



**California Choice Energy Authority
Energy Risk Management Policy**

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Energy Risk Management Policy

1.0 General Provisions

1.1 Background and Purpose of Policy

The objective of California Choice Energy Authority (CCEA) and its Members is to provide competitively priced and environmentally responsible energy to consumers, while also providing local economic and workforce benefits. Current CCEA Members include the cities of Lancaster, San Jacinto, Pico Rivera, and Rancho Mirage. Each CCEA Member has implemented and is currently operating a Community Choice Aggregation (CCA) program.

This Energy Risk Management Policy (Policy) has been developed to help ensure that CCEA's Members achieve their CCA-related objectives and adhere to policies established by the CCEA Board of Directors (Board), power supply and related contract commitments, good utility practice, and all applicable laws and regulations.

This Policy defines CCEA's general energy risk management framework and provides CCEA management with the authority to establish processes for monitoring, measuring, reporting, and controlling market and credit risks to which CCEA is exposed in its normal course of business.

1.2 Scope of Business and Related Market Risks

CCEA is a joint powers authority that operates as the procurement, contracting, and operational support services arm of its Members.¹ More specifically, CCEA provides its Members with a turnkey operational support service model, including key functional areas such as, portfolio management and power procurement, rate setting, financial modeling, data manager and call center operations, regulatory compliance, and legislative advocacy. Furthermore, and related to this Policy, CCEA serves as the wholesale market interface for its CCEA Members in order for the Members to provide energy to retail customers in its specific service territory. CCEA's wholesale market related activities include bilateral purchases and sales of electricity under short, medium and long term contracts; scheduling of load and generation of electricity into the California Independent Systems Operator (CAISO) market; retail marketing of electricity to consumers within its service territory (i.e., rate setting and product design); compliance with voluntary power content objectives and regulatory requirements as it relates to California-mandated carbon free and renewable portfolio standard (RPS) targets; participation in CAISO Congestion Revenue Rights (CRRs) market; managing the balance of load and generation over short, medium and long term horizons; and compliance with California Public Utilities Commission (CPUC) Resource Adequacy (RA) requirements.

Examples of energy market risks include, but are not limited to, the following:

- Market Price Risk
- Counter party Credit and Performance Risk
- Load and Generation Volumetric Risk
- Operational Risk

¹ Each Member's City Council is the governing body for that City's CCA program; the governing body sets CCA policy, goals, and objectives (including the approval of retail electric rates) in which CCEA and City staff are responsible for the related implementation activities

- Liquidity Risk
- Regulatory/Legislative Risk

This Policy focuses on the following:

- Risk Management Goals and Principles
- Definitions of Risks
- Internal Control Principles
- Risk Management Business Practices
- Risk Management Governance

This Policy does not address the following types of general business risk: fire, accident and casualty; health, safety, and workers' compensation; general liability; and other such typically insurable perils. The term "risk management," as used herein, is therefore understood to refer solely to market risks as herein defined, and not those other categories of risk.

1.3 Policy Administration

This version of the Energy Risk Management Policy adopted by the Board the 22nd day of January, 2019, will be reviewed and updated as needed every two calendar years by the Board. This Policy may be amended as needed by the Board.

1.4 Policy Distribution

This Policy shall be distributed to all CCEA Members, including Member employees and third-party contractors who are engaged in the planning, procurement, sale, and scheduling of electricity on behalf of CCEA and its Members.

2.0 Risk Management Goals

The goals of energy risk management shall be to:

1. Assist in achieving its business objectives and reserve policies including retail rate stability and competitiveness and the accumulation of financial reserves;
2. avoid losses and excessive costs which would materially impact the financial condition of CCEA and its Members;
3. establish the parameters for energy procurement and sales activity to obtain the best possible price while ensuring compliance with Board-approved risk limits;
4. assist in assuring that market activities and transactions are undertaken in compliance with established procurement authorities, applicable laws, regulations and orders; and
5. encourage the development and maintenance of a corporate culture at CCEA in which the proper balance is struck between control and facilitation and in which professionalism, discipline, technical skills and analytical rigor come together to achieve CCEA objectives.

