



Central Coast
**Community
Energy**

Energy Risk Management Policy (ERMP)

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SECTION 1: ERMP OVERVIEW

1.1 Background and Purpose

Central Coast Community Energy (3CE), formerly Monterey Bay Community Power Authority, is a public Joint Powers Authority (JPA) located within the geographic boundaries of Monterey, Santa Cruz, San Benito, San Luis Obispo and Santa Barbara Counties. Member agencies of 3CE include the Counties of Monterey, San Luis Obispo, Santa Cruz, San Benito, and Santa Barbara, as well as certain incorporated cities located within the member counties¹.

3CE members elected to implement and administer a community choice aggregation (“CCA”) program. The CCA program provides its members an opportunity to procure electricity supplies and implement local programs that meet the goals of the local communities. Electricity procured to serve customers will continue to be delivered over the Investor-Owned Utilities’ (PG&E & SCE) transmission and distribution systems.

3CE exists to serve its local government members, and the residences and businesses located within their respective communities. 3CE’s specific objectives are to lower greenhouse gas (GHG) emissions by reliably supplying its customers with electricity sourced from clean and renewable generation resources at competitive rates along with innovative electrification programs. 3CE also functions to stimulate the local economy and give its member agencies greater choice in the energy procured for their residents.

Providing retail electric generation service to customers enrolled in the CCA program exposes 3CE, and ultimately the customers it serves, to various significant but manageable risks. The intent of this Energy Risk Management Policy (ERMP) is to provide 3CE, and by extension its customers, with a framework to identify, monitor and manage risks associated with procuring power supplies and operating in wholesale energy markets.

This Energy Risk Management Policy, including its appendices, establishes 3CE’s Energy Risk Management Program.

1.2 Scope

Unless otherwise explicitly stated in this ERMP or other policies approved by the appropriate 3CE Board, this ERMP applies to all power procurement and related business activities that may impact the risk profile of 3CE. This ERMP documents the framework by which 3CE staff and consultants will:

- Identify, quantify and manage risk
- Develop and execute procurement strategies

¹ Presently, all cities within the five County footprint are 3CE members, with the exception of King City, Lompoc, and the City of Santa Barbara. 3CE will begin serving customers in Atascadero and the unincorporated portions of San Luis Obispo County in January 2025.

- Develop a framework of controls and oversight
- Monitor, measure, and report on the effectiveness of the ERMP

To ensure its successful operation, 3CE may partner with experienced consultants to provide power supply services when appropriate. Specific to power procurement, 3CE has partnered with two third-party Scheduling Coordinators that augment 3CE's internal Front (scheduling), Middle (monitoring) and Back (settlement) Offices related activities as discussed at Section 3.3. The Scheduling Coordinators, as well as all other consultants supporting 3CE's power procurement activities, will adhere to and be governed by this ERMP in providing these services to 3CE. In addition, Scheduling Coordinators' and other consultants' activities executed on 3CE's behalf will be governed by their own internal risk management policies and procedures, and prudent industry practices.

1.3 Energy Risk Management Objective

The objective of this ERMP is to provide a framework for conducting procurement activities that will facilitate risk management in an effort to meet 3CE's goals as listed in Section 2.1.

Pursuant to this ERMP, 3CE will identify and measure the magnitude of the risks to which it is exposed and take the necessary steps to manage and reduce those risks to acceptable levels.

1.4 Policy Administration

This ERMP shall be reviewed and approved at least annually by the 3CE Operations Board of Directors (Board). The Risk Management Committee (RMC) and Operations Board must approve amendments to the ERMP, except for the appendices, which may be amended with approval of only the RMC. The RMC must give timely notice to the Board of any amendment it makes to an appendix or a reference policy or procedure document.

SECTION 2: GOALS AND RISK EXPOSURES

2.1 ERMP Goals

3CE operates in dynamic, volatile environments and markets. Prices for energy and its underlying drivers, such as natural gas, are susceptible to unpredictable and sometimes significant changes in short intervals. Regulatory and legislative actions can structurally change markets, market price levels, and procurement requirements. Low liquidity and financial dislocations may lead to counterparty distress. 3CE's Energy Risk Management Policy (ERMP) is designed to address these challenges. Its overarching goals are the following:

- Preserving the financial health and stability of 3CE
- Providing rate stability
- Ensuring the long-term viability of 3CE

In furtherance of these goals 3CE strives to:

- Maintain a credit rating of A- or equivalent, as defined by S&P Global Ratings or an equivalent ratings agency
- Limit power supply cost variance to the annual budget to 10%, barring extraordinary circumstances
- Fund its Rate Stabilization Fund at levels that buffer customers from rate shock and maintain a competitive market position
- The ERMP is a strategic document, not a prescriptive manual. The metrics, limits, and products used to measure and manage risk must continuously evolve to reflect industry best practices and ensure relevance and alignment with 3CE's goals. 3CE staff is responsible for designing and executing specific plans, metrics, limits, hedging plans, and processes in accordance with the ERMP. 3CE staff will report regularly to the Risk Management Committee (RMC)

3CE aims to achieve these goals by managing the key risks identified in the Risk Catalog in Section 2.2 below. The goals will be incorporated into the specific limits and metrics used to govern hedging activities and long-term procurement. It is important to note these goals are not intended to be a comprehensive list of 3CE's goals.

To ensure 3CE is implementing best practices for an energy supplier of its size and scope, 3CE will perform an internal risk audit on a selected process or policy annually. Significant findings will trigger an external audit. Notwithstanding, external audits will occur every five years. Audit results will be presented to the RMC.

