MEAN Municipal Energy Agency of Nebraska	Revision No.	1.0
	Effective Date	xxxx
Electric Markets Risk Management Policy	Distribution Restriction: Public Document	

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Section 1: Policy Introduction

1.1 Background

The Municipal Energy Agency of Nebraska (MEAN) is the wholesale electric power supplier currently serving participants in Nebraska, Iowa, Colorado and Wyoming (Participants). As such, MEAN executes energy transactions in the Southwest Power Pool (SPP), Midcontinent Independent System Operator (MISO) and the WECC bilateral markets and the SPP Western Energy Imbalance Service (WEIS) market.

MEAN has contracted with The Energy Authority (TEA) to provide trading services in the electric markets and its associated risk management services which are governed by this Policy.

1.2 Scope

This Electric Markets Risk Management Policy sets forth the philosophy, management and delegation of responsibilities necessary to govern MEAN's risks associated with electricity and related transmission transactions entered as part of MEAN's core business of supplying reliable electricity to MEAN's Participants and operating MEAN's Power Supply System in a cost-effective manner and defines the policy for managing exposures related to the transaction activities of MEAN.

1.3 Objectives

The objectives of this Policy are:

- To outline the governance structure and process that will apply to the MEAN electric markets risk activities and define and specify the outline of controls and management responsibilities associated with such activities
- To manage commercial risks while fulfilling MEAN's primary objective of cost-effectively and reliably serving Participant load
- To identify, measure, report and control risks associated with this function

Section 2: Risk Definitions

This Policy covers the management of material risks faced by MEAN electric markets transactions. The most critical of these risks include:

Commercial Risk This term means any risk that an entity/a person incurs, or anticipates incurring, or that arises, in the normal course of its business operations. For commodity-dependent businesses such a MEAN (and its Participants), that means in connection with the ownership, procurement, production, manufacture, processing, merchandising, marketing, transportation, transmission, storage, or distribution, of a commodity, any byproduct of a commodity, or a product or service related to a commodity. Commercial risk includes, but is not limited to: commodity risk; counterparty risk; operational and operating risk; financial statement risks such as interest rate risk, currency risk, equity risk, budget risk, and cash management/liquidity risk.

- **Commodity Risk** represents the potential adverse impacts to the value of MEAN's portfolio due to changes in the relevant commodity markets. Commodity Risk includes commodity price risk and forward price risk, volatility risk, basis risk, volumetric risk and market liquidity risk. MEAN's exposure to Commodity Risk will be managed by development and implementation of commercial risk hedging policies for different types and tenors of transactions, as well as an approved products list.

- **Commodity Price Risk** arises when a commodity transaction has a variable price or a variable price component-- this could be variable fuel price or transmission congestion costs -- that increases risk to cash flow. MEAN has a rate stabilization general fund to help mitigate this risk.

- **Forward Price Risk** is inherent in a fixed-price forward contract (a contract for delivery of a commodity at a future point in time), or a fixed-quantity, variable rate forward contract, in that market prices at that future point in time will be different than prices at the time the forward contract is executed. Forward contracts represent both forward price risk and increased counterparty credit risk.

- **Volatility Risk** arises from unpredictable changes in the commodity markets that can adversely impact MEAN due to uncertainty in forward commodity prices and volatility's effect on cashflows from the MEAN portfolio. Volatility is a measurement of how commodity prices can change within a given time period. Energy commodity markets are among the most volatile, in part due to the effect of weather and other physical market events. Natural gas markets are also volatile due to pipeline and storage constraints. Electric markets are more volatile still due to transmission congestion and constraints, and the fact that electricity required at a particular location at a particular time cannot be cost-effectively stored in commercial quantities. In the organized markets (RTOs/ISOs), this risk is managed by the structure of the MEAN portfolio, having the MEAN load covered by Power Purchase Agreements and generation with limited exposure to the volatility of the Day Ahead and Real Time markets. In the Western Electricity Coordination Council (WECC) Region this risk arises when there is net long or short generation and MEAN is exposed to the volatility of the short-term markets over a period of time.