3.0 Risk Management Principles

CCEA manages its energy resources and transactions for the purpose of providing its Members with low cost energy products (including renewable and carbon free energy and capacity) while at the same time minimizing risks. Undue exposure to CAISO or bilateral energy market volatility for the purpose of potentially achieving lower costs but at the risk that costs may, in fact, be much higher, will not be accepted approach. Procurement and hedging strategy will be determined by analytical methods

supplemented by experienced judgement. CCEA will use that experienced judgement and its analytical tools to assess system cost drivers such as weather, short term energy prices, load variation and operational constraints to manage timing and quantity of purchases and sales of energy and related services, consistent with the limits identified in this Policy. When actions are taken that are consistent with this Policy and for the purpose of the combined goal of low costs and optimized risk, those actions are considered to be consistent with the objectives of this Policy. CCEA will not engage in transactions, without proper authorization, whose purpose is not tied to managing costs and risks or are outside of the limits identified in this Policy.

4.0 Definitions of Market Risks

The term “market risks,” as used here, refers specifically to those categories of risk which relate to CCEA’s participation in wholesale and retail markets on behalf of its Load Serving Entity (LSE) Members and its interests in long-term contracts. Market risks include market price risk, counterparty credit and performance risk, load and generation volumetric risk, operational risk, liquidity risk, and regulatory and legislative risk. These categories are defined and explained as follows.

4.1 Market Price Risk

Market Price risk is the risk that power supply costs increase or that wholesale trading positions, long-term supply contracts and generation resources may move “out of the money,” that is, become less valuable in comparison with similar positions, contracts or resources obtainable at present prices. These same positions can also be “in the money” if they become more valuable in comparison to similar positions, contracts or resources obtainable at present market prices. This valuation methodology is commonly referred to as “Mark to Market.” If CCEA faces higher immediate power supply costs or is “out of the money” on a substantial portion of its contracts, then its Members could experience weaker than expected financial performance that could trigger the adoption of higher retail rates relative to competing alternative suppliers. This may erode the CCEA Member’s competitive position and market share if other market participants (e.g., Direct Access providers or Southern California Edison) are able to procure power at a lower cost and offer lower retail electricity rates.

A subcomponent of market price risk is market liquidity. Illiquid markets make it more difficult to buy or sell a commodity and can result in higher premiums on purchases or deeper discounts on sales.

Another dimension of market price risk is congestion risk. Congestion risks arise from the difference between the prices paid to the CAISO to schedule its load and the prices received from the CAISO for energy delivered by suppliers.

4.2 Counterparty Credit and Performance Risk

Performance and credit risk refer to the inability or unwillingness of a counterparty to perform according to its contractual obligations or extend credit. Failure to perform may arise if an energy supplier fails to deliver energy as agreed. There are four general performance and credit risk scenarios:

1. Counterparties and wholesale suppliers may fail to deliver energy or environmental attributes, requiring CCEA to purchase replacement product elsewhere, possibly at a higher cost;
2. counterparties may fail to take delivery of energy or environmental attributes sold to them, necessitating a quick resale of the product elsewhere, possibly at a lower price;
3. counterparties may fail to pay for energy or environmental attributes delivered; and

4. counterparties and suppliers may refuse to extend credit to CCEA and/or its members, possibly resulting in higher collateral posting costs impacting cash flow and any bank lines of credit.

An important subcategory of credit risk is concentration risk. When a portfolio of positions and resources is concentrated in one or a very few counterparties, sources, or locations, it becomes more likely that major losses will be sustained in the event of non-performance by a counterparty or supplier or as a result of price fluctuations at one location.