2.2 Risk Catalog

This Energy Risk Management Policy addresses the following key risks:

- a) Customer Opt-Out risk
- b) Market risk

- c) Liquidity risk
- d) Regulatory risk
- e) Volumetric risk
- f) Model risk
- g) Operational risk
- h) Counterparty & Generalized Credit risk

2.2.1 Customer Opt-Out Risk

Customer opt-out risk includes any condition or event that creates the potential for significant reductions in the CCA's customer base, leading to the potential of higher retail rates, uncompetitive position, and further loss of customer base. Customer opt-out risk remains a primary risk for the CCA industry. Opt-out risk is managed through:

- Charging competitive retail generation rates, offering innovative energy programs to facilitate electrification, and reducing greenhouse gas (GHG) emissions
- Engaging in ethical, transparent and honest business practices
- Maintaining financial strength, including an adequate Rate Stability Reserves Fund

2.2.2 Market Risk

Market (energy price) volatility risk is the risk of losses due to the movements in power market prices, interest rates, and credit market prices. Power market price risk includes the risk of adverse price movements in energy, capacity, power basis, renewable attributes, and underlying drivers such as natural gas market prices. Interest rate and credit market price risks are considered when evaluating financing structures associated with long-term hedges or contracts.

3CE will manage market risk through the following:

- Regular measurement, including forward-looking stress tests based on multiple factors and Value-at-Risk (VaR) over multiple time horizons
- Execution of approved procurement
- Hedging and Congestion Revenue Rights strategies

Use of the Limit Structure is set forth in Section 5, below.

2.2.3 Liquidity Risk

Liquidity risk is the risk that 3CE will not be able to meet its short-term cash or financial obligations as they come due. This could occur if 3CE is unable to convert its assets into cash quickly enough to cover its immediate liabilities, or if it cannot secure financing at reasonable terms.

3CE will manage liquidity risk by maintaining sufficient cash reserves, having access to credit facilities, and implementing robust cash flow forecasting and monitoring processes to ensure it can meet its financial obligations and continue operations without disruption.

2.2.4 Regulatory and Legislative Risk

3CE and other CCAs are subject to an evolving legal and regulatory landscape. Additionally, CCAs are in direct competition with California's IOUs in supplying retail electricity, and the IOUs face the risk of stranded investments in generating assets and power purchase agreements procured in the past to serve now departing CCA loads. The way such stranded costs of these legacy power supplies are allocated to departing CCA loads is subject to change based on various proceedings at the California Public Utilities Commission (CPUC). The outcome of such proceedings will directly affect the cost of power for 3CE's customers, as well as impact the rate competitiveness of 3CE.

In addition to IOU-imposed surcharges, potential regulatory and/or legislative changes could affect the following:

- 3CE's ability to exercise local control over the manner and means of procuring power supplies to serve its customers
- Market prices
- Procurement requirements
- Cash flows

3CE will manage regulatory and legislative risks by the following activities:

- Regularly monitoring and analyzing legislative and regulatory proceedings impacting CCAs
- Actively participating in, and advocating for, the interests of 3CE and its customers during regulatory and legislative proceedings

2.2.5 Volumetric Risk

Volumetric risk is the uncertainty in quantity of load served by 3CE. This leads to uncertainty in the amounts of both energy and renewable energy that 3CE must procure for its customers. Volumetric risk may be driven by factors such as attrition, weather, and behind-the-meter generation. Customer opt-out risk is explicitly modeled under this policy. Weather is the biggest short-term driver of volumetric risk. 3CE will develop load distributions that account for a wide range of weather outcomes and size positions accordingly. 3CE may set limits on open positions by tenor, as appropriate, to reduce volumetric risk.

2.2.6 Model Risk

Model risk is variance from modeled or forecasted outcomes due to fundamental deficiencies in models and/or information systems. 3CE will manage model risk by the following means:

- Validating all models on an ongoing basis for robustness, updating and/or enhancing models as needed
- Continually reviewing all model outputs
- Collaborating regularly with vendors, and exchanging information and best practices with peers bilaterally or in trainings and conferences
- Requiring all procurement transactions be recorded in a single trade capture system when that system is available

2.2.7 Operational Risk

Operational risk is variance in financial performance due to weaknesses or failures in the quality, scope, content, and/or execution of hedging, procurement, and risk management functions. Operational risk also incorporates fraudulent actions by employees or third parties, particularly due to inadequate or ineffective controls. 3CE manages operational risk through a variety of methods:

- Timely and effective reporting to the Chief Executive Officer (CEO) and the RMC
- Segregation of functions
- Layered oversight
- Implementation of a compliance training program for all 3CE staff
- Ongoing 3CE and consultant staff education/training and participation in industry forums
- Annual internal audits to test compliance with the ERMP

2.2.8 Counterparty & Generalized Credit Risk

Counterparty risk is the risk that a counterparty will fail to perform or adequately remedy its obligations in accordance with contractual and transactional terms. Generalized credit risk is the risk of a generalized reduction in credit to a sector, a set of counterparties, or a specific counterparty that results in an increase in counterparty risk. 3CE will monitor counterparty risk based on a variety of metrics and analyses, including but not limited to an in-depth review of counterparty financials when not rated by a credit rating agency, exposure by credit rating, exposure by tenor and product type.

SECTION 3: ORGANIZATIONAL STRUCTURE AND RESPONSIBILITIES

3.1 Risk Management Organizational Structure

3CE risk management is organizationally structured to ensure effective segregation of duties and multiple layers of oversight using a waterfall approach. Risk approval limits are contained in Section 9, the Risk Management Delegation of Financial Authority (DOFA).