- **Basis Risk** arises from the difference between the price of an energy commodity in one market (supply) and the price of an energy commodity in a different market (delivery point).
    - Quality Basis Risk arises when a risk hedging transaction is not the same commodity product or quality as the commercial risk you are seeking to hedge, for instance using a natural gas index price transaction as a hedge for natural gas delivered to a MEAN location, or using a natural gas (fuel) contract as a hedge for a natural gas generation (supply) asset.
    - Locational Basis Risk arises when a risk hedging transaction does not have the same or substantially similar delivery point as the commercial risk you are seeking to hedge, for instance using a hub delivery point as a hedge for a MEAN generation (supply) asset or MEAN Participant's load (demand).

- **Volumetric Risk** arises from fluctuations in supply for a product or service, or load variations. For example, unplanned unit outages, load uncertainty, contracted supply risk, and generation uncertainty could all be sources of Volumetric Risk.

- **Liquidity Risk** arises from being unable to buy or sell a commodity in a required volume over a given period without adversely affecting the price of the commodity. Liquidity risk in the energy markets is often caused by weather events that affect a wide region of the country. For MEAN, liquidity risk could occur in the West in the event that MEAN had available generation resources in excess of Participant load requirements (due to weather) and no market need for that generation (and no immediately available transmission).

Counterparty Risk arises from changes that are caused, or affect, the counterparty to a bilateral contract relationship, and include delivery or performance risk, receivables risk and, for longer-term transactions, counterparty credit risk. Delivery or performance risk arises when a supplier, service provider or a customer under a MEAN contract is unable or unwilling to perform on its commitments, including but not limited to failure to deliver or receive the commodity or service. Receivables risk arises when a counterparty is unable or unwilling to pay on a timely basis for services rendered by MEAN. Counterparty credit risk arises when a long-term contract counterparty (supplier, service provider or customer) faces financial difficulties of its own, and MEAN has reason for concern that such financial difficulties will affect the counterparty's ability to perform its

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obligations in the future.

Operational Risk arises from inadequate or failed procedures, training or policies, system failures, or Human Performance Risk.

- **Process Risk** is associated with process problems including, but not limited to, inaccurate data capture, untimely trade execution, deadline risks, reporting risk or settlement problems. For example, Deadline Risk is the risk of missing an imposed deadline or a notice requirement or delivery obligation, such as deadlines for submitting Day Ahead bids in a regulated market, and Reporting Risk is the risk that data reported to a third party does not align with data in other organizational locations, and System Failures arise when IT systems fail, for example, due to service interruptions, hardware issues, or data breaches.

- **Human Performance Risk** is the risk that employees responsible for activities under this Policy will make errors, or engage in fraud or intentional misconduct.

Financial Market Risks are the risk of financial statement impacts arising from changes in the financial markets or from movements in financial market prices. This is sometime known as systematic risk since it involves factors that affect the overall economy rather than one specific industry or type of commodity. Market Risk includes Interest Rate Risk, Equity Risk, Currency Risk and Commodity Risk in commodities other than the commodities relevant to particular company's business operations. Risks to the company's overall financial performance may also arise as part of financial market risks.

- **Interest Rate Risk** is the risk that arises for bond owners from fluctuating interest rates. How much interest rate risk a bond has depends on how sensitive its price is to interest rate changes in the market. The sensitivity depends on two things, the bond's time to maturity, and the coupon rate of the bond. Interest rate risk also arises in connection with incurring debt obligations and in certain other long-term contractual obligations.

- **Equity Risk** is the financial risk involved in holding equity in a particular investment.

- **Currency Risk** is the risk that an investment's value will change because of currency exchange rates, or that a particular contract supplier, servicer or customer requires payment in a non-US currency.

- **Budget Risk** is the risk that financial performance does meet budget expectations due to financial market fluctuations outside the control of MEAN.

- **Liquidity (Cash Flow) Risk** arises if financial market fluctuations outside the control of MEAN have a negative affect on margin between ongoing costs and revenues, or on cash flow available to meet expenses.

