Denton Municipal Electric

Energy Risk Management Policy

Approved by the City Council of the City of Denton, Texas

City Ordinance No. 25-____

Contents

SECTION 1 PROGRAM OVERVIEW

1.1 Introduction

The City of Denton's municipally owned electric utility, operated under the trade name of Denton Municipal Electric ("DME"), is in the business of providing affordable and reliable energy and energy services to its customers in an environmentally sustainable manner. This Energy Risk Management Policy ("Policy") has been developed to establish a comprehensive framework for DME to meet and exceed the overall goals and objectives set by the City Council, subject to approved risk tolerances.

This Policy provides specific controls (e.g., segregation of duties, oversight, etc.) for the management of strategic and operational risks and establishes guidelines for DME to plan, execute and control the risks inherent in the generation, purchase and sale of energy for its retail customers. The resulting framework shall govern DME's energy portfolio activities through which City Management and DME personnel identify, capture, measure, manage, control, monitor and report financial and other risks. This program specifically addresses management of energy portfolio risk and provides a framework to maintain proper controls over portfolio activities as they change over time.

1.2 Objectives

The objectives of this Risk Policy are as follows:

1. Identification of inherent risks associated with procurement of energy and ancillary services to serve the retail load of DME's customer/owners.
2. Periodic and consistent measurement and reporting of risks
3. Establishment of acceptable risks levels
4. Identification of authorized risk management transactions, volumes, terms and authority levels for all employees, committees, and boards involved in execution of risk management transactions.
5. Establishing disciplinary actions for violation of risk management policy including trading limits

DME's energy portfolio consists of its assets such as power plants, power supply contracts of varying delivery patterns and maturity, wholesale physical and financial hedges[1], congestion management trades, ancillary service requirements and retail load obligations. A number of inherent risks are associated with DME's energy portfolio, including market (price) risk, volumetric risk, operational risk, organizational risk, counterparty credit risk, liquidity (funding)

[1] As used in this Policy, physical and financial hedges are market transactions used to offset pre-financial existing risk in the portfolio and are generally used to reduce price exposure associated with DME supply and demand, price volatility or transmission congestion.

risk, and regulatory/legal risks (for more detail, see Appendix A for a summary of DME's portfolio risks).

DME manages these risks to achieve its core business objectives of delivering energy to its customers at reasonable and stable rates. Key risk management objectives and performance measures are shown in the table below.

Objective	Performance Metric
Reduce risk	Reduction in exposure to price volatility and volumetric variability
Competitive costs	Comparison of actual energy costs (including hedges and ERCOT balancing transactions, but excluding PPAs) to the average annual ERCOT Day Ahead Market (DAM) price, plus a hedging premium
Reasonable rates	Comparison of DME average rate to that of other Texas municipal utilities
Risk Policy Adherence	Identification, reporting and disciplinary action of policy violations

1.3 Energy Risk Management Framework

DME's Energy Risk Management Policy is built around a framework that includes the following four elements: Organizational Objectives, Risk Mitigation, and Measurement, Portfolio Management and Risk Control Infrastructure. Each of these elements is discussed further below.

1.3.1 Organizational Objectives

The Risk Management Committee ("RMC") approves goals, strategies, and objectives which help define the appropriate portfolio management activities that are undertaken by DME. This is done in coordination with strategic and business planning activities conducted to establish the budget and through periodic strategic planning activities.

1.3.2 Risk Mitigation and Measurement

As part of clarifying organizational objectives, this Policy defines the EMO's role in identifying, measuring and mitigating energy risks. DME's risk mitigation practices focus on implementation of the approved Hedge Plan for mid to long term risk mitigation and inside the month risk management activities to meet required targets, along with transaction and risk exposure limits.

1.3.3 Portfolio Management

DME engages in transactions that are conducted in accordance with hedging targets and risk management and transaction limits specified in connection with this Policy and in broader DME policies and operating procedures.

1.3.4 Risk Control Infrastructure

DME maintains a collection of internal controls, systems, and processes necessary to achieve the objectives of this Policy. These controls comprise DME's energy risk control infrastructure and includes provisions for:

- Energy Risk Management Organization Structure and Responsibilities
- Transaction and Risk Exposure Targets and Limits
- Portfolio Position Tracking
- Risk Measurement and Mitigation
- Performance Measurement
- Management Reporting
- Operating Procedures

1.4 Procedures and Guidelines

This Policy prescribes the management, organization, authority, processes, tools and systems to monitor, measure, control and mitigate market risks through DME's energy management activities. Upon adoption by the City Council, this Policy shall be implemented through a supporting set of standard operating procedures ("EMO Procedures Manual"). The operating criteria and parameters shall be updated as necessary to reflect changes in market conditions and staffing levels. All standard operating procedures shall be approved by the RMC.

All departmental procedures that may impact DME's energy portfolio shall be in full compliance with this Policy. DME executive management shall evaluate the degree of detail necessary in the operating procedures and may require that additional procedures be developed and implemented.

SECTION 2 ORGANIZATION STRUCTURE

2.1 Risk Management Committee ("RMC")

While the leadership of the Front, Middle and Back Office groups, along with the DME General Manager regularly review executed transactions, monitor proximity to transaction limits and oversee the implementation of DME's portfolio management activity, consistent with industry best practices, the executive oversight of DME's energy management activities is conducted through the Risk Management Committee ("RMC"). The RMC is also responsible for activities governed by this Policy and ensuring that Policy requirements are met. The RMC membership is be comprised of five voting members and two non-voting members.

2.1.1. Risk Management Committee Responsibility

The RMC has the responsibility for executive oversight over the Program, which includes:

- Understanding DME's risk management objectives as described in Section 1.2 above and risk tolerances as described in Appendix B.3 and B.4.
- Approving annual risk plans, targets and limits as reflected in DME's proposed annual budget and Hedge Plan.
- Ensuring Program strategies are consistent with overall City goals and obligations.
- Reviewing this Policy at least annually and making recommendations for changes to the City Council and Public Utilities Board.
- Reviewing and monitoring DME's progress in managing its hedging plans/targets as described in Appendix E and proximity risk exposure limits specified in Appendix B.3.
- Understanding and discussing DME's energy-related financial risk exposures and DME's strategies for monitoring and controlling these exposures.

2.1.2 Risk Management Committee Structure

The voting members are:

- PUB Chair (or designee)
- City Manager (or designee)
- DME General Manager (Chairman)
- Executive Manager, Operations (or designee)
- City's Director of Finance (or designee)

The non-voting members, both acting solely within their respective responsibilities set out in the City's Charter, are:

- City Auditor (or designee)
- City Attorney (or designee)

2.1.3 Meeting Frequency, Voting, Member Vacancies and Reports

1. As needed, but no less than quarterly, the RMC shall meet to review EMO operations as described in Section 4.2. The Chair of the RMC shall provide at least five (5) business days' notice to the members.

2. Any member of the RMC can request a meeting to address circumstances or issues that may require immediate attention.

3. As needed, but not less than annually, the RMC reports results of DME's energy management activities and compliance with this Policy to the Public Utilities Board and the City Council

4. Each of the five voting members shall have a single vote on matters that come before the RMC and a voting member, or designee, must participate in the RMC meeting in order to vote and approve a proposed action. If a voting member is unable to attend an RMC meeting in person or by telephone, the member may designate an alternate to vote in his or her absence. A quorum of at least four (4) voting members is required for a vote to take place. The RMC makes decisions and take actions by a simple majority vote. If the RMC reaches an impasse that cannot be addressed through a vote, the DME General Manager may make a final decision by the end of the next business day on the issue and shall immediately notify all RMC members by email.

5. In cases where a member of the RMC leaves the employ of the City, the City Manager, upon consultation with the DME General Manager, will resolve the RMC vacancy by making an interim appointment at his discretion.

6. A standard set of reports shall be prepared and distributed by the Chairman in advance of each RMC meeting. The DME Compliance Officer, or his/her designee will act as Secretary to the RMC and will document all meetings and actions taken by the RMC in meeting notes that will be distributed to RMC members for their review and acceptance. Risk Policy compliance and risk position reports will be presented the RMC in a form that is approved by the RMC and which may be amended as determined necessary by the RMC. When establishing the standard set of reports, the RMC will consider the requirements set out in 2.1.3.

7. Meeting notes approved by the RMC will be distributed by the City Attorney to the RMC members, the City Manager, City Council and PUB.

8. As Chairman of the Risk Management Committee, the DME General Manager is responsible for all DME energy management activities, including the day-to-day efforts of the risk control function. At a high level, these responsibilities include understanding and measuring market risk, validating risk mitigation activities, hedge strategy compliance and risk reporting.