The 3CE Operations Board of Directors (Operations Board) is responsible for approving this ERMP. It reviews and approves this policy and approves risk exposures above those delegated to the Chief Executive Officer (CEO) or Risk Management Committee (RMC) in the DOFA.

The RMC is responsible for overseeing strategic compliance with this policy and approving risk exposures above those delegated to the CEO.

The Front Office is responsible for the energy short-term trading function and long-term negotiations of power supply contracts, mindful of ERMP limits.

The Middle Office is responsible for ensuring compliance with this ERMP and monthly reporting of risk exposure to the RMC. This segregates the monitoring and trading functions, ensures adherence to risk limits and provides an important check and balance.

The Back Office is responsible for processing payments, ensuring adherence to contract terms and providing appropriate reporting to regulatory agencies.

3.2 Risk Management Committee

The CEO shall establish the RMC, set the agenda, and serve as its Chair. The RMC consists of the following voting members:

- Chief Executive Officer
- Up to five (5) members of 3CE's Policy and/or Operations Board of Directors, selected by the CEO
- Chief Financial Officer
- Chief Operating Officer
- Chief Communications Officer

The RMC is responsible for overseeing strategic compliance with this ERMP and approving major risk exposures above those delegated to the CEO. This includes ensuring procurements and hedging are consistent with 3CE's strategic goals.

Specifically, the RMC maintains the authority and responsibility to:

- Ensure that procurements are consistent with this ERMP and hedging plans based on 3CE's

financial objectives and situation

- Approve procurements and risk exposures above those delegated to the CEO and up to the limits specified in the DOFA, based on the strategic goals of this ERMP and 3CE's financial situation
- Understand and approve the limits, metrics, and product types necessary to ensure compliance with this ERMP
- Review risk management reports as described in this ERMP
- Review actual and projected risks and financial outcomes and review summaries of violations of this ERMP
- Refer to the Operations Board those exposures and risks above those delegated to the RMC in the DOFA

3.3 Segregation of Duties

3CE shall maintain a segregation of duties, also referred to as "separation of function," to help manage and control the risks outlined in this ERMP. Individuals responsible for legally binding 3CE to a transaction will also not perform confirmation or settlement functions without supplemental, transparent, and auditable controls. 3CE will leverage the organizational structure of the Scheduling Coordinator's Middle and Back offices to help maintain a segregation of duties. The Front, Middle and Back Office responsibilities for 3CE are described below.

3.3.1 Front Office

The Front Office is headed by the Director of Power Supply Resources. The Front Office is responsible for the procurement and hedging activities necessary to manage 3CE's wholesale power market positions and obligations. Specific responsibilities include:

- Developing long-term procurement strategies to reliably meet 3CE's load-serving obligation using a least-cost best-fit approach
- Developing annual, quarterly, and monthly hedge plans to prudently meet 3CE's load-serving obligation using a mix of market transactions and 3CE's power assets
- Optimizing 3CE's load-supply balance and asset management strategies to prudently maximize value for 3CE customers while adhering to all risk management processes and limits
- Overseeing and directing scheduling of load and resources into the CAISO
- Developing and using fundamental and probabilistic analysis – such as power market supply-demand balances and transmission outages – to guide optimization, procurement, and hedging decisions
- Accurately recording all transactions in the System of Record
- Accurately tracking open forward positions and hedge performance across tenors for all power products (energy, renewable energy, carbon-free energy and resource adequacy capacity)
- Maintaining forward prices for all illiquid power products (renewable energy credits, carbon-free energy and resource adequacy capacity) in the System of Record
- Executing transactions and negotiating or amending contracts as needed to meet the above

goals in accordance with the limits set out in the DOFA. Restructuring previously approved transactions and contracts as needed in accordance with the DOFA limitations

- Managing and facilitating the transaction execution process for power supply transactions through coordination of the following activities:
 - a. Notifying Front Office personnel of any anticipated unique physical delivery or scheduling issues
 - b. Working with Middle Office personnel and legal counsel to establish a contract, evaluate counterparty creditworthiness and secure additional credit from the counterparty, if necessary
 - c. Working with Middle Office, as needed, to perform an analysis of the potential transaction to evaluate the effects on 3CE's portfolio risks
 - d. Notifying Back Office of terms and conditions affecting settlement to ensure that the necessary settlement procedures are in place

3.3.2 Middle Office

The Middle Office functions are the responsibility of the Chief Financial Officer. The Middle Office is responsible for implementing, administering, and monitoring compliance with this ERMP. Specific responsibilities include:

- Developing market and transaction analytics that inform risk analyses of 3CE's hedging and procurement activities, providing Front Office with independent views as needed
- Developing metrics and risk management processes for the risks identified in the Risk Catalog in this ERMP
- Designing and setting hedging and procurement limits, including but not limited to product types, tenors, delivery points, counterparties, and markets
- Monitoring risk exposures and policy compliance on an ongoing basis, with monthly reporting to the RMC
- Validating all positions, prices, and forecasts in the System of Record
- Developing limits with exchanges, brokers, and trading venues
- Analyzing risk of the hedging and procurement plans developed by the Front Office
- Assisting consultants in developing and maintaining demand forecasts
- Developing internal estimates of forward prices used in valuation, pricing and monitoring where credible liquid data is not available
- Assisting in expert valuation of all 3CE positions and contracts
- Supporting settlement validation, as necessary
- Reporting limit violations to the RMC
- Validating the net forward power positions of 3CE
- Assist Back Office in calculating Counterparty Credit Exposure

3.3.3 Back Office

The Back Office is responsible for the administrative activities necessary to execute and settle transactions and contracts and to support the Middle Office where necessary to monitor compliance with this ERMP.