4.3 Load and Generation Volumetric Risk

Energy deliveries must be planned for based upon forecasted load adjusted for distribution line losses. CCEA forecasts its Members load requirements over the long and short term and enters into long and short-term fixed price energy contracts to hedge its load.

Load forecasting risks arise from inaccurate load forecasts and can result in the over or under procurement of energy and/or revenues that deviate from approved budgets. Energy delivery risk occurs if a generator fails to deliver expected or forecast energy. Variations in wind speed and cloud cover can also impact the amount of electricity generated by solar and wind resources, and occasional oversupply of power on the grid can lead to curtailment of energy deliveries or reduce revenue as a result of low or negative prices at energy delivery points. Weather is an important variable that can result in higher or lower electricity usage due to heating and cooling needs.

In the CAISO markets, forecasting variances can result in both over supply and undersupply of electricity relative to CCEA members' load and the over or under scheduling of generation or load into the day ahead market relative to actual energy consumed or delivered in the real time market. Load and generation volumetric risk may result in unanticipated open positions and imbalance energy costs. Imbalance energy costs result from differences in the price and/or volume of generation or load scheduled into the day ahead market when compared to the price and/or volume of generation or load in the real time market during.

4.4 Operational Risk

Operational risk consists of the potential for failure to act effectively to plan, execute and control business activities. Operational risk includes the potential for:

1. Organizational structure that is ineffective in addressing risk, i.e., the lack of sufficient authority to make and execute decisions, inadequate supervision, ineffective internal checks and balances, incomplete, inaccurate and untimely forecasts or reporting, failure to separate incompatible functions, etc.;
2. absence, shortage or loss of key personnel or lack of cross functional training;
3. lack or failure of facilities, equipment, systems and tools such as computers, software, communications links and data services;
4. exposure to litigation or sanctions resulting from violating laws and regulations, not meeting contractual obligations, failure to address legal issues and/or receive competent legal advice, not drafting and analyzing contracts effectively, etc.; and
5. errors or omissions in the conduct of business, including failure to execute transactions, violation of guidelines and directives, etc.

4.5 Liquidity Risk

Liquidity Risk is the risk that CCEA or its Members will be unable to meet its financial obligations. This can be caused by unexpected financial events and/or inaccurate pro forma calculations, rate analysis, and debt analysis. Some unexpected financial events impacting liquidity could include:

1. Incurrence of unexpected costs due to risk factors described herein;
2. failure of billing agent to properly or timely collect and remit customer payments;
3. breach of CCEA member credit covenants or thresholds; CCEAs' members may have credit covenants included in short-term energy contracts. Breach of credit covenants or thresholds could trigger the requirement to post collateral; and
4. from time to time CCEA and/or its members may be the subject of legal or other claims arising from the normal course of business. Payment of a claim by CCEA's members could reduce their liquidity if the cause of loss is not covered by the CCEA members' insurance policies.

4.6 Regulatory/Legislative Risk

Regulatory risk encompasses market structure and operational risks associated with shifting state and federal regulatory policies, rules, and regulations that could negatively impact CCEA Members. An example is the potential increase of exit fees for customers served by CCA's such as CCEA Members that could potentially result in higher electricity rates for their customers.

Legislative risk is associated with actions by federal and state legislative bodies, such as any adverse changes or requirements that may infringe on CCEA Members' autonomy, increase its costs, or otherwise negatively impact its members' ability to fulfill its mission.

5.0 Internal Control Principles

Internal controls shall be based on proven principles that meet or exceed the requirements of financial institutions and credit rating agencies and good utility practice. The required controls shall include all customary and usual business practices designed to prevent errors and improprieties, ensure accurate and timely reporting of results of operations and information pertinent to management, and facilitate attainment of business objectives. These controls are currently and shall remain fully integrated into all activities of the business and shall be consistent with stated objectives. There shall be active participation by senior management in risk management processes.