2.1.4 Third Party Review of Energy Management Office; DME Cooperation with Consultant

1. DME may employ a consultant periodically to provide an independent review to the RMC including, but not limited to:

    - Assessment of energy markets including energy news and counterparty information relevant to DME's risk management and hedge positions
    - Independent monitoring of DME's risk and policy limits as defined and approved in this policy
    - Review of DME's front office hedge strategy and recommendations for potential improvements
    - Independent review of DME's executed hedge positions for compliance with this policy
    - Review of DME's hedge positions and portfolio, including review of
        - Risk report
        - Position reports
        - P/L reports
        - Counterparty exposure reports
        - Settlements reports
    - Support in the ongoing development of DME's RMC standard set of reports
    - Performance of a cost benchmark analysis.
    - Review of Middle and Back Office functions.
    - Other tasks and responsibilities as may be determined important by the RMC.

2. DME shall cooperate with all requests of the consultant.

2.2 Front, Middle, and Back Offices

The "Front-Middle-Back Office" model provides for segregation of duties and efficient administrative support. It is a way to segregate DME energy management activities into

transactional ("Front Office"), independent risk control and transaction compliance ("Middle Office") and financial, accounting, and contract administration support ("Back Office") functions.

2.2.1 Front Office

The Front Office is primarily responsible for managing the energy supply portfolio associated with DME's wholesale market activities and directing its daily physical and financial trading.

The Front Office directly executes physical or financial transactions to support activities such as management of fuel, power, congestion, ancillary services, environmental attributes, and wholesale sales activities as well as develops measurable hedge strategies and plans at least annually (see Appendix E for details on hedging framework).

Specific responsibilities of Front Office personnel include:

1. Developing and implementing strategies that are consistent with program objectives and this Policy.
2. Monitoring the energy markets including determining the forward prices for products traded by the EMO ("marking curves") structural/regulatory changes, counterparty activity and financial wherewithal, market liquidity, and new supply and hedging instruments.
3. Advising the RMC of significant changes in the market and in the liquidity of approved hedging instruments, along with advising the RMC of the need for seeking Council approval of in new hedging instruments that may help DME achieve its risk objectives. New hedging instruments shall be approved based on the guidelines shown in Appendix G – New Product / Market Instrument Approval Checklist.
4. Managing the portfolio of positions in physical and financial energy and energy-related commodities in a manner consistent with DME's risk management objectives and the corresponding Hedge Strategies contained in Appendix E – Forward Hedging Strategies and Plans.
5. Executing physical and financial transactions with approved counterparties through the appropriate exchange, broker, voice communication, email, etc.
6. Recording details of financial and physical transactions for DME's ETRM system.
7. Ensuring that transactions comply with DME's Energy Risk Policy.
8. Functioning as the primary point of contract and as an active participant in the ERCOT stakeholder processes.

The Front Office oversight role is accomplished through supervisory review and approval. DME's Front Office consists of Market Operations and the Market Analytics group and reports to the Assistant General Manager or the functional manager of the EMO.

2.2.2 Middle Office

The Middle Office is responsible for monitoring compliance with this Policy, for determining that energy transactions and exposures are within authorized limits and meet minimum targets, identifying any violations of the limits in this Policy and reporting any such violations to the General Manager and Assistant General Manager, and for reporting the market exposure associated with all transactions entered into by the Front Office on an ongoing basis. The Middle Office is also responsible for credit risk management activities, including vetting and due diligence of counterparties, negotiating enabling agreements, establishing credit limits, quantifying the level of acceptable credit and market risk and providing estimates of key credit risk drivers. . . If, in the opinion of the Middle Office, hedge decisions do not achieve program objectives, the Middle Office will determine why the objectives are not achieved and recommend to the General Manager, changes to existing and proposed hedge transactions and positions. In the event there is no consensus between the Front Office and the Middle Office, the Middle Office with recommend changes to the RMC on potential changes to the hedge transactions and the rationale for such recommended changes.

The Middle Office responsibilities include monitoring DME's energy management risk exposures and mitigation measures and ensuring compliance with policies, guidelines, and procedures. In connection with this responsibility, the Middle Office maintains a compliance log of any operational and/or procedural violations, which will be reported to the RMC each quarter. Alleged violations of and policy or procedures will be immediately reported to the General Manager and the Assistant General Manager.

Additionally, the Middle Office is responsible for recommending to the RMC when changes in policy or operating procedures are required. These recommendations may involve the temporary or permanent halting of transactions with one or more counterparties, and any other topic the Middle Office believes represents potential unacceptable risk exposure.

The Middle Office adopts and updates, as necessary, the Energy Risk Management Policy after such updates are adopted by the RMC, guidelines and procedures so that portfolio management functions occur in compliance with Energy Risk Management Policies and energy risk procedures and guidelines.

Specific responsibilities of the Middle Office include the following:

1. Verifies and reconciles physical and financial transactions, including conditions, quantities, and amounts to be paid and dates. The Middle Office collects and validates market quotes to mark portfolio positions and to ensure that the terms recorded and understood by DME match the terms actually agreed upon with counter parties and/or brokers.
2. Prepares position reports identifying the financial positions, physical positions, anticipated physical exposures, and the market value of the energy portfolio(s) on a position-by-position and aggregate basis.
3. Maintains risk measurement, performance, and valuation models, including various stress tests.
4. Prepares routine risk reports, including those identified in Section 4.2 – Required Reports.
5. On a daily basis, confirms that all exposures and activities comply with authorized market instruments as contained in Appendix D – Approved Types, the risk limits as contained in Appendix A – Risk Exposure and Transaction Limits and hedge coverage targets as contained in Appendix E – Forward Hedging Strategies and Plans. In doing so, the Middle Office monitors transactions and position limits, review daily positions, and activity reports, and ensures that trading instruments comply with current hedging strategies and are permissible.
6. Follows the remedial actions process in the event of any risk limit or hedge target breaches.
7. Ensures all transactions comply with DME's Energy Risk Policy.
8. Executes and sends written confirmations to counterparties to ensure terms and conditions are mutually agreed upon.
9. Manages the credit risk associated with DME's energy portfolio, including reporting current and potential future credit exposure, credit positions relative to authorized limits and changes to the credit risk profile of DME counterparties.
10. Maintains all counterparty enabling agreements and ensures that only enabled counterparties are populated and authorized in the system of record.

The Middle Office reports to the DME Regulatory & Risk Division Manager.

2.2.3 Back Office

The Back Office's primary responsibility is to ensure that financial records of DME's energy management operation accurately reflect the current state of energy risk management and power supply portfolio management activity. The Back Office is responsible for invoice checkout, verifying supply payments, invoicing, and settlements. The Back Office is also responsible, in coordination with City of Denton Finance, AR, and AP departments, for accurately calculating and booking the financial results of energy transaction activities,

billing, and accounts payable, as well as recording, reporting and accounting for risk management and hedging. Specific responsibilities of the Back Office include the following:

1. Supports accounts payable and receivable operations.
2. Coordinates with City Finance the recording of all revenue and expenses in the general ledger and other subsidiary ledgers when appropriate.
3. Coordinates the recording of posted cash receipts and revenues with City Finance to the appropriate subsidiary ledger.
4. Settles transactions (verification, accounts payable/receivable)
5. Develops and maintain documentation outlining standard procedures for performing the settlement functions described herein.
6. Notifies the Front Office, Middle Office, and the General Manager of any discrepancies that result from the reconciliation process.
7. Oversees the safekeeping of transaction-related documents.
8. Maintains funding and reconciles and records activity in cash accounts held with other ERCOT and other market participants.

The Back Office reports to the Executive Manager of Energy Services and Administration.

SECTION 3 MARKET RISK PROTOCOLS AND EXPOSURE CONTROL

3.1 Market Risk Protocols

The following market risk protocols shall govern DME's participation in wholesale energy markets. Specific limits, methodologies, reports, operational procedures and approval processes are detailed in the EMO Procedures Manual.

- DME will ensure that it has full knowledge of its energy portfolio position and the resulting exposure and understands the implications of its energy management activities.
- Only personnel authorized by the DME General Manager, or his designee, pursuant to a written Delegation of Authority Memorandum or email copied to the middle office can transact on behalf of DME in the wholesale energy market (see Transaction Limits section of Appendix B).
- Personnel involved with DME's energy management activities will ensure they obtain competitive prices, transact based upon competitive market conditions and that counterparty credit risk is diversified by setting up master enabling agreements [such as the International Swaps and Derivatives Association, Inc. (ISDA), Edison Electric Institute (EEI), and the North American Energy Standards Board (NAESB)].
- DME may only transact in wholesale energy-market products authorized by this Policy and at retail price levels stipulated in the current rate manual or as approved by the PUB or City Council as applicable.
- DME may only transact within transaction limits approved and defined in this Policy.
- All energy transactions will be carried out on recorded phone lines, electronic trading platforms, via electronic media (including email and other online methods) or other media that can be recorded and documented.
- Metrics for assessing DME's market risk exposure will be specified, measured, monitored, and reported on a regular basis to the RMC.
- On a daily basis, all wholesale market transactions are recorded in the official system of record which captures and reports physical and financial positions so that each can be reviewed separately and in total so that net volume and price risk and collateralization requirements can be accurately assessed and managed in real time. This system also serves as a central check and balance tool; therefore, allowing for reconciliation of physical and financial confirmations with transactional input. This system also produces and reports risk information.
- Models and inputs for valuation and risk measurement and mitigation shall be subjected to a validation and change control process. The models employed and associated processes shall

be described in detail in the EMO Procedures Manual.