Specific responsibilities include:

- Confirming all transaction details (physical and financial) and reconciling differences with the trading counterparties
- Reviewing transaction confirmations for adherence to approved limits
- Validating trade entry and flow through the System of Record
- Validating and reconciling physical and financial transaction flows
- Settling trades and calculating revenues and profit & loss
- Providing settlement, credit, and other data as needed to the Middle Office and Finance to support monitoring of risk exposures and budget processes
- Validating and promptly paying of energy related invoices payable by 3CE and resolving disputes with counterparties
- Generating and promptly collecting energy related invoices payable by counterparties

SECTION 4: BUSINESS PRACTICES

4.1 General Conduct

All personnel, including Members of the Operation and Policy Board of Directors, staff, and agents, (collectively referred to “3CE Representatives”) adhere to standards of integrity, ethics, conflicts of interest, compliance with statutory law and regulations and with applicable 3CE standards of personal conduct while employed by, contracted by, or affiliated with 3CE.

4.2 Hedging & Trading Activities; Prohibition on Speculation

3CE contracts and trades in energy markets to hedge positions, reduce risk, and, in compliance with this ERMP, prudently optimize the value of its portfolio of assets and market positions. Speculative trading is explicitly prohibited under this ERMP. Examples of speculative trading include trading a commodity for which 3CE does not have an underlying position or risk, trading a product based solely on personal judgement about future market direction, taking positions in volumes that deviate significantly from 3CE’s underlying need, etc. Should a question arise about speculative trading activities, 3CE’s Middle Office will make an initial finding based on an analysis of the situation and present a written report to the RMC. The RMC will make a final determination based on the situation.

4.3 Trading for Personal Accounts

All 3CE staff and agents are prohibited from trading the power and environmental products traded by 3CE for personal accounts.

4.4 Conflict of Interest

3CE staff are expected to meet the highest standards for ethical conduct, beyond just the specific matters discussed in this section.

3CE staff responsible for negotiating, reviewing, and/or approving hedging activities and procurements are obligated to provide written notice to 3CE of any real or potential conflict of interest in the matter. An example of such a conflict of interest may be negotiating with a counterparty while seeking employment for oneself or a relative with that counterparty.

3CE staff are prohibited from trading on information gained during hedging and procurement activities. An example of such an activity would be a 3CE employee directly or indirectly purchasing stock in a developer prior to the announcement of 3CE awarding that developer a significant contract. Purchases of pooled vehicles such as broadly diversified mutual funds and ETFs are exempted from this ERMP.

3CE Front Office staff are expected to seek best execution and least-cost best-fit product attributes from counterparties and intermediaries. Steering trades and contracts to counterparties based on potential financial gain or personal relationships is prohibited.

Additionally, Conflicts of Interest shall be identified and defined as set forth in the 3CE Conflict of Interest Code, as amended from time to time by the Policy Board, which incorporates the Political Reform Act requirements for all employees advising 3CE.

If there is any doubt as to whether a prohibited condition exists, then it is the Representative's responsibility to discuss the possible prohibited condition with 3CE General Counsel. Employees may seek an advisory position from the California Fair Political Practices Commission.

4.5 Adherence to Statutory Requirements

Compliance is required with rules promulgated by the state of California, California Public Utilities Commission (CPUC), California Energy Commission (CEC), Federal Energy Regulatory Commission (FERC), Commodity Futures Trading Commission (CFTC), and other regulatory agencies.

Congress, the FERC and the CFTC have enacted laws, regulations and rules that prohibit, among other things, any action or course of conduct that actually or potentially operates as a fraud or deceit upon any person in connection with the purchase or sale of electric energy or transmission services. These laws also prohibit any person or entity from making any untrue statement of fact or omitting to state a material fact where the omission would make a statement misleading. Violation of these laws can lead to both civil and criminal actions against the individual involved, as well as 3CE. This ERMP is intended to comply with these laws, regulations, and rules and to avoid improper conduct on the part of anyone employed by 3CE. These procedures may be modified from time to time due to legal requirements, auditor recommendations, RMC requests and other considerations.

In the event of an investigation or inquiry by a regulatory agency, 3CE may provide legal counsel to employees. However, 3CE, with the consent of the Operations Board, will not appoint legal counsel to an employee if 3CE determines that representation of the employee will create an actual conflict between the employee and 3CE, or that the employee was not acting in good faith within the scope of employment.

4.6 Authorized Products, Markets & Terms

Transactions are conducted bilaterally, using standard contracts such as the Edison Electric Institute's Master Power Purchase & Sale Agreement (EEI) or Western Systems Power Pool's Agreement (WSPP), or through exchanges such as the InterContinental Exchange (ICE). 3CE's CEO or their designee must authorize all transactions.

New products, tenors, markets, delivery points, and transaction types can be authorized by the RMC. When seeking such approval, a New Product Approval Form, as shown in Appendix C, should be drafted describing all significant elements of the proposed product. This should include, at a minimum:

- A description of the benefit to 3CE, such as decreasing costs, managing volatility etc.
- The role of the new product in 3CE's overall portfolio and risk management strategies
- Risk analysis that identifies the specific risks mitigated by the new product and illustrates its

application

- Transaction process, initial risk limits and settlement process
- Proposed valuation methodology (including pricing model, where appropriate)
- Proposed accounting methodology

3CE's CEO or their designee is responsible for requesting the RMC's approval. If approved, Appendix A to the Policy will be updated to reflect the new transaction type

4.7 System of Record

3CE will maintain a secure set of records for all transactions executed in association with 3CE procurement activities. 3CE's Technology and Data & Analytics group supports the security, integrity, and recoverability of the System of Record. For data recoverability, transaction data stored in the System of Record is replicated daily to ensure data redundancy and is backed-up via cloud-based applications.

