO will be required to make a three year initial commitment for these services.
- (c) **Notification of Election.** An RC Customer must notify the CAISO in writing 90 calendar days prior to the start of its RC shadow operation period as to which HANA services it is electing to take.
- (d) **Termination of HANA Services.** An RC Customer may terminate HANA services in accordance with the RCSA.

19.4 Supplemental Services - Physical Security Review

- (a) **Physical Security Review.** The CAISO will provide RC Customers who are transmission operators with verification of their periodic risk assessments of their transmission stations and substations in accordance with Critical Infrastructure Protection Standard 014 (CIP-014) if requested pursuant to the RCSA.
- (b) **Scope of Supplemental Services.** Further detail regarding the nature of these supplemental services are described in the Business Practice Manual for RC Services.

19.5 Roles and Responsibilities

- (a) **CAISO Reliability Coordinator Obligations.**
 - (1) **Reliability Coordinator Services.** The CAISO, as the Reliability Coordinator for the RC Customer, will perform the specific tasks and functions applicable to a Reliability Coordinator pursuant to the NERC Reliability Standards, which include[A3]–
 - (A) providing outage coordination services in accordance with applicable NERC Reliability Standards;
 - (B) performing operations planning analysis in accordance with applicable

NERC Reliability Standards;

- (C) conducting real-time assessment, monitoring and wide area situational awareness in accordance with applicable NERC Reliability Standards;
- (D) administering a system operating limit (SOL) methodology in accordance with applicable NERC Reliability Standards;
- (E) approving system restoration plans and facilitate system restoration drills in accordance with applicable NERC Reliability Standards; and
- (F) issuing operating instructions to RC Customers with respect to monitored facilities in accordance with applicable NERC Reliability Standards.

- (2) **Other CAISO Reliability Responsibilities.** Nothing in Section 19 shall alter the CAISO's responsibilities under the other sections of the CAISO Tariff, under any agreement not required by Section 19, or under the NERC Reliability Standards or any other Applicable Reliability Criteria as the Balancing Authority for the CAISO Balancing Authority Area and the transmission operator for the CAISO Controlled Grid, provided that the CAISO, as the Balancing Authority for the CAISO Balancing Authority Area and the transmission operator for the CAISO Controlled Grid, must comply with applicable obligations in Section 19.

(b) **RC Customer Obligations.**

- (1) **RC Customer Eligibility.** An RC Customer must be registered and certified under the applicable authorities as –
- (A) a Balancing Authority;
 - (B) a transmission operator within a Balancing Authority Area that receives RC Services from the CAISO; or
 - (C) a transmission operator within the CAISO Balancing Authority Area.
- (2) **RC Customer Obligations.** An RC Customer will perform the obligations required by NERC Reliability Standards applicable to the functions for which it is registered, insofar as they relate to interactions with the Reliability Coordinator, and will also –

- (A) perform the obligations of an RC Customer in accordance with the Reliability Coordinator Services Agreement and Section 19;
- (B) exchange data, operating plans, operating procedures, studies, and reports with the CAISO in accordance with the Business Practice Manual for RC Services and applicable Operating Procedures;
- (C) follow CAISO operating instructions as the Reliability Coordinator with respect to monitored transmission facilities in accordance with applicable Operating Procedures; and
- (D) promptly provide such information as the CAISO may reasonably request in relation to major incidents.

(3) **Other Balancing Authority or Transmission Operator Responsibilities.**

Except as otherwise addressed in Section 19 or under any agreement required by Section 19, nothing in the CAISO Tariff will alter an RC Customer's responsibilities under NERC Reliability Standards as the Balancing Authority for its Balancing Authority Area, as a transmission operator, or any other function for which the RC Customer is registered.

(4) **RC Customer Termination of Services.**

- (A) **Reliability Coordinator Services Agreement.** An RC Customer located outside of the CAISO Balancing Authority Area that wishes to terminate RC Services must terminate the RCSA pursuant to its terms.
- (B) **Notice.** Delivery to the CAISO of a written notice of termination pursuant to the terms of the RCSA shall represent the commitment by the RC Customer to undertake all necessary preparations to receive services from a Reliability Coordinator other than the CAISO.
- (C) **Actions Following Notice.** Upon receipt of such notice, the CAISO will undertake all reasonably necessary preparations to assist in transitioning the RC Customer to a Reliability Coordinator other than the CAISO.