3.2 Authorized Transactions

Authorized types of transactions are addressed in Appendix D of this Policy. These transactions types are, and shall continue to be, focused on supporting the energy portfolio goals of the City Council and this Policy.

3.3 Market Risk Control

An important element to any energy risk management and mitigation program is the regular identification, measurement, and communication of market risk. DME's net "open" position (i.e., whether it needs to buy or sell energy products on a daily, hourly, monthly or annual basis to balance the energy portfolio) and the market exposure associated with its net open positions shall be quantified and compared against exposure limits contained in this Policy and discussed, on a regular basis, with the RMC.

Market exposure associated with these net positions shall be quantified using forms of measurement approved by the RMC. The market exposure measurement criteria shall be reviewed at least annually and consider changes in DME's net positions and existing and projected market conditions. The Middle Office shall have primary responsibility for coordinating the development, maintenance, and modification all market measurement methodologies within DME and for recommending approval of these methodologies by the RMC.

3.3.1 Risk Tolerance

For the purposes of this Policy, DME's Energy Risk tolerance is defined by the degree of uncertainty that DME can accept in its future financial ratios and customer rates on a projected basis.

DME's Energy Risk tolerance and measurement of Energy Risk shall include "at risk" forms of risk measurement such as Cash Flow at Risk ("CFaR") or Value at Risk ("VaR"), augmented with scenario analysis and stress testing. These forms of risk measurement are described in more detail in Appendix A – Risk Exposure and Transaction Limits and in sections of the EMO Procedures Manual.

3.3.2 Transaction and Exposure Limits

The setting of and the adherence to transaction limits is an important control element to ensure DME does not assume greater aggregate energy market exposure than is intended and helps ensure that the transaction strategy level is appropriate at various levels of aggregation (e.g. by commodity, delivery period, strategy, energy portfolio, etc.).

Appendices B and D, along with the EMO Procedures Manual, contain the Approved Transaction Types and the Transaction Limits for DME. It is the responsibility of the Front

Office, Middle Office and the RMC to utilize these limits to manage and mitigate risk-taking activities. The Front Office shall be responsible for maintaining exposures within prescribed limits and for recommending changes to those limits to the RMC when market conditions or operating circumstances result in limits becoming ineffective or inappropriate in controlling these activities.

The Middle Office shall be responsible for monitoring compliance with the Transaction Limits and obtaining approval from the RMC for any changes to Transaction Limits or the Transaction Limit structure. It is the responsibility of the Middle Office and Front Office to ensure that Transaction Limits are strictly enforced.

3.3.3 Stress Testing

In addition to mitigating and measuring financial exposure using the methods above, stress testing is used to examine performance of the energy portfolio under extreme adverse conditions.

In stress testing, extreme market conditions are applied to the portfolio to determine how the portfolio will perform under such conditions. Stress testing requires thorough evaluation of past market periods to determine those that would represent severe outcomes. In addition, the performance of the portfolio is also estimated for individual and combined potential market conditions. Such conditions are intentionally chosen to represent adverse conditions and combinations of conditions, even if they are extremely unlikely.

The Middle Office shall design and maintain a stress testing program, in consultation with the Front Office. The stress testing approach shall be reviewed by the Middle Office regularly, and the stress testing program shall be presented to the RMC for review on at least an annual basis.

3.3.4 Model Validation and Controls

A risk commonly faced by those involved with energy management activity is *model risk*—the risk that either the methodology or assumptions used to value the portfolio becomes invalid. Inaccurate assumptions and incorrectly designed models can cause risk management problems in every market. However, the complexity of energy models and their extended lifetimes, make these problems especially common in the energy markets.

Model risk occurs primarily for two reasons:

- The model may have fundamental errors the user is unaware of and may produce inaccurate outputs when viewed against the design objective and intended business uses.

- The model may be used incorrectly or inappropriately.

Ensuring adequate model documentation is an important control for managing modeling risk. This requires both organizing model information and accountability from people using and developing models.

DME keeps a record of all internally and externally developed models used in its operation (see EMO Operating Procedures 1-4), including:

- a description of the information input component (assumptions and data used by the model, including quantitative approaches whose inputs are partially or wholly qualitative or based on expert judgment),
- version control (when key model inputs or model processes change)
- processing component (which transform inputs into estimates), and
- reporting component (which translates the estimates into useful business information).

The Middle Office will review and validate models used by DME and report to the RMC annually.

3.4 Information Systems and Models

Energy risk management information systems consist of the data, models and other software and hardware used to collect, analyze, test, and validate transactions within DME's portfolio in order to monitor and control risk. Although various departments within the City of Denton or DME may have responsibilities for using and maintaining DME's risk management systems, the Middle Office shall have overall responsibility for ensuring that the systems are sufficient to perform the risk management functions outlined in this Policy.

As part of a service level agreement with the City of Denton Technology Services, the Middle Office shall also be responsible for maintaining the security, integrity and reliability of the software used for energy risk management purposes (e.g. valuation models, administrative and reporting software, energy risk management databases, etc.). Due to the commercially sensitive nature of the data in DME's energy risk management systems, access by DME employees shall be revoked immediately upon receipt of resignation notification.

In accordance with the service level agreement which is currently followed between DME and the City of Denton Technology Services, Technology Services shall be responsible for maintaining the integrity and reliability of the hardware used for both energy management and energy risk management purposes, including business continuity, disaster protection and recovery plans.

SECTION 4 RISK REPORTING

4.1 Risk Management Reporting Policy

Key to energy risk management is the monitoring of risks and the accurate and timely information that must be provided to all parties involved in any aspect of energy risk management to allow them to perform their functions appropriately. The separation of execution and reporting responsibilities is an industry best practice for ensuring that timely and accurate information is being reported.

On an annual basis, the RMC Chairman will meet with the PUB and City Council and provide details of the DME's forward purchases, market exposure, credit exposure, counterparty credit ratings, transaction compliance and other relevant data. In addition, DME will provide periodic training to the PUB and Council on energy market fundamentals and commodity trading best practices to help facilitate more productive risk meetings.

4.2 Risk Management Committee Meeting Updates

Minutes and meeting materials from quarterly RMC meetings will be distributed to the PUB and Council for their review.

At a minimum, quarterly RMC meetings will include a review of the following topics:

Controls Compliance

Identification of any activities that have exceeded permissible limits. The General Manager or his/her designee will provide details of the causes of any limit violations, the measures taken to mitigate future violations and a report of any disciplinary actions taken as a result of such violations.

Hedge Target Compliance

Provides an update on progress on executing latest hedge plan execution timetable.

Portfolio Competitiveness

Provides a comparison of latest 12-month cost/MWH vs ERCOT spot markets (Day-Ahead and Real-Time Market) and compares the market value of renewable resources to their contract costs.

Credit Exposure

Identifies the credit limit for each counterparty, current level of exposure with the counterparty, and remaining available credit. Also includes an update on current ERCOT credit requirements and thresholds.

4.3 Transaction Valuation

DME's financial records will be maintained in full accordance with generally accepted accounting principles ("GAAP"), Government Accounting Standards Board (GASB) and will be consistent with FERC Uniform System of Accounts.

Front, Middle, and Back Office functions shall coordinate their efforts and maintain vigilance to ensure that DME's energy management transactions and risk exposures are accurately valued in an unbiased manner. Transaction valuation and reporting of positions shall be based on objective, market-observed prices or models.

Open positions (i.e., whether DME needs to buy or sell energy on a daily, hourly, monthly or annual basis to balance customer loads against available resources) should be valued ("marked-to-market") daily, based on consistent valuation methods and data sources. Whenever possible, these valuations shall be based on independent, publicly available market information and data sources (e.g., Bloomberg, Reuters, NYMEX, ICE, broker quotes, etc.).

As noted in Section 2.2.2, the specification of position valuation methods is the responsibility of the Middle Office and is subject to RMC review. The Middle Office is responsible for obtaining and disseminating market pricing information (Section 2.2.2, item 2, page 13) in a timely and consistent manner, along with maintaining and updating transaction data and information sources used for trade evaluation (Section 2.2.2, item 1, page 13). The Middle Office is also responsible for assuring that data used for energy risk management calculations represent accurate and timely information available from reputable market or internal sources (Section 2.2.2, items 1 and 2, page 13).