The records will be maintained in US dollars and transactions will be separately recorded and categorized by type of transaction. This system of record shall be auditable and audited as appropriate.

4.8 Transaction Valuation

Transaction valuation and reporting of positions shall be based on objective, market-observed prices. Whenever possible, mark-to-market valuations should be based on independent, publicly available market information and data sources. The Middle Office will be responsible for independently validating and reporting marks and valuations.

4.9 Policy Compliance

The Middle Office will provide a monthly report to the RMC monitoring compliance with the limits established by the ERMP.

SECTION 5: TOLERANCES

5.1 Hedging Tolerances

Hedging tolerances for energy, renewable attributes, capacity (resource adequacy) and carbon-free energy are shown below. From time to time, the Middle Office, in response to market conditions, may recommend adjustments to these ranges.

5.1.1 Energy Procurement Tolerances

Fixed Price Energy purchases provide for suppliers to deliver energy – for which 3CE will receive energy market revenues – to 3CE at a fixed price. They are used to manage the electricity commodity price risk that 3CE faces as a Load Serving Entity. Specific to 3CE ‘s customers, Fixed Price Energy hedges are used to provide cost certainty and rate stability.

3CE predominantly employs Fixed Price Block Energy contracts, which provide for suppliers to deliver a predetermined volume of energy at a constant delivery rate. As 3CE enters into long-term, fixed price contracts for renewable and/or carbon-free energy, these will likewise hedge 3CE’s market risk and, subsequently, reduce the required volume of Fixed Price Block Energy purchases.

When assessing its requirements for Fixed Price Energy, 3CE will use an econometric model to forecast hourly energy requirements and monthly peak demand by customer load class. The model will use historical data to estimate relationships between energy consumption and economic, demographic and/or weather variables. The model will be refined through time as additional load and other data is acquired.

3CE will observe the following schedule when hedging its Fixed Price Energy Requirements. The Minimum and Maximum hedge % represent the Fixed Price Energy planned or under contract divided by forecasted wholesale load.

Quarter	Minimum Hedge %	Maximum Hedge %
Prompt Q (PQ)	85%	110%
PQ + 1	80%	110%
PQ + 2	74%	110%
PQ + 3	69%	110%
PQ + 4	63%	105%

PQ + 5	58%	99%
PQ + 6	52%	93%
PQ + 7	47%	87%
PQ + 8	41%	82%
PQ + 9	36%	76%
PQ + 10 - 39	30%	70%

Notwithstanding the maximum hedge levels shown in the above table, there shall be no maximum hedge level in quarters in which 3CE only owns long-term power purchase agreements and energy storage agreements.

Energy hedging compliance will be measured within 5 days prior to the first day of each quarter (e.g., on a date between September 26th and September 30th, 2024, 3CE will have hedged 85 to 110 percent of its projected energy requirements for Q4 2024 and 80 to 110 percent of requirements for Q1 2025). The minimum hedge level will be achieved by implementing a time-driven programmatic strategy. Time-driven programmatic hedges are executed at a predetermined rate pursuant to a time schedule and without regard for market conditions. The purpose of these hedging transactions is to achieve a reduction in variability in power supply costs by gradually increasing the amount of energy hedged as the actual date of consumption approaches. Time-driven strategies avoid the inherent impossibility of trying to consistently and accurately “time the market” to purchase energy at least cost when making hedging decisions. Additionally, a load serving entity the size of 3CE needs to spread its procurement efforts over time to effectively manage the potential negative price impacts of procuring a large volume of energy, over a short period of time, in an illiquid market.

Hedging decisions to reach targets between the minimum and maximum hedge levels will be based on price-driven or opportunistic strategies. The purpose of price-driven or opportunistic strategies is to capitalize on market opportunities when conditions are favorable. 3CE will base its decision to execute opportunistic hedges on the anticipated impact to projected power supply costs and the resulting reduction in risk.

Opportunistic hedges may be executed when energy price levels are favorable to lowering the cost of power relative to established program goals and financial projections; alternatively, opportunistic hedges can be executed in adverse market conditions relative to financial goals in order to reduce the potential negative impact of continued upward trending commodity prices relative to established goals.

In executing this energy risk hedging strategy, Fixed-Price Energy hedges may be modified,

repositioned or unwound for the purpose of maintaining hedge coverage that matches changes in forecast electric load or supply. This includes the ability of 3CE to use liquid market products to hedge average loads over a defined time period and then later modify its hedges to more precisely match load.

5.1.2 Renewable Energy Procurement Tolerances In order to cost-effectively meet its GHG-reduction and renewable energy goals, 3CE intends to meet a growing share of its energy supply requirements with renewable energy, a large portion of which will be Product Content Category 1 (PCC1) renewable energy. PCC1 renewable energy is sourced from a renewable generator that is either directly interconnected to the California Independent System Operator (CAISO) or another California Balancing Authority or directly scheduled into CAISO without use of substitute energy. 3CE shall diversify its renewable energy portfolio further by incorporating Portfolio Content Category 2 (PCC2) renewable energy purchases. PCC2 renewable energy is sourced from renewable generators located outside the state of California, where that generation is “firmed and shaped” for delivery into California. PCC2 purchases are typically less expensive and shorter in term than PCC1, so they provide a cost-effective and flexible method of augmenting 3CE’s renewable energy purchases to meet renewable portfolio content commitments to customers. However, not all PCC2 renewable energy is emissions-free; therefore, 3CE must assess the value of PCC2s against its respective emissions intensity. In addition, RPS compliance rules set minimum requirements for PCC1 and PCC2 as a percentage of the total RPS compliance portfolio, which 3CE will abide by in its procurement of both products.

