

BOARD POLICY

Approved by the CAWCD Board
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ENERGY RISK MANAGEMENT POLICY

I. Introduction: Overview of Energy Supply and Trading

The Central Arizona Water Conservation District (“CAWCD”) is in the business of delivering Colorado River water to central Arizona, doing so in a reliable, cost-effective and environmentally sound manner. CAWCD is also responsible for repayment of the construction costs of the Central Arizona Project (“CAP”).

Energy and transmission are the primary components in the cost of delivering water. CAWCD uses a portfolio of energy resources and transmission rights as it pursues its dual mission of managing operation of CAP pumping plants for water delivery and optimizing the value of Navajo Surplus energy for repayment.

Because Navajo generation and CAP pumping plant operation are variable in real-time, hourly and yearly, CAWCD must participate in the wholesale energy market. As an entity that manages an energy portfolio in a market setting, CAWCD is exposed to risks:

- **Market Risk** – the chance that changes in market price and the volume of energy to be purchased or sold will adversely affect CAWCD’s energy costs;
- **Credit Risk** – the chance that a counter-party is unable to fulfill its contractual and financial commitments to CAWCD;
- **Logistical Risk** – the chance that a counter-party cannot deliver energy to CAWCD or that CAWCD’s transmission rights are not available for CAWCD delivery to a counter-party; and,
- **Operational Risk** – the chance that transactions may be interrupted due to unforeseen changes in pump, generation or transmission availability or due to inadequate business processes or management controls associated with execution, confirmation or settlement of transactions.

This policy establishes CAWCD’s philosophy toward risk, gives the General Manager specific transactional authority, establishes organizational responsibilities in carrying out transmission and energy risk management activities and provides guidance for strategies and transactions involving the use of physical and financial products.

II. Policy

By this policy, CAWCD is establishing appropriate procedures to manage risk in (1) the use of physical energy to operate CAP pumps; (2) transactions involving energy related products; and, (3) transactions involving transmission services – as follows:

Physical Energy CAWCD recognizes that risks are inherent in normal business operations. The variable amount of energy used to support delivery of Arizona’s *full* allocation of Colorado River water and changes in price in energy markets significantly increase risk relative to CAWCD energy uses. CAWCD willingly assumes a higher level of risk inherent in increased water demand and energy markets, but seeks to minimize volatility in energy expenses by limiting exposure to large changes in price and volume for CAP energy uses.

Successful implementation of this philosophy shall be (1) when available and prudent, having Navajo Reserved Energy available to meet water deliveries; and, (2) achieving stable and predictable energy costs as a component of CAWCD rates.

Energy Related Transactions Energy-related products include but are not limited to ancillary services derived from the operating flexibility inherent in the CAP pump motors. Sales and delivery of energy-related products sold to counter-parties inherently include risk. CAWCD willingly assumes a higher level of risk inherent in completing transactions, but seeks to optimize the premiums available in the market by selling energy-related products.

Successful implementation of this philosophy shall be contributing net income from sales of energy-related products; however, this success is dependent on the regional energy market.

Transmission Services There are limited options in the availability of transmission infrastructure to deliver electricity from the various electricity sources to the pump plants. There are risks related to the availability of capacity within the existing transmission system. CAWCD assumes a higher level of risk inherent in completing transactions, but seeks to secure long-term, renewable rights in the available existing transmission network.

Successful implementation of this philosophy shall be (1) through the timely extension of existing contracts/agreements to ensure continued transmission path rights; and (2) participate in new transmission projects that increase the reliability of the CAP system and/or reduce long term costs.

CAWCD, in pursuit of its mission, shall interact with the market as appropriate and pursuant to energy and transmission transaction authority guidelines developed and implemented by the Energy Risk Oversight Committee (“EROC”).

“Physical Transactions” call for an outright physical exchange of energy or energy-related commodity at some point in the future. In addition to outright purchases and sales of electricity,

natural gas and SO2 allowances, physical transactions also include swaps, options and “relative value” trades, where one type of energy is bought and another is sold.

“Financial Transactions” include instruments such as futures, swaps, forwards, and options. These transactions involve exchange traded and over-the-counter structured products.

Risks managed include forward price risk, excess supply for power, excess demand for power, availability of transmission paths, SO2 allowances, delivery of power, and volatility in price. CAWCD can use physical and financial trades to hedge transactions of energy and energy-related products.

CAWCD shall conduct no trading on a speculative basis. CAWCD shall not conduct transactions involving financial products unless such transactions are part of hedging strategies approved by the EROC.

III. Organization

The General Manager shall establish and oversee the continuing duties of the Energy Risk Oversight Committee. The General Manager shall appoint a minimum of four (4) members to the committee and shall appoint the chairperson for the EROC from the members thereof. Members of the EROC shall include the members of the Senior Management Team responsible for operations and maintenance, finance and administration and legal and the Water Control Manager. The Manager of Internal Audit shall serve as an ex officio member.

The EROC shall provide executive oversight regarding transmission, energy, and energy-related physical and financial transactions ensuring adherence to this policy.

Specific responsibilities of the EROC are to:

1. Present for Board approval any electricity contract involving Physical Transactions whose term exceeds 36 months or whose value exceeds 10 million dollars.
2. Present for Board approval any electricity contract involving Financial Transactions whose term exceeds 24 months or whose value exceeds 4 million dollars.
3. Limit CAWCD’s financial electricity trading position limits to \$10,000,000 in nominal value.
4. Present for Board approval any transmission contract/agreement whose term exceeds five (5) years or whose value exceeds 10 million dollars.
5. Develop and implement energy transaction authority guidelines including but not limited to term and dollar limits.
6. Approve all internal control processes involving contract commitment authority and transaction authority including:
 - a. Quantification of and reporting on CAWCD’s exposure to market and credit risks;
 - b. Establishing procedures to track energy and energy-related transactions through CAWCD or its authorized agent;
 - c. Defining type of transmission, energy, and energy-related contracts that may be entered into by CAWCD personnel or authorized agent;

- d. Defining types of transmission, energy and energy-related products which CAWCD personnel or authorized agent may trade;
 - e. Reviewing reports reconciling transactions involving transmission, energy, and energy-related products; and
 - f. Establishing credit requirements for CAWCD's counterparties.
7. Establish risk management policies and hedging strategies.
 8. Oversee compliance with this Energy Risk Management Policy.
 9. The EROC shall meet as needed and shall approve transaction strategies, review transaction reports, approve transaction authority in new instruments, and report to the General Manager and CAWCD's Board of Directors.

Minutes of each meeting shall be maintained. For major resource decisions where time is of the essence, EROC members will be available in a timely manner for consultation.

IV. Formal Reports, Reviews and Audits

CAWCD personnel, or authorized agent, involved in transactions of transmission, energy, and energy-related products shall document and maintain records and reports detailing transactions made, elements of decision-making for each transaction, and the overall contribution of the transactions to the goals described in this policy.

The responsibilities of the EROC will be subject to internal and external audits as to compliance with the policies and procedures approved by CAWCD's Board of Directors and implemented by the General Manager. Compliance shall be tested in following areas but not limited thereto:

- Operating Procedures including transaction limits
- Transactions involve authorized instruments
- Management of counterparty risk
- Reporting procedures
- General accounting procedures.

The General Manager will provide status reports to the Finance, Audit and Power Committee of the Board of Directors at least twice annually. The General Manager shall also provide periodic updates to the Board of Directors describing electricity prices in the wholesale market, risk exposures faced by CAWCD and hedging strategies to manage risk.