19.6 Provision of Settlement Data by RC Customers

- (a) **Applicability.** This Section 19.6 applies to the following RC Customers:
- (1) Balancing Authorities other than the CAISO;
 - (2) Transmission operators located in a Balancing Authority Area other than the CAISO that (i) have indicated in the RCSA that they have load, and (ii) have elected in the RCSA to receive direct billing of RC Services from the CAISO.
- (b) **Data Requirements.** By no later than a date and in the format specified in the Business Practice Manual for RC Services, such RC Customers must submit the following data regarding billing volumes –
- (1) for RC Customers that are, or are located in, generation-only Balancing Authorities, total annual Net Generation in MWh from January 1 through December 31 of the previous year; and
 - (2) for all other RC Customers, total annual Net Energy for Load in MWh from January 1 through December 31 of the previous year.
- (c) **Failure to Submit Data.** If the RC Customer does not submit the required billing volume data by the date specified in the Business Practice Manual for RC Services, the CAISO will multiply 1.25 times the RC Customer's default MWh specified in the RCSA, which will be established as follows:
- (1) the default total annual Net Generation in MWh for RC Customers that are, or are located in, generation-only Balancing Authorities will equal the sum of the RC Customer's installed generation capacity times a 90 percent capacity factor times 8,760 hours per year for RC Customers that are, or are located in, generation-only Balancing Authorities; and
 - (2) the default total annual Net Energy for Load MWh for all other RC Customers will equal the volumes reported by NERC/WECC for the year prior to the effective date of the RCSA.
- (d) **Reporting Zero Values.** If the RC Customer is a transmission operator that has

indicated in its RCSA that it has no Net Energy for Load or Net Generation during the period January 1 through December 31 of the prior year, the RC Customer will indicate such to the CAISO.

- (e) **RC Customer Validation.** By no later than a date specified in the Business Practice Manual for RC Services, the CAISO will publish an informational statement containing the billing data volume for each RC Customer.
- (f) **RC Customer Acceptance.** An RC Customer shall be deemed to have validated and accepted its billing data volume unless it modifies its billing data volume by November 30 following the date of CAISO publication of the billing data volume informational statement.
- (g) **CAISO Audit of Submitted Data.** The CAISO may in its sole discretion review actual Net Energy for Load or Net Generation information available to the CAISO and adjust an RC Customer's RC Services Charge assessed up to two years prior to the most recently issued invoice to account for inaccuracies between the billing volumes reported to the CAISO and the actual Net Energy for Load or Net Generation for the same period, and such adjustments will be reflected on the next annual RC Service Invoices.
- (h) **RC Customers in the CAISO Balancing Authority Area.** For RC Customers in the CAISO Balancing Authority Area no submission is required pursuant to this Section 19.6 since the CAISO will calculate such RC Customers' share of the CAISO Balancing Authority Area's Net Energy for Load in accordance with Section 11.20.9.

19.7 Settlements and Billing for RC Customers

- (a) **Applicability.** Section 19.7, rather than Section 11, shall apply to the CAISO Settlement with RC Customers, unless the RC Customer is also a Scheduling Coordinator for a Load Serving Entity in the CAISO Balancing Authority Area, in which case Section 11.20.9 will apply rather than Section 19.7 and the CAISO will invoice such Scheduling Coordinators in accordance with Section 11.20.9.
- (b) **Reliability Coordinator Services Charge.**
 - (1) **In General.** The CAISO will charge RC Customers an RC Services Charge

based on the rate calculated according to the formula in Appendix F, Schedule 7.

- (2) **Minimum RC Services Charge.** The CAISO will charge RC Customers a minimum RC Services Charge as set forth in Appendix F, Schedule 7.
 - (3) **Application of Revenues.** The CAISO will apply revenues received from the RC Services Charge against the costs to be recovered through the Grid Management Charge as described in Appendix F, Schedule 7
- (c) **Billing Procedures.**
- (1) **In General.** The CAISO will invoice RC Customers on an annual basis for RC Services provided during that calendar year, except for the initial year of RC Services which will be invoiced in accordance with Section 19.7(c)(3).
 - (2) **RC Services Invoice.** The CAISO will provide RC Customers with an RC Services Invoice by the first business day of each calendar year for RC Services to be provided during that calendar year.
 - (3) **Initial RC Services Invoice Period.** The CAISO will invoice RC Customers for RC Services from the RC Services Date determined in accordance with Section 19.2(b)(6) until the end of that calendar year based on the applicable rate in Appendix F, Schedule 7 at the same time the CAISO invoices RC Customers for the year following that initial year.
- (d) **Validation and Disputes of RC Services Invoices.**
- (1) **Review.** RC Customers will have the opportunity to review and validate the charges included in the RC Services Invoice.
 - (3) **Validation.** An RC Services Invoice shall be binding on the RC Customer to which it relates and will not be subject to later dispute unless the RC Customer has raised a dispute within five Business Days of the date of issuance.
 - (4) **Disputes.** RC Customers shall be prohibited from disputing any RC Services Invoice, except on the grounds that an error in the invoice is due to a mere typographical or other ministerial error by the CAISO.
 - (5) **Confirmation.** Confirmation and validation of any dispute associated with the

invoicing of RC Services shall be managed through the CAISO's customer inquiry, dispute, and information system and as provided in Section 19.10.