The required controls include the following:

1. Segregation of duties and functions between front, middle, and back office activities. Generally:
 - front office is responsible for planning (e.g. resource planning) and procurement (e.g. solicitation management, contract negotiation, structuring and pricing, contract execution) and contract management and compliance;
 - middle office is responsible for controls and reporting (e.g., risk monitoring, risk measurement, risk reporting, procurement compliance, counterparty credit review, approval and monitoring); and
 - back office is responsible for settlements and processing (e.g., verification, validation, reconciliation and analysis of transactions, tracking, processing, and settlements of transactions).

2. Delegation of authority that is commensurate with responsibility and capability, and relevant training to ensure adequate knowledge to operate in and comply with rules associated with the markets in which they transact (e.g., CAISO). Contract origination, commercial approval, legal review, invoice validation, and transaction auditing shall be performed by separate staff or contractor for any single transaction. No single staff member shall perform all these functions on any transaction.
3. Defining authorized products and transactions. Generally:
 - Authorized transactions are those transactions directly related to the procurement and/or administration of electric energy, reserve capacity, transmission and distribution service, ancillary services, congestion revenue rights (CRRs), renewable energy, renewable energy credits, scheduling activities, tolling agreements, and bilateral purchases of energy products. All transactions must be consistent with this Policy.
 - Prohibited transactions are those transactions that are not related to serving retail electric load and/or reducing financial exposure. Speculative buying and selling of energy products are prohibited. Speculation is defined as buying energy in excess of forecasted load plus reasonable planning reserves, intentional under-buying of energy relative to reasonable planning thresholds, or selling energy or environmental attributes that are not yet owned by CCEA's members. In no event shall speculative transactions be permitted. Any financial derivatives transaction including, but not limited to futures, swaps, options, and swaptions are also prohibited.
4. Defining procurement authority as set forth in CCEA's Board and Member Resolutions and Administrative Services Agreements on delegating energy procurement authorities.
5. Defining proper process for executing power supply contracts. Generally, CCEA will ensure power supply contracts are approved by personnel covering the areas of Procurement/Commercial, Technical, and Credit/Financial prior to execution. Legal review will be required of various forms of agreement.
6. Complete and precise capture of transaction and other data, with standardization of electronic and hard copy documentation.
7. Meaningful summarization and accurate reporting of transactions and other activity at regular intervals.
8. Timely and accurate risk and performance measurement at regular intervals.
9. Regular compliance review to ensure that this Policy and related risk management guidelines are adhered to.
10. Active participation by senior management in risk management processes.

6.0 Risk Management Business Practices

6.1 Risk Measurement Metrics and Reporting

A vital element of this Policy is the regular identification, measurement and communication of risk. To effectively communicate risk, all risk management activities must be monitored on a frequent basis using risk measurement methodologies that quantify the risks associated with CCEA's procurement-related business activities and performance relative to goals.

CCEA measures and updates its risks using a variety of tools that model programmatic financial projections, market exposure and risk metrics, as well as through short term budget updates. The following items are measured, monitored, and reported:

1. **Mark-to-Market Valuation** – marking to market is the process of determining the current value of contracted supply. A mark-to-market valuation shall be performed at least on a quarterly basis.
2. **Exposure Reporting** – calculates the notional dollar risk exposure of open portfolio positions at current market prices. The exposure risk calculation shall be performed at least on a quarterly basis.
3. **Open Position Monitoring** – on a quarterly basis, CCEA shall calculate/monitor its Member's open positions for all energy and capacity products.

Consistent with the above, the Middle Office will develop reports and provide feedback to the senior management of CCEA and CCEA's Members on a periodic basis.

Risk measurement methodologies shall be re-evaluated on a periodic basis to ensure CCEA adjusts its methods to reflect the evolving competitive landscape.

6.2 Market Price Risk

CCEA manages market price risk using its Members' Planning Model which defines forecasted load, energy under contract and open positions in various energy product types including renewable energy, carbon free energy, and system energy.