SECTION 5 OTHER RESPONSIBILITIES AND POLICIES

5.1 Organization-Wide Responsibilities

It is the policy of DME and the City of Denton that all personnel adhere to standards of integrity, ethics, conflicts of interest, compliance with statutory law and regulations and other applicable standards of personal conduct.

The willful misrepresentation or concealment of information regarding portfolio management and/or risk management activities from senior management or any person responsible for the accurate tracking and reporting of such activities shall result in disciplinary action up to and including termination in accordance with DME and City of Denton policies and possible legal action as allowed or required by law.

As an employee of the City of Denton, all DME personnel involved with its energy management activity should not have an expectation of privacy in the conduct of their duties. At any time, recorded phone calls and electronic transactions, emails, texts, etc. may be reviewed to ensure appropriate conduct or to review transactional information.

5.2 Commercial Interests and Trading for Personal Accounts

All DME personnel who have any specific responsibilities delineated under this Policy or in the EMO Procedures Manual, are prohibited from engaging in the activities listed below:

- Physical or financial trading of any commodities stipulated in this Policy or in supporting departmental procedures for their own account

- Holding an undisclosed interest in any account or corporate entity (other than DME), which is used to trade the commodities described above.

If there is any doubt as to whether a prohibited condition exists, then it is the employee's responsibility to disclose and discuss the possible prohibited condition with their supervisor. In addition, any employee receiving taxable income from any person or business doing business with DME must file a Conflicts Disclosure Statement in accordance with Chapter 176 of the Texas Local Government Code. Failure to comply with these requirements may result in disciplinary action up to and including immediate termination of employment, in accordance with DME and City of Denton policies.

5.3 Acknowledgment of Policy Requirements

All DME personnel connected with the energy risk management program must sign a statement attesting that they have received, read, and understand this Policy document and the City of Denton policies regarding employee conduct. A sample statement is provided in Appendix G.

5.4 Adoption of Energy Risk Management Policy

The Energy Risk Management Policy shall be formally reviewed, approved and adopted by ordinance of the City Council annually in the second quarter of the City's fiscal year.

SECTION 6 CREDIT RISK POLICY

6.1 Introduction

The purpose of this credit risk policy is to establish a consistent process whereby the credit risk of future financial loss due to counterparty physical or financial non-performance is significantly diminished for energy purchases and/or sales. This objective will be accomplished by a pre-contract qualification and ongoing review process for all energy suppliers and/or purchasers in combination with effective on-going monitoring systems and established limits. Any energy transaction conducted by DME will comply with this Credit Risk Policy.

6.2 POLICY OVERVIEW

In general, all energy suppliers and/or purchasers will be subject to a financial review in accordance with DME's standards for determination of creditworthiness. Evaluation of a counterparty's financial health and its ability to deliver its product or to pay is crucial. Such review procedures prior to contract execution are designed to protect DME from undue exposure to losses that could arise from an insolvent counterparty not being able to pay for energy that they have purchased or to cover replacement costs incurred for term contracts that have positive economic value in relation to current market prices. A credit review cannot be viewed as the only mechanism to prevent any and all losses, but it can help identify those counterparties where performance has been a problem in the past or may present a problem in the future. Established limits combined with proper monitoring systems will help enable DME to effectively mitigate possible losses due to counterparty insolvency.

6.3 Credit Risk Control

Credit Risk is the potential impact on DME's financial performance due to the chance of non-performance in payment or delivery (either physical or financial) by an energy entity that has executed a commercial agreement with DME to buy and sell energy ("counterparty").

DME actively mitigates its energy credit risk by making informed decisions regarding which counterparties to transact with and to what degree. Credit risk is defined as the risk of counterparty nonperformance, or failure to deliver its obligation (whether with an energy product or the payment of amounts owed).

6.3.1 Credit Policies

DME mitigates its energy credit risk by

- Incorporating the expected transacting volumes, timing, and expected energy prices, when establishing an energy credit risk tolerance for a calendar year.

- Assessing counterparty creditworthiness and establishing credit limits for counterparties based on that assessment.
- Requiring a counterparty to be assigned a credit limit prior to transacting with it.
- Monitoring and assessing market and counterparty events to adjust credit limits as appropriate.
- Calculating and reporting the maximum expected loss if a counterparty defaults ("counterparty credit exposure").

6.3.2 Credit Limits

The EMO Procedures Manual includes a credit limit framework for DME's counterparties based on various factors such as debt ratings and financial statistics. Specific counterparty credit limits include consideration of financial ratios, audited financial statements, and asset quality. Credit limits and credit exposure based upon the trades in place with each counterparty and the market price for the net long or short positions with each is measured every day by the Middle Office. At least semi-annually the credit strength of each counterparty that DME is exposed to will be evaluated by the Middle Office, or immediately if their business conditions change or their credit rating has been downgraded and negative changes that have the potential to increase DME's credit risk will be reported to the RMC.

Prior to execution of any transaction with a counterparty, the Front Office verifies that the counterparty has available credit. In addition, no transaction shall be executed that will cause the counterparty credit limit to be exceeded unless explicitly approved by the RMC.

6.3.3 Counterparty Credit Function

The counterparty credit function includes counterparty credit analysis and approval of new and existing counterparties as well as the calculation, aggregation, monitoring and reporting of credit exposures. In addition to those activities mentioned in section 3.1, the Middle Office manages DME's credit function.

The objective of the counterparty credit function is to minimize the potential adverse financial impacts on DME in the event of a potential default by a counterparty. This is accomplished by:

- Establishing a credit risk mitigation structure within the energy risk management program.
- Providing a framework to enable DME to qualify energy suppliers and transact with approved counterparties.

- Determining counterparty transacting parameters ("transaction limits") to conservatively control and measure DME's exposure to any one supplier.
- Implementing conservative business processes and procedures (to be included in the EMO Procedures Manual) to gather and monitor financial information on each counterparty to estimate counterparty credit exposures.

6.4 Counterparty Credit Risk Assessment & Management

Counterparty Credit Risk (CCR) is defined as the risk that the counterparty to a transaction could default before the final settlement of the transaction's cash flows, where an economic loss would occur if the transactions (or portfolio of transactions) with the counterparty had a positive economic value at the time of default, or during the close-out period.

6.4.1 Counterparty Credit Rating

- A counterparty's credit rating is the basis for measuring its credit quality. DME assesses counterparty credit risk based on the latest ratings from the following external credit assessment institutions: S&P, Moody's and Fitch. If no external credit rating is available, the Middle Office will assess a counterparty's credit quality and approve an internal rating.
- If there are multiple ratings, the following rules shall apply: (i) If there are two ratings by external credit assessment institutions and the two ratings differ, the lower rating will be applied; (ii) If there are three ratings and they are not all equivalent, the rating in the middle shall be applied
- Whenever there is a rating change from an external credit assessment institution, the related counterparty's rating must be updated.
- It is important to recognize the limitations of externally produced credit ratings. Counterparties are the ones who are actually pay for a credit rating, the primary purpose of which is to facilitate their own borrowings and investment. Credit ratings agencies are not responsible for verifying the accuracy of the financial data supplied to them. For this reason, the Middle Office will also produce its own internal credit rating.
- The Middle Office will assess each counterparty's credit limit, using a broad analytical framework that includes:
    - Counterparty specific information (business activity; capital, leverage and earnings; risk position; funding and liquidity; ownership structures)
    - Macro factors (evaluate economic, industry and sector risks) and
    - External factors (parent/group support and government support)

6.4.2 Credit Limit Management

- To be effective a credit limit is not a guideline but a "hard stop" control that needs to be taken seriously by all internal stakeholders. It is a disciplined approach taken to potential breaches, increases and renewals.

- A counterparty's credit limit represents the maximum committed exposure DME will undertake with each counterparty with regard to credit, which may be less than the applicable Collateral Threshold value in the associated enabling agreement.
- Once a counterparty has been determined to be creditworthy, Middle Office will propose a maximum Credit Limit for approval by the Risk Committee.
- Although a counterparty may qualify for a certain maximum Credit Limit, the types of products to be transacted, as well anticipated transaction volumes, terms and other business factors may prompt Middle Office to set a lower limit for Front Office trading activities with that counterparty that is considered more appropriate.
- Middle Office will closely monitor each counterparty's credit quality and will alert the Risk Committee to any downside risk such as credit rating migration, key financial performance deterioration, potential event on cross default, etc. Early actions such as limit adjustment and collateral monitoring shall be taken to actively manage credit and liquidity risk exposure.
- Middle office shall actively manage collateral and margin based on the terms stipulated in the Collateral Annex to relevant enabling agreements.
- In the case of a counterparty default, a workout team shall be established under the leadership of the Middle Office with staff members of the Front and Back Office, City Finance and City Legal to design a timely workout plan, including any necessary recovery actions.
- DME may trade with Counterparties having sub-investment grade credit ratings or privately funded companies with no credit rating. However, entering into contracts with counterparties considered below investment grade or privately funded companies with no credit rating requires caution, greater business justification and should be accompanied by a greater level of monitoring.
- The Middle Office shall also monitor credit exposure on a portfolio level, including concentration risk.