In order to manage price risk of long-term renewable energy, and to allow 3CE to prudently and methodically build a portfolio of long-term assets, 3CE intends to meet its renewable energy targets with a blend of short- and long-term contracts. 3CE intends to fully comply with long-term contracting requirements mandated by SB 350; therefore, executed and planned long-term renewable contracts will be reflected in 3CE’s renewable energy positions.

3CE shall observe the following schedule while hedging its renewable energy requirements. This hedge schedule shall be measured within 5 days prior to the first day of each quarter for the Current Calendar Year, and within 5 days prior to December 1 of each year for the following ten Calendar Years.

Time Period	Minimum Hedge % of Mandate	Maximum Hedge % of Demand
Current Calendar Year	90	110*
Prompt Calendar Year	80	110*
PY + 1	50	105

PY + 2	50	100
PY + 3	50	95
PY + 4 - 9	50	95

* Maximum hedge percentages allow for a planning margin to accommodate volumetric uncertainty associated with electric consumption and generation

5.1.3 Capacity Procurement Tolerances

As a Load-Serving Entity (LSE) in California, 3CE is required to demonstrate both annually and monthly that it has secured sufficient energy capacity to provide for its share of California’s energy load; this capacity is referred to as resource adequacy (RA).

RA is typically transacted via contracts that vary in length, and it is currently bought and sold via a bilateral market. This market provides cost-effective contracting opportunities, but also proves at times to be fragmented and volatile. It is the goal of 3CE to meet all RA requirements, including local, flexible, and system requirements.

3CE will observe the following schedule when hedging its RA requirements. The hedge schedule shall be measured for the system RA product by month that 3CE is required to procure within 5 days prior to December 1 of each year for the Prompt Calendar Year and the nine subsequent calendar years.

Time Period	Minimum Hedge % (applicable to all months and hours)	Maximum Hedge % (applicable to peak month and shortest hour only)²
Prompt Calendar Year	90	100
PY + 1	50	95
PY + 2	35	90
PY + 3	35	80
PY + 4 - 9	35	80

5.1.4 Carbon-Free Energy Tolerances

3CE may have the opportunity to receive free carbon-free energy allocations from PG&E and SCE at zero cost. Hedging activity should consider these allocations and expected allocations should be

² Due to the variable nature of 3CE’s monthly RA requirements, non-peak months may exceed the applicable Maximum Hedge %.

included in the hedging percentages.

3CE will observe the following schedule when hedging its carbon-free renewable energy requirements. This hedge schedule shall be measured within 5 days prior to the first day of each quarter for the Current Calendar Year, and within 5 days prior to December 1 of each year for the following ten Calendar Years.

Time Period	Minimum Hedge %	Maximum Hedge %
Current Calendar Year	85	110*
Prompt Calendar Year	75	110*
PY + 1	50	110
PY + 2	25	100
PY + 3	0	75
PY + 4 - 9	0	75

* Maximum hedge percentages allow for a planning margin to accommodate volumetric uncertainty associated with electric consumption and generation

In setting the above targets, it is important to note that the purchase of carbon-free energy is a voluntary requirement set by the 3CE Board to exceed states' GHG emissions goals. In determining the total volume of carbon-free energy to be hedged, the 3CE Board may elect to increase or reduce the total quantity of carbon-free energy included in 3CE's portfolio as it seeks to balance multiple program objectives, including financial goals such as targets for financial reserves and retail rates.

5.1.5 Congestion Revenue Rights (CRRs)

As a CAISO market participant, 3CE has congestion risk associated with serving its customer load. 3CE manages congestion risks by preferring day ahead scheduling of energy delivered at NP-15 and SP-15, and by resource assessment and selection consistent with this ERMP. Once energy is procured, 3CE manages congestion risk through the prudent management of CRRs, which are financial instruments used to hedge against transmission congestion costs encountered in the CAISO day-ahead market. The RMC is responsible for overseeing the management of CRRs and CRR trading. The CRR portfolio will be managed by 3CE 's Front Office with support from 3CE's Scheduling Coordinator. CRRs are transacted to effectively manage portfolio congestion risk, through hedging and value maximization. Trading of CRRs for speculative purposes is not permitted.

CRR position restriction: 3CE shall not use the annual or monthly CRR auctions to do any of the following:

- Increase CRR holdings on paths not related to 3CE's generation, storage or inter-scheduler trades (ISTs)³
- Increase CRR holdings above expected generation, discharge or IST volumes on paths related to 3CE's generation, storage or ISTs

5.2 Monitoring, Reporting and Instances of Exceeding Risk Limits

The Middle Office is responsible for monitoring, and reporting compliance with, all limits within this ERMP. If a limit or control is violated, the Middle Office will notify the RMC. The RMC will discuss the cause and potential remediation of the exceedance to determine next steps for curing the exceedance.

³ Inter-scheduler trades source at NP-15. In addition to purchasing CRRs at NP-15, 3CE may additionally purchase CRRs on paths that have been found to be good proxies for NP-15.