(6) **Corrected Invoices.** If the CAISO determines that an RC Services Invoice contains a typographical or other ministerial error, and the resolution of the dispute makes correction necessary, the CAISO will issue a corrected invoice within 21 Business Days of the date the initial invoice was issued.

(A) each RC Customer that receives an invoice for RC Services shall pay any net debit and shall be entitled to receive any net credit specified on a corrected invoice; and

(B) payment of any net debit shall be made in accordance with the procedures set forth in Section 19.7(e), except that payment shall be made by no later than 10 Business Days after a corrected invoice is issued.

(e) **Payment by RC Customers.**

(1) **Payment Date.** RC Customers shall make timely payment to the CAISO of any charges on an RC Services Invoices by no later than 21 Business Days after an RC Services Invoice is issued.

(2) **Payment Procedures.**

(A) **General.** All payments to the CAISO made pursuant to this Section 19 will be denominated in United States dollars and cents and shall be made by Fedwire or, at the option of each RC Customer, by Automated Clearing House by 10:00 am on the relevant payment date.

(B) **RC Customer System Failure.** If any RC Customer becomes aware that a payment will not, or is unlikely to be, received by the CAISO Bank by 10:00 am on the relevant payment date for any reason (including failure of the Fedwire or any computer system), it shall immediately notify the CAISO, giving full details of the payment delay (including the reasons for the payment delay), and shall make all reasonable efforts to remit

payment as soon as possible, by an alternative method if necessary, to ensure that funds are received for value no later than 10:00 am on the payment date, or as soon as possible thereafter.

- (C) **CAISO System Failure.** In the event of failure of any electronic transfer system affecting the CAISO Bank, the CAISO shall notify RC Customers of the occurrence of the system failure and the alternative methods and anticipated time of payment. In the event that a payment is received late by the CAISO Bank due to a system failure affecting the CAISO Bank, the procedures set forth in Section 19.7(e)(3)-(5) below shall not apply.
- (3) **Late Payment and Default.** If payment is not received by the last Business Day in January, the RC Customer will be charged a \$1,000 late payment fee on a supplemental RC Services Invoice and will be considered to be in default understanding that the CAISO reserves the right to suspend such RC Customer's RC services until such time payment is received.
- (4) **Payment Pending Dispute.** If there is any dispute relating to a charge included on an RC Services Invoice that is not resolved prior to the payment due date, the RC Customer shall pay any amounts shown on the relevant RC Services Invoice as of that payment date irrespective of whether any such dispute has been resolved or is still pending and the provisions of Section 19.10 will thereafter apply to the disputed amount.
- (5) **Default Collection Procedures.**
 - (A) **In General.** In the event an RC Customer defaults on the payment of all or any portion of the RC charges included on an RC Services Invoice, the CAISO may, at its discretion, issue a supplemental RC Services Invoice to all other RC Customers that reallocates any amounts unpaid by the defaulting RC Customer to all other RC Customers in proportion to the amounts included on those RC Customers' RC Services Invoices.
 - (B) **Supplemental Payment.** RC Customers shall make payment to the

CAISO of any charges on a supplemental invoice within 15 Business Days of the date the supplemental invoice is issued.

- (C) **CAISO Collection.** Notwithstanding any reallocation pursuant to this Section 19.7, the CAISO shall –
- (i) use all commercially reasonable efforts (including suspension of RC Services) to collect amounts invoiced in accordance with this Section 19.7; and
 - (ii) credit other RC Customers in proportion to the amount of the supplemental invoice they received pursuant to this Section 19.7 in an amount equal to any amounts collected by CAISO from a defaulting RC Customer, provided that any such credits will be included on the next annual invoice after the CAISO collects such amounts.

19.8 Supplemental Services - HANA Services Charge

- (a) **HANA Services Charge.** The CAISO will charge RC Customers that elect HANA services the annual cost for the ongoing software license fee, which will be passed through directly to the RC Customer, and the costs set forth in Appendix F, Schedule 7 which will include –
 - (1) a start-up cost amortized over an initial 3 year minimum commitment period; and
 - (2) the annual cost for CAISO support of the HANA services.
- (b) **Invoicing for HANA Services.** The CAISO will invoice the RC Customer for HANA services when the services commence and each year thereafter on the RC Services Date anniversary.
- (c) **Payment for HANA Services.** Payment for HANA services will be due within 21 business days of the invoice date.
- (d) **Termination of HANA Services.** An RC Customer that has elected to receive HANA services will continue to be invoiced for the services annually during the initial 3 year commitment period and each year thereafter until the services have been terminated in

accordance with the RCSA.