Regulatory Risk arises from the fact that MEAN and MEAN Participants are part of the electric utility industry, a highly-regulated infrastructure industry that provides essential services to American businesses and consumers. As such, MEAN operations are subject to Federal and state (Nebraska) laws and regulations, including regulations of the Federal Energy Regulatory Commission (FERC), the Environmental Protection Agency, and the Commodity Futures Trading Commission, as well as the rules and regulations of two FERC-regulated markets, the Southwest Power Pool (SPP) and the Midcontinent Independent Operator (MISO), numerous transmission providers' Transmission Tariffs, and the Bulk Electric System Reliability requirements promulgated by the North American Electric Reliability Corporation (NERC).

Budget Risk represents the potential to deviate outside of tolerable bounds of MEAN's budget. Deviations from budget can be caused by forecast error or unforeseeable adverse changes in market prices and/or loads.

- **Market Risk** is the risk of losses in positions arising from movements in market prices. This is known as systematic risk since it involves factors that affect the overall economy rather than one specific type of commodity.

- **Load Risk** is the risk of losses arising from changes in load, either through forecast error or through unforeseen circumstances.

- **Forecast Error Risk** is the risk of over or underestimating the load that needs to be served which could cause losses if energy needs to be purchased or sold in real time. This is a component of Human Performance Risk.

Section 3: Organizational Structure and Roles

3.1 Board of Directors

The MEAN Board of Directors (Board) is responsible for overseeing and monitoring risk activities for MEAN and is the governing board responsible for approving this Policy and reviewing said Policy on at least an annual basis. As specified in the Enterprise Risk Management Policy, the Executive Director is responsible for establishing a MEAN Risk Management Team of Senior Leaders that is responsible for the Enterprise Risk Management Program. Electric markets transactions are fundamental to the business of MEAN, and this Policy provides additional guidance regarding the risk management activities associated with this function.

The Board shall also:

- Approve MEAN's overall risk appetite and tolerances relative to electric markets transactions as specified in Section 4
- Establish scope and frequency for management reporting to the Board
- Approve changes to the body of the MEAN Electric Markets Risk Management Policy

3.2 MEAN Risk Management Team (MRMT)

The Executive Director/CEO, with the assistance of the MRMT, will oversee the implementation and administration of and compliance with this Policy but will delegate responsibilities to MEAN staff as appropriate. The MRMT is responsible for providing general oversight for the overall direction, structure, conduct and risk management of MEAN's transaction activities for its commercial energy operations, both in the physical commodity and financial derivative markets.

The MRMT shall meet monthly or when needed to review the performance and appropriateness of the risk management activities, given the current market and business environment. Minutes of MRMT meetings where material decisions are made (with approval percentage) will be maintained by the Compliance Department. From time to time, employees who represent MEAN's business divisions will make presentations or recommendations to the MRMT, and decisions of the MRMT may be made in consultation with these individuals. For all voting items the majority of the MRMT must participate in meetings and the affirmative vote of a majority of the members of the MRMT present shall be necessary to authorize any action.

Pursuant to the MEAN Bylaws, and as outlined in MEAN's Financial and Administrative Policies and Guidelines, the Executive Director is authorized to execute contracts and other instruments on behalf of MEAN. The Executive Director and the MRMT shall:

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- Develop, approve, and maintain appropriate trading products, limits and controls for TEA and MEAN staff to limit Commercial Risk in electric markets transactions
- Review new products that are being considered for approval or removal of existing products, and create and implement risk parameters around new products
- Review deviations from this risk policy
- Periodically review the electric markets risk management program approved in light of recent market changes and ensure continued compliance with its established guidelines
- Require and review regular risk reports prepared by the corporate risk management department and/or the middle office

3.3 The Energy Authority

TEA is responsible for maintaining a strong segregation of duties, also referred to as "separation of function", that is fundamental to manage and control the risks outlined in this Policy as well as TEA's internal Energy Risk Management Policy. TEA provides information to the MRMT on the risk and credit models, methods, and processes that TEA uses to fulfill its obligations under its own Risk Policy as well as meet MEAN's Policy. Staff members at TEA responsible for legally binding MEAN to a transaction will not also perform confirmation or settlement functions. With this in mind, TEA's responsibilities are divided into front-, middle-, and back-office activities, as described below.