6.4.3 Credit Limit Monitoring

The Middle Office will monitor the current credit exposure for each counterparty with whom DME transacts and include such information in the Current Counterparty Credit Risk Report which includes current counterparty credit exposure compared against limits and the limit assigned to Denton by the counterparty.

Current credit exposure is a measure of the known exposures and composed of two primary exposures – (1) realized exposure, and (2) unrealized or forward exposure. Realized exposure, a payable or receivable amount owed between counterparties, is a measurement of cash flow for billed and unbilled transactions. Unrealized or forward exposure is a measure of current unrealized exposure and includes the measure of a counterparty's incentive to fulfill contractual obligations. Unrealized or forward exposure measures the risk associated with having a payment default or the need to replace a transaction in the event of delivery default.

Appendix A PORTFOLIO RISKS

As an electric utility, participation in physical and financial energy markets exposes DME and its customer/owners to the risks of cost and pricing uncertainty, revenue and commodity market volatility, and uncertainty in meeting budget targets and the Energy Cost Adjustment (ECA) component of its retail rates. These risks may be broadly categorized into three risk categories: market, credit, and operational. Each category of risk is described below. The categories are not entirely separate: disruptions of planned operations, for instance, can expose a utility to the risk of having to execute unforeseen transactions during adverse market conditions.

The following section provides descriptions of the energy-related risks the Policy is intended to address.

A.1. MARKET RISK

DME manages energy purchases and sales with the goal of reducing the business risks associated with its obligation to serve energy to its customer/owners. These risks include volume-related and price-related risks.

A.1.1. Price Risk

Because of continual changes in the supply and demand for electricity, significant price changes can occur over a short time frame, otherwise known as price volatility. High price volatility means a high degree of uncertainty about the level of prices in the immediate time frame and the future. DME's price risk takes several forms, including: 1) exposure to changes in spot prices which DME faces in purchasing electric energy from the ERCOT market, 2) forward price risk of anticipated purchases or sales of power or fuel in the future and 3) the cost of energy-related products and services such as congestion revenue rights and ancillary services.

Price risk also includes the basis risk associated with potential differences in the price of a commodity between geographic locations that is inherent in the ERCOT and physical natural gas markets. For example, whenever DME must purchase power to satisfy native load requirements or is exposed to natural gas price uncertainty at various physical delivery points, DME is financially at risk due to the uncertainty in transmission or transportation costs between various locations.

A.1.2. Volume Risk

Volume Risk refers to uncertainty in the quantity of a commodity or service demanded, acquired, or supplied that has a potential economic impact. A primary volume risk for DME is the uncertainty associated with the amount of load DME will be required to serve. Weather conditions affect customer energy usage, and weather changes make forecasting of load and non-dispatchable resources a challenge, causing actual quantities to deviate from forecasts. Forced or unexpected outages of generation resources also impact DME's volumetric risk. Generation levels from renewable energy resources are based upon the weather conditions experienced at the location of the renewable resources. EMO Operating Procedures 1-4 contain details about DME's processes for developing forecasts of expected volumes associated with its portfolio of load and resources.

A.1.3. Liquidity Risk

DME transacts business in commodity markets that have inherent liquidity risk. Liquidity risk for DME arises when its intended transaction quantities exceed the size of current market bids (to buy) and offers (to sell). When DME desires to execute a transaction for a volume/quantity in excess of current market bids or offers, potential counterparties may be unwilling or unavailable to transact with DME. Transactions of nonstandard sizes and types also present liquidity risks.

Liquidity risk should also be considered with regard to positions thought to be offsetting, but that may become open in the event that a counterparty defaults on their transaction responsibility (also referred to as "default risk"). It may be difficult to replace defaulted transactions on short notice. If a position must be covered quickly, the price of the necessary replacement transaction can be worse than if no urgency existed, especially if the potential counterparties know about the urgent need, putting DME as a significant disadvantage.

A.2. CREDIT RISK

DME is at risk if a customer, supplier or trading counterparty is unable or unwilling to fulfill its present or future contractual obligations to deliver power or fuel, or to make a timely payment of invoices or collateral.

A.2.1 Credit Risk

Credit Risk equals the potential replacement value of counterparty contractual obligations to deliver or receive power or fuel, or to make a timely payment to settle a

financial contractual obligation. The potential financial impact from counterparty defaults is significant. DME's credit risk is addressed in a separate Credit Risk Management Policy.

A.2.2. Funding Risk

Funding risk is related to credit risk. This term refers to the risk that DME might have to pay margin or post collateral to meet requirements to securitize its credit under credit provisions of Power Purchase Agreements, wholesale energy market, or to meet margin requirements for cleared contracts. In the event of significant funding risk associated with the default of a counterparty or the inability of the DEC to produce energy resulting in large replacement energy costs, the City of Denton's reserves would be required to provide cover costs.

A.3. OPERATIONAL RISK

The term operational risk is often used as a catch-all category intended to include all risks that are not explicitly designated by other names, such as market risk, volume risk, liquidity risk, and credit risk. Operational risks include problems of several types that can have adverse financial consequences, and that relate to the operations of DME's energy portfolio, identification and control of risks, and processing and settlement of transactions. One such risk is Model Risk.

A.3.1. MODEL RISK

Model risk is a form of systems risk associated with unrecognized deficiencies of information systems used to in value transactions. A model may incorporate assumptions to derive unobservable pricing parameters from observable ones. There is a risk that a particular model used to value a transaction may not properly capture the value and risks of the transaction, and that its deficiencies may emerge only after the fact, following unfavorable market movements.

A.3.2. DENTON ENERGY CENTER OUTAGE RISK

A forced or unexpected outage of the DEC when the output from the units are anticipated to be used to hedge market price risk due to lower than expected renewable energy generation is an operational risk. This risk is mitigated by a) preventative maintenance programs designed to minimize forced outages b) not over-committing energy and capacity from the DEC during times of likely high prices, and c) the purchase of out-of-the-money call options. DME may also recommend to City Council the purchase of outage insurance for specific time periods during the year if, upon evaluating the results of a solicitation, DME determines the associated insurance premiums are economical.

A.4. REGULATORY RISK

Regulatory risk is the uncertainty to DME's performance due to potential changes in laws or regulatory mandates. Examples include, but are not limited to, the following.

A.4.1 Carbon Cost

Unless explicitly borne by an energy supplier, DME is exposed to the potential risk of carbon costs. Any applicable law, rule, regulation, ordinance, protocol, order, decree, judgment or other similar legal mandate could cause DME to pay carbon costs associated with the production, generation, sale, metering, measurement, transmission, storage or delivery of electric energy.

A.4.2 Changes to ERCOT market design

The PUCT has directed ERCOT to study the impact of changes to its market design, which could have a significant impact on the flow of dollars between suppliers and consumers of power, possibly triggering the need to renegotiate long-term power contracts and changing the valuation of existing generation assets.

A.4.3 Ongoing changes to ERCOT Protocols

The rules under which ERCOT operates are in a constant state of change. In fact, they change so often that ERCOT's governing board has a committee (Protocol Revisions Subcommittee) that meets monthly to review and process proposed changes submitted by ERCOT and its market participants. These changes usually impact how costs are allocated within ERCOT among market sectors, consumers and suppliers of power, and individual market participants like DME.

A.4.4 Regulatory Compliance

Market Participants in the ERCOT region are subject to both state and federal laws and regulations.

Market Participants that own or operate facilities that are part of the Bulk Electric System, as defined in federal law, are subject to oversight by the Federal Energy Regulatory Commission (FERC), the North American Electric Reliability Corporation (NERC), and Texas Reliability Entity, Inc. (Texas RE).

Additionally, all ERCOT Market Participants are subject to oversight by the Public Utility Commission of Texas (PUCT). The PUCT administers the Public Utility Regulatory Act (PURA), and adopts and enforces rules pursuant to the authority granted in PURA. The

PUCT also has oversight and enforcement authority over the ERCOT Protocols, Operating Guides, and Other Binding Documents. The PUCT has contracts with an Independent Market Monitor (16 T.A.C. §25.365) and a Reliability Monitor (16 T.A.C. §25.503) to assist with oversight and enforcement activities.