SECTION 6: CREDIT POLICY

Counterparty and generalized credit risk are significant risks to 3CE's financial operations. The Middle Office will conduct a thorough analysis of all candidate counterparties prior to approving them to transact. This analysis will include but not be limited to analyzing the proposed counterparty's financial statements (if unrated), credit rating, liquidity, hedge levels, market sensitivity, and business operations. The Middle Office will determine whether to extend an unsecured or secured credit line to the candidate counterparty, as appropriate. The maximum unsecured credit line that can be extended to any counterparty is \$50 Million.

In addition to individual counterparty limits, the Middle Office will set limits by credit rating, tenor, product, and, where appropriate, transaction type and delivery type. For example, it may set an overall limit of \$50 million for counterparties rated BB+ that supersedes the BB+ counterparties' individual credit approvals of \$100 million. This will limit the concentration of credit risk.

Counterparty credit health and generalized credit conditions will be monitored on an ongoing basis. Individual counterparty limits or aggregate credit limits by tenor/product/credit rating may be adjusted up or down to reflect current conditions. Counterparties who exceed limits must promptly post enough collateral to come into compliance or risk having their positions liquidated.

SECTION 7: POSITION TRACKING AND MANAGEMENT REPORTING

Minimum reporting requirements are shown below. The reports outlined below will be made available to RMC members:

- Monthly Financial Model Forecast
Latest projected financial performance, marked to current market prices, and shown relative to financial goals
- Monthly Net Position Report
Latest forward net position reports of all product classes
- Monthly Counterparty Credit Exposure
Credit exposures for transactions executed by 3CE
- Monthly Risk Analysis
To include a stress test of financial forecast relative to financial goals

SECTION 8: POLICY REVISION PROCESS

3CE's Energy Risk Management Policy (ERMP) will evolve over time as market and business factors change. At least on an annual basis, the RMC will review the ERMP and associated procedures to determine if they should be amended, supplemented, or updated to account for changing business and/or regulatory requirements. If an amendment is warranted, the ERMP amendment will be submitted to the 3CE Operations Board for approval. Changes to appendices to this ERMP may be approved by the RMC.

8.1 Acknowledgement of Policy

Any 3CE employee participating in any activity or transaction within the scope of the ERMP shall sign on an annual basis or upon any revision, a statement approved by the RMC that such employee:

- Read 3CE's ERMP
- Understands the terms of said ERMP
- Will comply with said ERMP
- Understands that any violation of said ERMP shall be subject to employee discipline up to and including termination of employment

8.2 Policy Interpretations

Questions about the interpretation of any matters of this ERMP should be referred to the CEO. All legal matters stemming from this ERMP will be referred to General Counsel.

SECTION 9: DELEGATION OF FINANCIAL AUTHORITY

The Policy and Operations Boards of Directors (Boards) explicitly delegates approval of transactions to the CEO and the RMC as outlined in the following table:

Position	Maturity Limit	Term Limit	Value Limit (\$)¹
Risk Management Committee	96 Months	60 Months	110,000,000
Chief Executive Officer	96 Months	60 Months	65,000,000

¹ "Value Limit" is the total notional value of the transaction, inclusive of any related procurement fees.

These delegated authorities may be further delegated and used to set hedging and procurement limits necessary to manage 3CE's portfolio. For example, the CEO could authorize the Front Office to trade up to the CEO's authority limits in approved products.

Additionally, to adapt to changing market conditions and to facilitate the daily operations of 3CE, the Boards have delegated authority to the CEO (or designee) to execute administrative amendments to duly approved transactions where such amendments do not exceed the CEO's delegated authority as set forth above (for clarity, amendments exceeding Maturity, Term or Value limits shall require Operations Board approval) and further reduces 3CE's risk in furtherance of this ERMP. Such administrative amendments must be reported during the next RMC meeting and Operations Board meeting.

These authorities will be applied to wholesale power activity executed outside of the California Independent System Operator ("CAISO") markets. These limits provide 3CE needed authorities to manage risks as they arise. Transactions falling outside the delegations above require Board approval prior to execution. Activity with CAISO is excluded from this table due to the nature of the market, where prices for activity may not be known until after transactions are committed.

All procurement executed under the delegation above must align with the 3CE's underlying risk exposure (locational, volume and temporal) that is being hedged consistent with the approved Procurement Strategy.

The point of delivery for all products must be at a location on the CAISO transmission grid.

Appendix A: AUTHORIZED TRANSACTION TYPES, REGIONS, AND MARKETS

All transaction types listed below must be executed within the limits set forth in this ERMP.

Over the Counter Products

- CAISO Market Products
 - Day-ahead and Real-time Energy
 - Congestion Revenue Rights
 - Convergence bids
 - Inter Scheduling Coordinator Transactions
 - Tagging into and out of CAISO
- Physical Power Products
 - Power
 - Physical Over-the-counter Options
 - Physical Resource Adequacy Capacity
- Import Capability Rights
- Physical Transmission Products
 - Physical WECC Transmission
- Physical Environmental Products
 - Renewable Energy Credits
 - Specified Source Power
 - Carbon Allowances and Obligations
- Financial Power Products
 - Power
 - Financial Over-the-counter Options
- Broker Fees

New or Non-Standard Transaction Approval Form

Prepared By:

Date:

New or Non-Standard Transaction Name:

Business Rationale and Risk Assessment:

- A description of the benefit to 3CE, such as decreasing costs, managing volatility etc.
- The role of the new product in 3CE’s overall portfolio and risk management strategies
- Middle Office risk analysis that identifies the specific risks mitigated by the new product and illustrates its application
- Transaction process, initial risk limits and settlement process
- An assessment of the legal, tax, and regulatory aspects of the product
- Proposed valuation methodology (including pricing model, where appropriate)
- Proposed reporting requirements, including any changes to existing procedures and system requirements necessary to support the new transaction type
- Proposed accounting methodology

Reviewed by:

_____ Chief Operating Officer	_____ Date
_____ Chief Financial Officer	_____ Date
_____ General Counsel	_____ Date
_____ Chief Executive Officer	_____ Date
_____	_____

Appendix C: DEFINITIONS

Back Office: That part of a trading organization which handles transaction accounting, confirmations, management reporting, contract administration and working capital management, which reports to the Chief Operating Officer.