3.3.1 TEA Front Office

TEA's Front Office has overall responsibility for:

- Managing all commodity and transmission activities related to procuring and delivering resources needed to serve MEAN's load
- Analyzing fundamentals affecting load and supply factors that determine MEAN's net position
- Transacting within the limits established in accordance with this Policy, and associated policies, to balance loads and resources and maximize the value of MEAN's assets through the exercise of approved optimization strategies

Other duties associated with TEA's Front Office include:

- Assisting in the development of risk management hedging products and strategies, and bringing recommendations to the MRMT
- Forecast and monitor day-ahead and real-time loads
- Keep accurate records of all executed transactions

3.3.2 TEA Middle/Back Office

TEA's Middle Office provides independent market and credit risk oversight. The Middle Office is functionally and organizationally separate from the Front Office. TEA's Back Office provides support with a wide range of administrative activities necessary to execute and settle transactions and support the risk control efforts (*e.g. transaction entry and/or checking, data collection, billing, etc.*) consistent with both TEA's Risk Policy as well as MEAN's Policy. The Back Office is also functionally and organizationally separate from the Front Office.

TEA's Middle and Back Offices have primary responsibility for trading control and for ensuring agreement with counterparties regarding the terms of all trades, including forward trading. TEA's Middle and Back Offices have overall responsibility for:

- Estimating and publishing daily forward monthly power and natural gas price curves for a minimum of

the balance of the current year through the next calendar year
- Calculating and maintaining the net forward power positions of MEAN
- Ensuring that TEA adheres to all risk policies and procedures of both MEAN and TEA's in letter and intent
- Maintaining the overall financial security of transactions undertaken by TEA on behalf of MEAN
- Implementing and enforcing credit policies and limits
- Handling confirmation of all transactions and reconciling differences with the trading counterparties
- Reviewing trade tickets for adherence to approved limits
- Ensuring all trades have been entered into the appropriate system of record
- Ensuring that both pre-schedule and actual delivery volumes and prices are entered into the physical databases
- Carrying out month-end checkout of all transactions each month
- Reviewing models and methodologies and recommending MRMT approval
- Providing supporting documentation for power supply audits

Section 4: Risk Tolerances and Exposures

MEAN recognizes that as a result of procuring wholesale power to supply reliable electricity to MEAN's Participants and operating MEAN's Power Supply System in a cost-effective manner, exposure to price volatility and other risks can exist. MEAN will not engage in speculative commodity market activities that might provide additional gain. Additionally, MEAN and its Power Manager, The Energy Authority (TEA), recognize the significant financial and operational threat of being physically short of supply. All transactions are to be made to optimize resources and meet Participant requirements.

All Staff are expected to incorporate risk management into their daily business practices and decision-making processes within the risk appetites and tolerances for their respective level of accountability. MEAN's Risk Philosophy is based on the values of NMPP Energy. MEAN pursues professional ethics in all dealings, internally and externally and strives for compliance with legal and regulatory matters.

4.1 Risk Tolerance; No Speculation

Risk is an exposure not planned, forecasted or scheduled through a budget, accounting reserve or special provision. Commercial risk arises as part of normal business operations in the electric industry. However, no transactions should be executed that would increase the net risk exposure of MEAN outside of the risk limits set forth in this Policy without prior consultation with and written consent of the MRMT. MEAN does not engage in Speculation. Accordingly, MEAN Employees and TEA Employees are prohibited from entering into Speculative transactions. MEAN defines Speculation as the purchase or sale of a physical commodity or financial instrument for the purpose of profiting from market price fluctuations. Speculation is distinguishable from a transaction entered into to manage, hedge or mitigate the commercial risks that arise from MEAN's core business of supplying reliable electricity to MEAN's Participants and cost-effectively managing MEAN's Power Supply System and will not be permitted at any time. Any officer or employee determined to have entered into a transaction or maintained a position on behalf of MEAN in violation of this Policy or for speculative purposes will be subject to discipline, up to and including termination of employment.