19.9 Supplemental Services – Physical Security Review Charge

- (a) **In General.** An RC Customer may request in writing that the CAISO perform physical security review or other supplemental reliability services as specified in the Business Practice Manual for RC Services.
- (b) **Charges.** An RC Customer electing such services will be charged the actual costs incurred by the CAISO provided that (i) the RC Customer requests in writing that the CAISO perform the services, and (ii) the RC Customer provides a \$50,000 deposit to the CAISO at the time the request is submitted along with any information required by the CAISO to perform the services, and –
 - (1) if the deposit exceeds the actual cost incurred to provide physical security review services, the CAISO will refund the excess amount to the RC Customer;
 - (2) if the actual cost of performing the services exceeds the deposit, the CAISO will invoice the RC Customer for the excess, and the RC Customer shall pay the undisputed amount within thirty (30) calendar days;
 - (3) if the RC Customer fails to timely pay any undisputed costs, the CAISO shall not be obligated to continue to perform physical security review services unless and until the RC Customer has paid all undisputed amounts.

19.10 Dispute Resolution Procedures^[A4]

- (a) **In General.** Disputes involving matters arising under Section 19 shall be subject to dispute resolution pursuant to Section 13 for all matters arising under Section 19, subject to the disputed invoice resolution procedures in Section 19.7(d) and the limitation on disputes in Section 19.10(d).
- (b) **Timing.** In the case of a dispute of an RC Services Invoice under Section 19.7, an RC Customer must initiate any good faith negotiation or other dispute resolution remedy under Section 13 within 90 days of the day on which the CAISO provides notice of its resolution of a dispute under Section 19.7.
- (c) **Processing Disputes.** Confirmation and validation of any dispute associated with RC

Services shall be managed through the CAISO’s customer inquiry, dispute, and information system and as provided in the Business Practice Manual for RC Services.

- (d) **Limitation on Disputes.** Any claim or dispute that concerns compliance with the NERC Reliability Standards, including the CAISO’s performance of the specific tasks and functions applicable to a Reliability Coordinator, will not be subject to dispute under the CAISO Tariff or the RCSA and may only be initiated and processed by the agency responsible for the enforcement of the NERC Reliability Standards pursuant to the agency rules of practice and procedure applicable to such claim or dispute.

19.11 Reliability Coordinator Oversight

- (a) **In General.** The CAISO will establish a Reliability Coordinator Oversight Committee that provides RC Customer input and oversight to the CAISO’s provision of RC Services.
- (a) **Charter.** The CAISO will adopt a charter that prescribes the membership, responsibilities and procedures of the Reliability Coordinator Oversight Committee.

19.12 Uncontrollable Forces

The provisions of Section 14.1 – 14.3 regarding Uncontrollable Forces will apply to RC Customers, except that all references to “Market Participants” in such provisions shall be read as including RC Customers for purposes of application.

19.13 Liability

The provisions of Article VIII of the RCSA will apply to the CAISO and RC Customers with respect to any liability arising under Section 19 rather than the provisions of Section 14.4 – 14.5, except that all references to “Party” shall be read as including the CAISO and the RC Customer as the context requires.

19.14 Penalties

The provisions of Section 14.7 regarding the allocation of Reliability Standard penalties will apply to RC Customers.

19.15 Confidentiality^[A5]

The confidentiality provisions of Section 20 will apply to provision of RC Services to RC Customers, including any information provided by RC Customers to the CAISO in connection with the provision of RC Services, except that all references to “Market Participants” in Section 20 shall be read as including RC

Customers for purposes of application.

19.16 Miscellaneous Provisions in Addition to Section 22

Section 22 will apply to the CAISO's provision of RC Services pursuant to Section 19, except that all references to "Market Participants" in Section 22 shall be read as including RC Customers for purposes of application.

******The definitions are new and not shown in redline here******

- Net Energy for Load

Net Balancing Authority Area generation, plus energy received from other Balancing Authority Areas, less energy delivered to Balancing Authority Areas through interchange. It includes Balancing Authority Area losses but excludes energy required for storage at energy storage facilities. Net Energy for Load equals NERC/WECC Metered Demand for the CAISO Balancing Authority Area.