Bilateral Transaction: Any physical or financial transaction between two counterparties, neither of whom is an Exchange or market entity such as CAISO.

Cash Flow at Risk: A measure of the potential shortfall in cash flow from a specified level during a specified period of time at a specified confidence level.

CAISO: California Independent System Operator. CAISO operates a California bulk power transmission grid, administers the State's wholesale electricity markets, and provides reliability planning and generation dispatch.

California Energy Commission (CEC): CEC is the primary energy policy and planning agency for California.

California Fair Political Practices Commission (FPPC): FPPC is a five-member independent, non-partisan commission that has primary responsibility for the impartial and effective administration of the Political Reform Act.

California Public Utilities Commission (CPUC): CPUC is a regulatory agency that regulates privately owned public utilities in the state of California, including electric power, telecommunications, natural gas and water companies.

Community Choice Aggregator (CCA): CCAs allow local government agencies such as cities and/or counties to purchase and/or develop generation supplies on behalf of their residents, businesses, and municipal accounts.

Commodity Futures Trading Commission (CFTC): The CFTC is a U.S. federal agency that is responsible for regulating commodity futures and swap markets. Its goals include the promotion of competitive and efficient futures markets and the protection of investors against manipulation, abusive trade practices and fraud.

Clearing: Clearing is the process of reconciling purchases and sales of a commodity, as well as the direct transfer of funds from one financial institution to another. The process validates the availability of funds, records the transfer, and in the case of financial securities, ensure the delivery to the buyer.

Commodity: A basic good used in commerce that is interchangeable with other commodities of the same type. Commodities are most often used as inputs in the production of other goods or services. The quality of a given commodity may differ slightly, but it is essentially uniform across producers. When they are traded on an exchange, commodities must also meet specified minimum standards, also known as a basis grade.

Confirmation Letter: A letter agreement between two counterparties that details the specific commercial terms (e.g., price, quantity and point of delivery) of a transaction.

Congestion Revenue Right: A point-to-point financial instrument in the Day-Ahead Energy Market that entitles the holder to receive compensation for or requires the holder to pay certain congestion related transmission charges that arise when the transmission system is congested.

Counterparty Credit Risk: The risk of financial loss resulting from a counterparty to a transaction failing to fulfill its obligations.

Counterparty Credit Exposure: This measures the known exposures and is represented by the sum of both (a) Realized exposure and (b) Forward exposure, as those terms are defined below:

Realized exposure: payable or receivable amount owed between counterparties, is a measurement of cash flow for billed and unbilled transactions.

Forward exposure: measure of current unrealized exposure and includes the measure of a counterparty's incentive to fulfill contractual obligations. Forward exposure measures the risk associated with having a payment default or the need to replace a transaction in the event of delivery default.

Edison Electric Institute (EEI): EEI is an association that represents all U.S. investor-owned electric companies.

Day-ahead Market: The short-term forward market for efficiently allocating transmission capacity and facilitating purchases and sales of energy and scheduled bilateral transactions; conducted by CAISO prior to the operating day.

Delivery point: the point at which a commodity will be delivered and received.

Federal Energy Regulatory Commission (FERC): FERC is a federal agency that regulates the interstate transmission of electricity, natural gas, and oil. FERC also reviews proposals to build liquefied natural gas terminals, interstate natural gas pipelines, as well as licenses hydroelectric generation projects.

Front Office: That part of a trading organization which solicits customer business, services existing customers, executes trades and ensures the physical delivery of commodities, which reports to the Chief Operating Officer.

Hedging products: Hedging products means capacity, energy, renewable energy credits or other products related to a specific transaction.

Hedging Transaction: A transaction designed to reduce the financial exposure of a specific outstanding position or portfolio; "fully hedged" equates to complete elimination of the targeted risk and "partially hedged" implies a risk reduction of less than 100%.

InterContinental Exchange (ICE): ICE is an American company formed in 2000 that operates global financial exchanges, clearing houses and provides mortgage technology, data and listing services.

Investor-Owned Utility (IOU): An IOU is a business organization providing electrical and/or natural gas services to both retail and wholesale consumers and is managed as a private enterprise. Pacific Gas & Electric Company (PG&E) and Southern California Edison (SCE) are examples of IOUs.

Middle Office: That part of a trading organization that measures and reports on market risks, develops risk management policies and monitors compliance with those policies, manages credit, and keeps management and the Board informed on risk management issues, which reports to the Chief Financial Officer.

Speculation: Speculation is the act of trading an asset with the expectation of realizing financial gain resulting from a change in price in the asset being transacted.

Value-at-Risk (VaR): VaR is a risk tolerance metric that quantifies the extent of possible financial losses within a firm, portfolio, or position over a specific time frame.

Western Systems Power Pool (WSPP): WSPP is an organization of electrical wholesale market entities that have developed and utilize a standardized agreement (WSPP Agreement) to execute trading opportunities, allowing WSPP members to manage power delivery and price risk.