Appendix B RISK EXPOSURE AND TRANSACTION LIMITS

DME's energy supply, trading and risk management-related activities shall be segregated among a number of "risk books." A risk book is a way of classifying and tracking positions and transactions that have similar or directly related purposes so that value and risk can be measured in sufficient detail to support both risk control and transaction strategy decisions. The establishment and management of risk books enables the EMO to focus on the optimization of individual risk consistent with the approved Hedge Plan.

B.1 Risk Books

Load Book
A Load Book captures all transactions (for prompt month or beyond) associated with hedging energy to serve city load.

Renewables Book
The Renewables Book captures the value of all transactions (for prompt month or beyond) associated with hedging long-term renewable energy positions.

Optimization Book
The Optimization Book captures opportunistic hedges (for prompt month or beyond) which are intended to lower the cost of power relative to established program goals and financial projections. Optimization trades require immediate execution of transactions if a stop is hit or a market reversal occurs. Such market condition must be reacted to immediately as delays associated with waiting for Risk Committee, or GM approval could cost rate-payers significant additional ECA charges and/or opportunity costs.

After hedge is placed, if positive MtM is realized and market is in fundamental or technical reversal, EMO will be authorized to "optimize" the original hedge. Such optimization trades are subject to the limitations contained in this Risk Policy and shall be conditional trades as specified in the Hedge Plan.

Congestion Book
The purpose of the Congestion Book is to track the purchase of CRRs and associated financial instruments (see Section B.5.2 below), which are purchased in ERCOT auctions

or in the ERCOT Day Ahead Market and used to hedge against transmission congestion risk.

DEC Book
The DEC Book includes hedge transactions (for prompt month or beyond) associated with the Denton Energy Center.

DEC Gas Book
The DEC Gas Book includes hedge transactions (for prompt month or beyond) associated with the Denton Energy Center's fuel costs.

Cash Book
The Cash Book captures physical and financial hedges with a duration of less than one month.

CORE HPC Book
The Core HPC Book includes hedge transactions (for prompt month and beyond) associated with the load the Core Scientific data center.

B.2 Risk Exposure Limits

An essential control element in the management of market risk is the development and adherence to an appropriate limit structure. A well-designed limit structure helps ensure DME does not assume greater aggregate risk than intended and helps ensure that risk taking at the transaction strategy level is appropriate at various levels of aggregation (e.g., by commodity, delivery period, strategy, etc.).

The primary forms of limits listed below shall be applied to DME's energy management activity:

Rates at Risk – Rates at Risk ("RaR") is a form of Cash Flow at Risk (CFaR) measurement. RaR limits will be set to limit the amount of uncertainty in future rates over the immediately upcoming 12 to 36-month period. If uncertainty in future rate requirements is higher than DME's risk tolerance, DME will consider hedging or implementing other risk management strategies to reduce the potential need for unforeseen rate increases and/or deterioration of DME's financial condition.

Value at Risk –Value at Risk ("VaR") limits will be set to limit the potential loss in value of the portfolio.

Notional/Volumetric –To augment RaR and VaR limits, notional limits and/or volumetric limits will be established. Notional limits are specified based on transaction or strategy dollar amount (i.e., contract or strategy volume x price). Volumetric limits are specified

based on volume (e.g., MW, MWH, MMBTU, etc.). This provides a concrete limit to account for uncertainties in risk measurement and human judgment capabilities. Other volumetric limits may be established in relation to specific risks not captured by RaR or VaR.

ERCOT – Implementation of the ERCOT Real Time Market (RTM) and Day Ahead Markets (DAM) require daily attention to Available Credit Limits (ACL) and forward liability calculations. The Back Office shall actively monitor and communicate any changes affecting current credit positions.

Stop Loss –Stop loss limits are set, such that, if an individual position or strategy (or a hedge transaction or strategy which has become ineffective, including optimization trades) is performing adversely and approaches a predetermined level of losses, the position or strategy must be liquidated or completely hedged to prevent further loss.

B.3 Portfolio Risk Exposure Limits

Because ERCOT is responsible for ensuring physical reliability of the grid, DME's efforts focus primarily on managing the rate impact of price volatility risk of its portfolio. For the purposes of managing this risk, DME will assume an average consumer risk tolerance (CRT) equivalent to 1 cent per kWh of load over a rolling 12-month period. For the avoidance of doubt, under the current DME rate structure, the CRT applies to the total average cost per kWh on an annual average basis for the residential class. A CRT in excess of 1 cent per kWh outside the 12-month rolling average will be reported to the RMC as soon as it becomes known to DME.

Hedging is DME's primary method for reducing market price volatility risk, either by locking in or limiting the amount of variation of a future market price. The "downside" of hedging is that it not only reduces the chances of incurring higher costs than expected, it also reduces the chances of lower-than-expected energy costs, and correspondingly lower electric rates.

DME uses an "at Risk"[2] methodology to estimate, at a 95% confidence level, the amount of an electric rate increase that could occur due to changes in market conditions such as volumetric risk associated with its renewable resources, ERCOT day-ahead and real time market price volatility, gas price volatility, nodal price congestion, price correlations and credit risk.

If DME's estimate of a rate increase, at a 95% confidence level, exceeds the CRT threshold by 25%, DME will meet and confer with the RMC within 2 weeks, and with the City Council and PUB

[2] The "at Risk" metric DME will use is based on a "Rates at Risk" (RaR) methodology, which refers to the statistical dollar amount that can be lost on the net open position of a portfolio over a specific time horizon and with a given confidence interval. DME's RaR methodology accounts for the increasing potential distribution of prices as time passes, as well as the expiration of the positions in the portfolio with the passage of time. The result is the estimation of loss, at the specified confidence level, assuming that the portfolio remains constant over time until all positions within it have expired.

as noted in the table below within 30 days after meeting with the RMC, to discuss alternatives for implementing additional hedging strategies to bring the level of possible price volatility back inside the CRT threshold. No particular portfolio action is required, making this notification requirement very different from a trading limit.

"At Risk" limits for the total portfolio are:

	RMC Notification	**Council / PUB Notification**
Rolling 12 months (in aggregate)	$15.0 million	$19.0 million

B.4 Open Position Management

DME's primary objective is to protect against risks inherent in its portfolio, such as exposure to price volatility and from variability in supply and demand. DME plans to execute hedging transactions relatively evenly over time, to diversify timing risk (similar to dollar cost averaging) and does not speculate[3] . Market transactions shall be executed as a result of strategies designed to maintain the net open position (the gap between expected demand and committed supply) within tolerances which are consistent with current hedging strategies. The resultant net open position shall be updated to reflect the new hedging transactions as soon as practical, but generally no later than the next business day.

The hedge plan provides targets for hedging action of the DME's loads, renewable resources and the Denton Energy Center as a function of time for the next three years.

B.5 Transaction Limits

Another vital control element in the management of energy risk is the development and adherence to transaction limits. Transaction limits ensure the energy portfolio management function is prudent, deliberate, and controlled at various levels of position aggregation and transaction duration. Transaction limits are established in consideration of overall portfolio strategies, market conditions and risk tolerance levels and include the following principles:

- DME personnel involved with its energy management activity are authorized to execute any intra-day or day-ahead transaction which is necessary to mitigate market and financial risk exposure to DME customer/owners.
- Speculative transactions are those transactions not intended for hedging purposes and are strictly prohibited. For the avoidance of doubt, Optimization Trades as described in

[3] The US Commodity Futures Trading Commission defines a speculator as "a trader who does not hedge, but who trades with the objective of achieving profits through the successful anticipation of price movements" (CFTC Glossary: A guide to the language of the futures industry).

the Hedge Plan, are not classified as speculative transactions. All transactions shall either reduce risks or be risk neutral to DME customers.

- No transaction may be executed for which DME does not have adequate systems or analytical methods to track, record, value, or analyze the incremental cash flow and risk.
- Any single transaction for a term greater than three years must be approved by the RMC prior to execution.
- Scheduling of loads and resources, along with corresponding bid or offer prices associated with ERCOT Day Ahead Market (DAM), ERCOT Real Time Market (RTM) or ERCOT Supplementary Ancillary Services (SASM) Market are not subject to this Risk Policy or to the limits outlined below and do not require prior RMC approval.

All executed transactions must be recorded and captured in DME's ETRM system of record. Further, all transactions may be conducted on recorded phone lines, electronic trading platforms, or other media that can be recorded and documented. Confirmations of transactions will be compared with the ETRM transaction records by Middle Office, verified and executed by Middle Office personnel. Confirmations for transactions with ERCOT are evidenced through the ERCOT Settlement Summary statement.

The following tables outline the transaction authorization limits established for DME personnel involved with its energy management activity when executing transactions. Those personnel are permitted to execute transactions up to their designated limits or up to the limits of the roles they supervise. They may also execute transactions on behalf of someone having the required authority. Only the Approved Transaction Types listed in Appendix D may be executed unless otherwise approved by the RMC.