- Net Generation

Net power available from a Generating Facility to be fed into the power system at the high side of the Generating Facility transformer(s). Net generation is equal to gross generation minus the generator's internal power usage (station service).

- RC Customer

An entity for which the CAISO acts as the Reliability Coordinator pursuant to Section 19.

- Reliability Coordinator Services Charge (RC Services Charge)

The charges that the CAISO assesses to RC Customers for providing Reliability Coordinator services pursuant to Section X.X or 11.20.9, as calculated in accordance with Appendix F, Schedule 7.

- RC Funding Requirement

The revenue required to offset the costs that the CAISO will incur to provide RC Services.

- RC Services

The Reliability Coordinator services provided by the CAISO for an RC Customer, pursuant to Section 19 and the Reliability Coordinator Services Agreement.

- RC Services Date

The date on which the CAISO assumes the role of Reliability Coordinator for an RC Customer, pursuant to Section 19.2.

****The provisions of Appendix F, Schedule 7 are new and not shown in redline here****

APPENDIX F**Schedule 7****Reliability Coordinator Services Charge**

The Reliability Coordinator Services Charge shall be based on the RC Funding Requirement. The RC Funding Requirement will consist of the annual costs associated with the CAISO's provision of Reliability Coordinator Services, including the annual costs associated with maintaining shared reliability coordinator tools such as the Western Interchange Tool and the Enhanced Curtailment Calculator. The CAISO will determine the RC Funding Requirement based on the percentage of its overall revenue requirement attributable to the cost of providing Reliability Coordinator Services. This percentage will initially be determined by assessing the costs associated with providing Reliability Coordinator Services, using data from the CAISO's 2016 cost of service study modified to reflect the assessed RC Service costs, and based on the expected number of customers that will have committed to take Reliability Coordinator Services by the RC Service Dates provided in Section 19.2(b)(6). This percentage will be updated in conjunction with the triennial cost of service study conducted by the CAISO as described in Schedule 1, Part A of this Appendix F. The RC Funding Requirement will be calculated, on an annual basis, as the product of this percentage multiplied by the annual revenue requirement for the same year.

The percentage of the RC Funding Requirement for the initial RC Service Date provided in Section 19.2(b)(6) will be 2% for the July 1, 2019 targeted onboarding date, which will be assessed to applicable RC Customers, including Scheduling Coordinators that serve load in the CAISO Balancing Authority Area, in proportion to the Net Energy for Load or Net Generation for the period during which this rate is in effect. The percentage of the RC Funding Requirement for the initial RC Service Date provided in Section 19.2(b)(6) will be increased to 9% for the September 1, 2019 targeted onboarding date, which will thereafter be assessed to applicable RC Customers, including Scheduling Coordinators that serve load in the CAISO Balancing Authority Area, in proportion to the Net Energy for Load or Net Generation for the period during which this rate is in effect. The minimum annual RC Services Charge will also be prorated for applicable RC Customers during these periods.

The RC Funding Requirement will be developed utilizing the procedures associated with the development of the GMC revenue requirement, as set forth in Schedule 1, Part D of this Appendix F. Entities taking RC Services from the CAISO will have the opportunity to participate in that annual budget process.

The RC Funding Requirement will be treated as a component of the revenue in the CAISO Other Costs and Revenues category, for purposes of calculating the costs recovered through the GMC, as set forth in Schedule 1, Part C of this Appendix F.

The annual RC rate per MWh is calculated by taking the annual RC Funding Requirement less known minimum RC Service Charges for the applicable year divided by the sum of 1) the annual Net Energy for

Load MWh for all Balancing Authorities with load and Transmission Operators and 2) the annual Net Generation MWh for all generators connected to generation-only Balancing Authorities and Transmission Operators that the CAISO anticipates will take RC Services for the applicable year. The rates for the RC Services Charge shall be adjusted each year, effective January 1.

The annual RC Service Charge for each RC Customer will be calculated as follows:

- For RC Customers that that are, or are located in, generation-only Balancing Authorities, multiplying the annual Reliability Coordinator Services Charge rate by the total Net Generation in MWh as determined in accordance with Section 19.6. The RC Service Charge for such RC Customers that are Balancing Authorities shall be calculated by removing any total Net Generation associated with Transmission Operators within such Balancing Authorities that have elected to receive direct billing of RC Services from the CAISO.
- For RC Customers that are, or are located in Balancing Authority Areas with load, multiplying the annual Reliability Coordinator Services Charge rate by the total Net Energy for Load in MWh as determined in accordance with Section 19.6 of the CAISO Tariff. The RC Service Charge for such RC Customers that are Balancing Authorities shall be calculated by removing any total Net Energy for Load associated with transmission operators within such Balancing Authorities that have elected to receive direct billing of RC Services from the CAISO.
- For RC Customers that are located in the CAISO's Balancing Authority Area and Scheduling Coordinators that serve load in the CAISO Balancing Authority Area, multiplying the annual Reliability Coordinator Services Charge rate by the RC Customer's share of the total NERC/WECC Metered Demand in MWh for the CAISO Balancing Authority Area determined in accordance with Section 11.20.9.
- There will be a minimum annual RC Services Charge of \$5,000. This charge will be applied to RC Customers that either have no Net Energy for Load or Net Generation for a particular period as set forth Section 19.6 of the CAISO Tariff, as well as RC Customers whose annual RC Services Charge, as calculated in accordance with this Schedule 7, would otherwise be less than \$5,000.
- For RC customers that take RC Services for less than a full year in either the initial or final year of participation, the annual RC Service Charge will be pro-rated according to the period that the RC Customer takes service during such year, rounded up to the nearest month.

Any excess or shortfall in RC Service Charges collected as compared to the RC Funding Requirement for a particular year will be credited or debited, as applicable, to the CAISO Operating Reserve Account.

******Sections 11.20.9 and 14.7 are existing provisions and
proposed changes are shown in redline here******

11.20.9 Reliability Coordinator Charges

11.20.9.1 Responsibility For Reliability Coordinator Charges

- ~~(a) The CAISO shall invoice Scheduling Coordinators and RC Customers for their share of all of the charges that are invoiced by the CAISO as by the Reliability Coordinator.~~

- (ba) Each Scheduling Coordinator, including Scheduling Coordinators that are also RC Customers, shall be obligated to pay the CAISO all of the RC Services Reliability Coordinator Charges it is invoiced by the CAISO in accordance with Section 11.20.9.
- (be) Each Scheduling Coordinator in the CAISO Balancing Authority Area's Scheduling Coordinator's responsibility for RC Services Reliability Coordinator Charges shall be allocated based on the Scheduling Coordinator's NERC/WECC Metered Demand. A Scheduling Coordinator without any NERC/WECC Metered Demand during an allocation period shall be assessed the minimum RC Services Charge set forth in Appendix F, Schedule 7.
- (ce) The CAISO's calculation of collateral requirements and other credit requirements under the CAISO Tariff shall include an adjustment for the Scheduling Coordinator's allocable share of the RC Services Reliability Coordinator Charges, if applicable, except that the Estimated Aggregated Liability calculated for the Scheduling Coordinator shall not include extrapolated amounts for the RC Services Reliability Coordinator Charges under Section 12.1.3.1.1(d).

11.20.9.2 Calculation and Assessment

- (a) The CAISO will provide Scheduling Coordinators with an RC Services Invoice by the first business day of each calendar year for RC Services to be provided during that calendar year, except for the initial year of RC Services which will be invoiced from the RC Services Date determined in accordance with Section 19.2(b)(6) until the end of that calendar year at the same time the CAISO invoices RC Customers for the year following that initial year. Within 5 Business Days after receiving the invoice for Reliability Coordinator Charges, the CAISO shall issue a market notice setting forth the Reliability Coordinator Charge rate for the assessment year, which shall be calculated using the total Reliability Coordinator Charges invoiced to the CAISO divided by the most recent total NERC/WECC Metered Demand determined under Section 11.20.4.
- (b) The CAISO shall calculate the RC Services Reliability Coordinator Charges allocable to each Scheduling Coordinator by using the RC Services Reliability Coordinator Charge rate

for the assessment year determined under Appendix F, Schedule 7~~Section 11.20.9.2(a)~~, multiplied by the most recent NERC/WECC Metered Demand for that Scheduling Coordinator determined under Section 11.20.4. A Scheduling Coordinator without any such NERC/WECC Metered Demand shall be assessed the minimum RC Services Charge set forth in Appendix F, Schedule 7.

~~(c) Within 10 Business Days after receiving the invoice for the Reliability Coordinator Charges, the CAISO shall issue an invoice to each Scheduling Coordinator for its allocable share of the Reliability Coordinator Charges determined under Section 11.20.9.2(b).~~

~~(ce)~~ Scheduling Coordinators shall make timely payment to the CAISO within 215 Business Days of the date the invoices were issued pursuant to Section 11.20.9.2(be).

11.20.9.3 Confirmation

- (a) It is the responsibility of each Scheduling Coordinator to notify the CAISO if the Scheduling Coordinator fails to receive its invoice for RC Services~~Reliability Coordinator~~ Charges in accordance with the schedule in Section 11.20.9.2(ae).
- (b) Each Scheduling Coordinator shall be deemed to have received its invoice for RC Services~~Reliability Coordinator~~ Charges on the date specified in Section 11.20.9.2(ae) unless the Scheduling Coordinator notifies the CAISO to the contrary.