CCEA determines the quantity of energy it will contract for in each year using its Planning Model. The Planning Model includes an outline of the delivery term and quantity of energy by product type for which CCEA will seek to contract in the upcoming year.

In general, CCEA will seek to sequence its purchases of long-term renewable energy in each year in order to diversify exposure to market conditions and reduce the risk of concentrating purchases in any one year.

For products generally purchased through short and medium-term contracts CCEA follows a similar strategy of diversifying contracting over the delivery horizon.

As predominantly a net buyer, CCEA manages its market liquidity risk through purchasing at different intervals as described in the Planning Model and transacting with a diverse set of counterparties.

Congestion risk is managed through the contracting process with a preference for day ahead scheduling and energy delivery at the point of energy delivery and through resource assessment and selection. Once energy is procured CCEA manages congestion risks through the prudent management of Congestion Revenue Rights (CRRs) consistent with its Congestions Revenue Rights Risk Management Guidelines. CRRs are financial instruments used to hedge against transmission congestion costs encountered in the CAISO day-ahead market. CCEA uses a third-party scheduling coordinator to manage its CRR portfolio in order to reduce exposure to congestion and to provide an offset to other CAISO non-energy charges.

6.3 Counter Party Credit and Performance Risk

CCEA evaluates and monitors the financial strength of service and energy providers. Generally, CCEA manages its exposure to energy suppliers through a preference for counter parties with Investment Grade Credit ratings as determined by Moody's or Standard and Poor's and through the use of security requirements in the form of cash, letters of credit, and parental guarantees. CCEA measures its mark-to-market counter party credit exposure consistent with industry best practices.

6.4 Load and Generation Volumetric Risk

CCEA manages energy delivery risks by ensuring that contracts include appropriate contractual penalties for non-delivery, acquiring energy from a geographically and technologically diverse portfolio of generating assets with a range of generation profiles. In order to ensure energy product targets are achieved, CCEA uses 80 to 100 percent of the generator's average annual expected energy for certain variable or as available resources for operating year load and resource planning.

CCEA manages load forecasting and related weather risks by contracting with a qualified scheduling coordinator who together provide the systems and data necessary to forecast and schedule load using good utility practice.

6.5 Operational Risk

Operational risks are managed through:

- Adherence to this Policy and oversight of procurement activity;
- Conformity to Human Resources Policies and Guidelines;
- Staff resources, expertise and/or training reinforcing a culture of compliance;
- Ongoing and timely internal and external audits; and
- Cross-training amongst staff

6.6 Liquidity Risk

CCEA manages liquidity risk through limiting commitments to provide security, ensuring it has adequate cash flows, and prudent investment management. CCEA monitors its liquidity (defined as unrestricted cash, investments and any credit) on a regular basis. CCEA utilizes scenario and sensitivity analyses while preparing budget, rate, and pro forma analyses in order to identify potential financial outcomes and ensure sufficient liquidity under adverse conditions.

6.7 Regulatory/Legislative Risk

CCEA manages its regulatory and legislative risk through active participation in working groups and advocacy coalitions such as the California Community Choice Association. CCEA regularly participates in regulatory rulemaking proceedings and legislative affairs to protect CCEA Members' interests.

7.0 Risk Management Policy Governance

7.1 CCEA Board of Directors

The Board or its delegated subcommittee is responsible for adopting this Policy and reviewing it as needed every two calendar years. The Board also approves CCEA's annual budget, contracting authorities and delegates responsibilities for the management of CCEA's operations to its Executive Director and Staff.

7.2 Risk Oversight Committee (ROC)

The Board shall also function as the ROC, which is responsible for the approval of substantive changes to this Policy as needed and/or every two calendar years, and for initiating and overseeing a review of the implementation of this Policy as it deems necessary. The Executive Director shall make reports and seek approval for any substantive changes to this Policy from the ROC. The ROC shall have direct responsibility for enforcing compliance with this Policy. Any gross violations to this Policy, as determined by the Executive Director, shall be reported to the ROC for appropriate action.