B.5.1 Bilateral or Financial Power Transaction Limits

Title	Term	Lead Time	Transaction Size (MW)	Cumulative Volume Limits (MWh)
City Council	No Limit	No Limit	No Max	No limit
City Manager or RMC	≤ 8 Year	≤ 7 Years	300	10,000,000 per 5 Full Calendar Years rolling average
DME General Manager	≤ 7 Year	≤ 5 Years	150	8,000,000 per 5 Full Calendar Years rolling average

Executive Manager Power Supply	≤ 4 Years	≤ 4 Years	100	16,000,000 per 3 Full Calendar Years or 36-month rolling average
EMO Division Manager Energy Market Manager Portfolio Optimization Manager	≤ 24 Month	≤ 24 Months	100	24,000,000 per 36 month rolling average
Market Operations Lead Senior Energy Market Analyst	≤ 6 Month	≤ 24 Month	50	6,000,000 per month
Senior Market Operator Market Operator	≤ 2 Month	≤ 2 Month	150	1,250,000 per week

Notes:

- Transaction Size Limits represent MW volume per hour.
- Lead time represents the time period from the date a trade is executed to the start of delivery.
- Authorized products include electric power, including both physical and financial derivatives[4], as well as ancillary services. Financial derivatives may be over the counter Electric Power Futures, Heat Rates and Options on Electric Power and CRRs or Exchange Traded Products.
- Authorization for approval of these transactions may be delegated. If transaction authority is delegated downward, volumetric limit applies to approving authority.

B.5.2 Congestion Management Transaction Limits

Title	Auction Type	CRR Auction Period	Approved Instruments	Time Period	Source/Sink Combinations
DME General Manager	Annual & Monthly	Any month or TOU offered by ERCOT (5 years)	CRR	Time of Use	All ERCOT Resource Nodes, all ERCOT Hubs and Load Zones

[4] As used here, a derivative is a contract that derives its value from the performance of an underlying asset or index.

Executive Manager Power Supply	Annual & Monthly	Any month or TOU block offered by ERCOT (SEQ 6 or less)	CRR	Time of Use	Conventional Resource Nodes, Primary Hub and Load Zone
EMO Division Manager Portfolio Optimization Manager Energy market Manager	Annual & Monthly Daily	Any month or TOU block offered by ERCOT (SEQ 3 or less) N/A	CRR Point to Point Obligations/Options	Time of Use Hourly	Conventional Resource Nodes, Primary Hub and Load Zone
Energy Market Manager Senior Energy Market Analyst Sr ERCOT Transmission Analyst	Monthly Daily	Any month or TOU block offered by ERCOT (Monthly Auction) N/A	CRR Point to Point Obligations/Options	Time of Use Hourly	Conventional Resource Nodes, Primary Hub and Load Zone
Senior Market Operators	Daily	N/A	Point to Point Obligations/Options	Hourly	Conventional Resource Nodes, Primary Hub and Load Zone

Notes:

- Annual CRR auctions occur monthly for successive 6-month periods (called "sequences" or SEQ) with progressively increasing amounts of transmission capacity available for purchase in each sequence. A copy of the current CRR Activity Calendar which shows key dates associated with each Monthly and Annual CRR auction at http://ercot.com/mktinfo/crr
- Monthly CRR auctions end about 2 weeks before the CRR effective start date
- Conventional Resource Nodes include Denton Energy Center, White Tail & Santa Rita Wind Farms, Blue Bell Solar Farm and resource nodes or ERCOT Hubs associated with fully executed PPAs
- Primary ERCOT Hub is “North Hub”
- Primary ERCOT Load Zone is “Load Zone North”

- The purchase of CRRs for each Source/Sink pair from all ERCOT auctions is limited to the nameplate rating of the generator for City-owned resources or the contract capacity rating for PPAs.

A Congestion Revenue Right (CRR) is a financial instrument that results in a charge or a payment to the owner, when the ERCOT transmission grid is congested in the Day Ahead Market (DAM). DME uses CRRs as a financial hedge to lock in the price of congestion at the purchase price of the CRR. DME also hedges congestion in ERCOT's Real-Time market by buying CRR-like instruments called Point to Point (PTP) Obligations.

The main purposes of the ERCOT CRR market are to:

- Support a liquid energy market by providing tradable financial instruments for the hedging of transmission congestion charges
- Allow market participants to eliminate or greatly reduce the cost uncertainties resulting from transmission congestion charges
- Encourage competitive energy trading, where the costs of congestion might otherwise be an impediment

DME's primary objective for hedging congestion risk is to mitigate potentially adverse financial consequences from uncertain price differences caused by transmission congestion between the location where it consumes power (ERCOT LZ_North), the locations where it purchases power on a forward basis (EROTT North Hub), and the ERCOT nodes associated with its resources (Denton Energy Center, White Tail & Santa Rita Wind farms, Blue Bell solar farm and future renewable resources).

DME is exposed to transmission congestion risk for all amounts of energy forecasted to be consumed in the ERCOT North Load Zone, and energy that could potentially be produced at their respective resource nodes. By default, ERCOT charges all DME load for energy, along with any congestion, in the Real Time Market ("RT"). DME mitigates congestion risk with congestion hedges using Congestion Revenue Rights (CRRs).

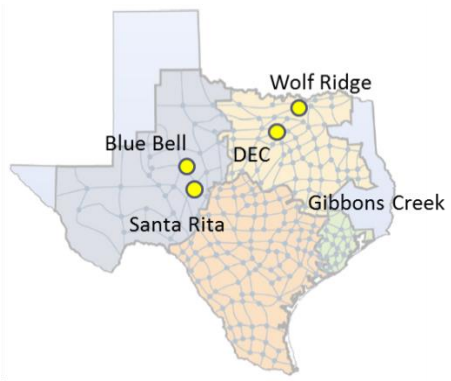


Figure 1

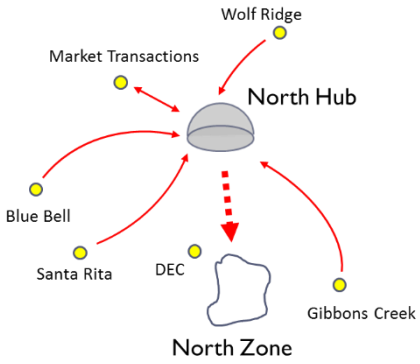


Figure 2

DME hedges congestion risk between each resource and ERCOT's North Hub location, and between North Hub and North Load Zone, by participating in ERCOT's annual and monthly auctions, layering in CRR purchases for up to 3 years into the future. The North Hub is also used as a delivery point for bilateral trades (for liquidity purposes)

Consistent with DME's approach to hedging energy, DME seeks to acquire CRRs at steadily increasing amounts roughly corresponding to Auction Capacity Percentages, to diversify timing risk, similar to dollar cost averaging, and does not use event-driven trading to time the market, trading in and out of positions. DME employs a tiered approach in ERCOT's annual and monthly auctions[5].

[5] In practice, this "buy as much as possible as early as possible" strategy means DME includes low bids for the full amount of remaining CRRs needed in each auction to maximize the chances of capturing low clearing prices while at the same time preventing credit collateral requirements from becoming unnecessarily high

B.5.3 Physical or Financial Natural Gas Transaction Limits

Title	Term	Lead Time	Transaction Size (MMBTU)
City Council	No Limit	No Limit	No Max
City Manager or RMC	≤ 8 Years	≤ 5 Years	246,000,000 per 36 month rolling average
DME General Manager	≤ 7 Years	≤ 5 Years	200,000,000 per 36 month rolling average
Executive Manager Power Supply	≤ 4 Years	≤ 5 Years	150,000,000 per 24 month rolling average
EMO Division Manager Energy Market Manager Portfolio Optimization Manager	≤ 24 Months	≤ 36 Months	50,000,000 per 3 month rolling average
Senior Energy Market Analyst	≤ 6 Months	≤ 24 Months	2,000,000 per month
Senior Energy Market Operator Energy Market Operator	≤ 2 Month	≤ 2 Months	N/A

Notes:

- Natural Gas transactions limited to the following locations: Henry hub or locations within Texas which are physically or financially correlated to DME energy costs