11.20.9.4 Validation

- (a) Each Scheduling Coordinator shall have the opportunity to review the terms of the invoice for RC Services~~Reliability Coordinator~~ Charges and shall be deemed to have validated that invoice unless it raises a dispute within five Business Days of the date of issuance.
- (b) Once validated, an invoice for RC Services~~Reliability Coordinator~~ Charges shall be binding on the Scheduling Coordinator to which it relates.

11.20.9.5 Disputes and Corrections

- (a) Scheduling Coordinators shall be prohibited from disputing any RC Services~~Reliability Coordinator~~ Charges, except on grounds that an error in the invoice is due to a mere typographical or other ministerial error by the CAISO.

- (b) Any dispute of an invoice on the grounds specified in Section 11.20.9.5(a) shall be submitted and processed in accordance with the dispute procedure for RC Services Reliability Coordinator Charges set forth in Section 19.7, the Business Practice Manual,
- (c) If the CAISO determines that an invoice contains a typographical or other ministerial error, and the resolution of the dispute makes correction necessary, the CAISO will issue a corrected invoice within 215 Business Days of the date the initial invoice was issued.
- (d) Each Scheduling Coordinator that receives an invoice for RC Services Reliability Coordinator Charges shall pay any net debit and shall be entitled to receive any net credit specified on a corrected invoice. Payment of any net debit shall be due within 10 business days of the date the corrected invoice was issued.

11.20.9.6 Payment Default

- (a) In the event a Scheduling Coordinator defaults on the payment of all or any portion of the RC Services Reliability Coordinator Charges invoiced under Section 11.20.9.2(d) or 11.20.9.5(d), the CAISO shall have the right under Section 11.29.13.3 to enforce the financial security provided by the defaulting Scheduling Coordinator, and to take any such other action under Sections 11.29.12 or 11.29.13, as necessary, to obtain payment for the default amount.
- (b) To the extent all or any portion of the default amount remains unpaid, the CAISO
 - (1) may at its discretion issue an invoice for the unpaid RC Services Reliability Coordinator Charges; and
 - (2) if such invoice is issued for a payment default, shall allocate responsibility for the unpaid amount to Scheduling Coordinators with NERC/WECC Metered Demand, excluding the CAISO Debtor that has not paid the payment default amount, based on the most recent NERC/WECC Metered Demand for each Scheduling Coordinator determined under Section 11.20.
- (c) Scheduling Coordinators shall make timely payment to the CAISO within 15 Business Days of the date the default invoices were issued pursuant to Section 11.20.9.6(b).

11.20.9.7 Modification to Schedule

Notwithstanding the provisions in Section 11.20.9, the CAISO may issue a Market Notice informing Scheduling Coordinators that the CAISO will implement a temporary modification to the billing and payment schedule for RC Services~~Reliability Coordinator~~ Charges and setting forth the reasons for such modification, in which case the modified schedule described in that Market Notice shall govern.

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14.7 Allocation of Reliability-Related Penalty Costs

14.7.1 Overview of Process

Under the NERC Functional Model and the NERC Rules of Procedure, Registered Entities for a specific function, including the CAISO, may be assessed monetary penalties by FERC, NERC, and/or WECC for violations of one (1) or more NERC Reliability Standards applicable to that function. This Section 14.7 sets forth the procedure through which the CAISO may seek, with FERC approval, to directly allocate, in whole or in part, the cost of any such penalties assessed upon the CAISO to an entity or entities whose conduct or omission(s) NERC, WECC and/or FERC has determined contributed, in whole or in part, to the violation that gave rise to the penalty. This Section 14.7 also sets forth procedures through which the CAISO may seek, with FERC approval, to recover, in whole or in part, from RC Customers and Market Participants the cost associated with a monetary penalty for a NERC Reliability Standards violation(s) that is not subject to direct allocation. Penalties that are assessed upon the CAISO and become final on or after the effective date of this Section 14.7 shall be subject to the procedures set forth herein regardless of the date of the underlying violation(s) for which the penalty is assessed.