4.2 Risk Exposures

MEAN is subject to commercial risk inherent in the business environment in which it operates due to its role as a load serving entity with a public service mission and a resource portfolio comprised of physical assets, contracts, and long-term commitments. Unmanaged exposure to risks inherent in the energy markets could result in a

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multitude of positive or negative consequences for MEAN. Commercial Risk, Counterparty Risk, Operational Risk, Financial Market Risks, Regulatory Risk and Budget Risk are among the most critical and identifiable of the risks relevant to MEAN, as they pertain to the scope of this Policy.

Section 5: Limit Structure

MEAN has developed approved products and limits on authorities for electric markets transactions to limit Commercial Risk that is approved and maintained by the MEAN Risk Management Team as provided in Section 3.2 of this Policy. Only products approved by the MRMT may be transacted.

Section 6: Deviations

Deviations from this Policy, the approved trading products, and authority limits as established by the MRMT that arise during transaction activity, as well as breaches of the specific risk limits, counterparty credit limits, tariff and other regulatory requirements will be reported by MEAN and TEA staff promptly upon discovery to the Director of Corporate Services. Any recommendation for disciplinary action will be referred to Human Resources. TEA Risk shall investigate its own deviations and complete and submit a Deviation Report to MEAN. These reports may contain confidential and proprietary information or personal information protected by privacy laws and will be maintained in a secure, limited-access manner in accordance with law.

Section 7: Reporting

The TEA Middle Office will be responsible for tracking and reporting whether transactions made were within the limits established in accordance with Section 5, Limit Structure. This Policy describes various reports to be generated by different departments within TEA. The following table summarizes these reports, their normal frequency, distribution and the originator of the report:

Report	Normal Frequency	Originator
Counterparty Credit Analysis	Periodic/As Needed for Review	TEA
Deviation Report	Notification within 24 business hours; Report within one month of deviation	TEA/MEAN

7.1 Counterparty Credit Analysis

The counterparty credit analysis contains:

- A periodic, comprehensive review of all counterparties;
- On-going monitoring of all counterparties for adverse changes which may affect MEAN's preferred exposure to a given counterparty.

7.2 Deviation Report

The Deviation Report records all deviations to this Policy and associated policies, to the normal execution and clearing of transactions and to breaches of the specified risk limit, counterparty credit limits, tariff, and other regulatory requirements. The detail in the report shall include:

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- Date of deviation;
- Type of deviation;
- How deviation was discovered;
- Individual responsible for deviation and counterparty involved (where applicable);
- Steps taken to rectify the noted deviation (e.g. request for credit enhancement, suspension of trading);
- Explanation of how the deviation occurred and steps taken to prevent future occurrences;
- Date and documentation of corrective action taken, if any;
- Signatures per MEAN and/or TEA deviation process.

All deviations will be entered by TEA Risk in the exception reporting database and reported to the MEAN Director of Corporate Services. The Director of Corporate Services will report all violations to the MRMT.

Section 8: Training

All MEAN Employees participating in activities, transactions or settlements thereof covered by this Policy shall have annual training. Specific training requirements are determined by the Compliance Department with the input of senior management. Training materials are reviewed on at least an annual basis and updated as needed.

Section 9: Policy Acknowledgement and Distribution

9.1 MEAN Policy Acknowledgement

All MEAN Employees participating in activities, transactions or settlements thereof covered by this Policy shall sign, upon assumption of duties, on an annual basis or upon any revision to this Policy and associated policies and procedures that they:

- have read this Policy and any other applicable policies or procedures approved by MEAN,
- understand this Policy and the related policies, processes, and procedures, and
- have and will continue to comply with this Policy and the related policies, processes, and procedures.

Signed acknowledgement by all affected MEAN Employees will be maintained by the MEAN Compliance Department.

9.2 TEA Policy Acknowledgement

TEA will provide all new employees participating in activities, transactions or settlements thereof covered by this Policy a copy of said Policy. TEA will have employees at hire and on an annual basis thereafter acknowledge said Policy. TEA will establish compliance with section 9.2 annually with a signed acknowledgement by the VP, Risk Control and Chief Risk Officer. Signed acknowledgement will be maintained by the MEAN Compliance Department.

9.3 Designated Contacts

Questions about the interpretation of any matters relating to this Policy should be referred to the Director of Corporate Services, who will provide clarification and explanation on any updates to this Policy.

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