14.7.2 Direct Allocation of Reliability Standards Penalties

14.7.2.1 Conditions for Direct Allocation

If FERC, NERC, and/or WECC assess(es) one (1) or more monetary penalties against the CAISO as the Registered Entity for the violation of one or more NERC Reliability Standards, and the conduct or omission(s) of a particular RC Customer, Market Participant, ~~or~~ RC Customers, or Market Participants

contributed, in whole or in part, to the violation(s) at issue, then the CAISO may seek to directly allocate, in whole or in part, such penalty costs to the RC Customer(s) or Market Participant(s) whose conduct or omission(s) contributed to the violation(s), provided that each of the following conditions are met:

- (1) The RC Customer(s) or Market Participant(s) subject to potential direct allocation receive notice of, and an opportunity to fully participate in, the underlying CMEP proceeding before NERC and/or WECC, or the FERC proceeding in the case of an enforcement proceeding directly instituted by FERC without a prior NERC or WECC proceeding;
- (2) The CMEP proceeding, or enforcement proceeding directly instituted by FERC, results in a finding that the conduct or omission(s) of the RC Customer(s) or Market Participant(s) subject to potential direct allocation contributed, either in whole or in part, to the Reliability Standards violation(s) at issue; and
- (3) Any findings by NERC and/or WECC regarding whether the conduct or omission(s) of the RC Customer(s) or Market Participant(s) contributed, either in whole or in part, to the Reliability Standards violation(s) at issue are filed with FERC.

14.7.2.2 Notice to Affected Market Participant

The CAISO will notify the RC Customer(s) or Market Participant(s) it believes contributed to the Reliability Standards violation(s) during the CMEP proceeding or, if applicable, during the enforcement proceeding directly instituted by FERC. This notification shall be in writing and shall: (i) inform the Market Participant(s) that the CAISO intends to invoke the direct allocation provisions of this Section; (ii) detail the underlying factual basis for the CAISO's position; and (iii) inform the Market Participant(s) that it may seek to participate in the CMEP proceeding or, if applicable, the enforcement proceeding directly instituted by FERC.

14.7.2.3 Failure to Participate

A failure by the notified RC Customer(s) or Market Participant(s) to participate in the CMEP proceeding or, if applicable, in the enforcement proceeding directly instituted by FERC, will not prevent the CAISO from directly allocating the cost associated with a monetary penalty to the RC Customer(s) or Market Participant(s) provided all other conditions in Section 14.7.2 are satisfied.

14.7.2.4 Proposed Allocation and FERC Review Process

Where NERC and/or WECC, or FERC as may be applicable in an enforcement proceeding directly instituted by FERC, determines that the conduct or omission(s) of the RC Customer(s) or Market Participant(s) identified by the CAISO contributed, in whole or in part, to the NERC Reliability Standard(s) violation(s) at issue, the CAISO shall inform the involved RC Customer(s) or Market Participant(s) in writing and shall initially propose an allocation of the penalty cost on a basis proportional to the parties' relative fault, consistent with the applicable regulator's analysis. Regardless of whether the involved RC Customer(s) or Market Participant(s) agree or disagree over the allocation, the reasonability of such an allocation shall be determined by FERC through submission of the matter to FERC pursuant to Section 205 of the Federal Power Act.

14.7.2.5 Payment of Allocated Amount

After FERC issues a final order regarding the CAISO's ability to directly allocate the penalty cost, the CAISO shall include any FERC-approved allocated amounts in the invoice for the appropriate RC Customer(s) or Market Participant(s) for the next billing period, or as soon as practicable. The amount to be paid by the RC Customer(s) or Market Participant(s) shall include the allocated portion of the penalty, as established by FERC, together with interest calculated at the FERC authorized refund rate for the period of time, if any, between the CAISO's payment of the penalty and the RC Customer(s) or Market Participant(s) payment of its allocated portion of the penalty.

14.7.3 Indirect Allocation of Penalty Costs

14.7.3.1 Procedure for Allocation

Where the conduct or omission(s) of a particular RC Customer or Market Participant or RC Customers or Market Participants has not been identified by NERC, WECC, or FERC as a contributing cause for a monetary penalty assessed against the CAISO for a NERC Reliability Standards violation, the CAISO may make a filing with FERC under Section 205 of the Federal Power Act seeking approval to recover the cost of such reliability-related penalties from all RC Customers or Market Participants. The CAISO's Section 205 filing may include a proposed methodology for allocating the penalty across the various types of RC Customers or Market Participants.

14.7.3.2 Case-By-Case FERC Review

Any allocation of penalties pursuant to Section 14.7.3 must be determined by FERC on a case-by-case basis. Absent FERC approval, the CAISO will not allocate a penalty under Section 14.7.3 to RC Customers or Market Participants.

14.7.3.3 Payment of Allocated Amount

After FERC issues a final order regarding allocation of the monetary penalty, the CAISO shall include any FERC-approved allocated amounts in the invoices for the appropriate RC Customers or Market Participants for the next billing period, or as soon as practicable.