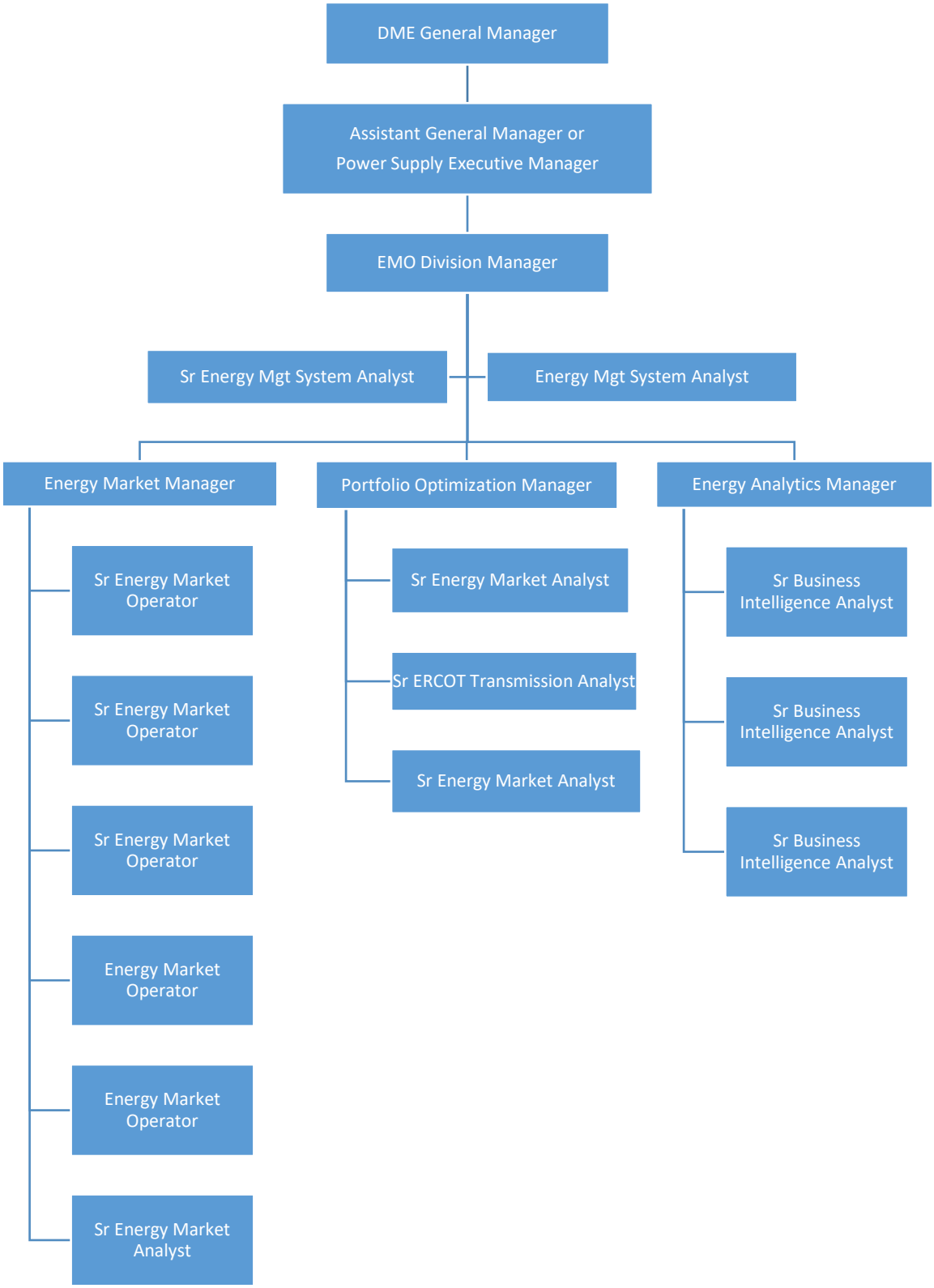
- Authorized products include natural gas, including both physical and financial derivatives. Financial derivatives may be over the counter Gas Futures and Options or Exchange Traded Products

B.5.4 Renewable Energy Credit ("REC") Transaction Limits

	Per Transaction Limits (up to)		
Title	Vintage	Volume	$/REC
City Council	No Limit	No Limit	No Max
City Manager	≤ 5 Years	9,500,000	No Max
DME General Manager	≤ 3 Year	5,750,000	No Max
Executive Manager Power Supply	≤ 3 Years	5,750,000	No Max
Manager, EMO Market Operations Manager Energy Analytics Manager	≤ 2 Years	3,750,000	No Max

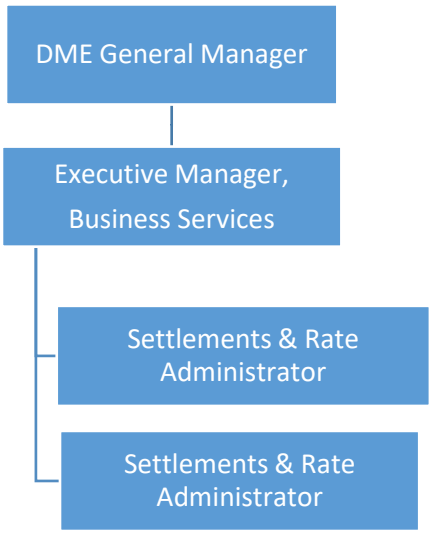
Appendix C ORGANIZATIONAL STRUCTURE

Energy Management Organization Front Office


DME General Manager
Assistant General Manager or
Power Supply Executive Manager
EMO Division Manager
Sr Energy Mgt System Analyst
Energy Mgt System Analyst
Energy Market Manager
Portfolio Optimization Manager
Energy Analytics Manager
Sr Energy Market Operator
Sr Energy Market Operator
Sr Energy Market Operator
Energy Market Operator
Energy Market Operator
Sr Energy Market Analyst
Sr Energy Market Analyst
Sr ERCOT Transmission Analyst
Sr Energy Market Analyst
Sr Business Intelligence Analyst
Sr Business Intelligence Analyst
Sr Business Intelligence Analyst

Energy Management Organization Middle Office

Energy Management Organization Back Office



Appendix D APPROVED TRANSACTION TYPES

Products allowed for energy management activities include the purchase and sale of electric energy, ancillary services, natural gas and ERCOT Congestion Revenue Rights/Point to Point Obligations. The purchase and sale of Renewable Energy Credits are also allowed as needed to meet Denton Renewable Energy Plan goals. The City Council is responsible for authorizing all products and commodity types.

All transactions must follow certain requirements as described throughout this Policy. Key elements include:

- All transactions must be executed to by authorized transacting personnel
- All transactions must be with approved counterparties and/or commodity exchanges
- All transactions must be with counterparties with adequate available credit or fully collateralized
- All transactions must be committed over recorded phone lines or via recordable electronic communications
- All transactions must be approved transaction types
- All transactions must be consistent with this Policy and the EMO Procedures Manual

Failure to observe the above minimum requirements when executing energy transaction is a violation of Policy and is subject to disciplinary action.

AURTHORIZED MARKETS

DME may only execute transactions to buy or sell energy-related products after some type of enabling agreement has been signed with a counterparty or commodity exchange. In approving DME's Energy Risk Policy, the City Council has authorized the City Manager, or his designee, to sign such agreements.

Examples of markets where DME is currently authorized to transact include:

- Intercontinental Exchange (ICE)
    - ERCOT Physical and Financial Power
    - Natural Gas futures

- Bilateral markets with approved counterparties
    - Physical Natural Gas at locations within Texas and Oklahoma to support fuel purchases for the Denton Energy Center and DME's energy portfolio
    - Physical and Financial Power
- ERCOT
    - Day Ahead Market
    - Real Time Market
    - Ancillary Services Market
    - Congestion Management Auctions and Markets

AUTHORIZED POWER TRANSACTIONS

Power transactions shall be limited to delivery or exposure to power within ERCOT. Before executing any of the following hedges FOR THE FIRST TIME, DME will provide notification to the Risk Committee, along with an explanation of the risks and benefits of expanding our use of hedging instruments.

1. Physical
    a. Fixed-price & Index-price purchases and sales to third parties or between internal DME risk books.
    b. Call & Put Options (e.g., fixed & indexed, hourly, Time of Use, daily monthly, annually)
    c. Ancillary services

2. Financial
    a. Fixed-price & Index-price purchases and sales
    b. Exchange traded, bilateral or OTC Call or Put options[6]
    c. Ancillary Services
    d. ERCOT Congestion Revenue Rights (CRRs), Point to Point Obligations (PTPs) and other similar congestion management transactions.

AUTHORIZED NATURAL GAS TRANSACTIONS

Natural Gas transactions shall be limited to Henry Hub or a location within Texas or Oklahoma to support commodity exposure for DME's energy portfolio. Before executing any of the

[6] For example, fixed & indexed, hourly, Time of Use, daily monthly, annual options

following hedges FOR THE FIRST TIME, DME will provide notification to the Risk Committee, along with an explanation of the risks and benefits of expanding our use of hedging instruments.

1. Physical Gas which may be needed to support operation of the Denton Energy Center
    a. Fixed and index price Natural Gas commodity
    b. Fixed and index price Natural Gas transportation
    c. Fixed and index price Natural Gas storage
2. Financial
    a. Exchange traded, bilateral or cleared futures and Exchange or OTC swaps
    b. Exchange traded, bilateral or cleared and or OTC Call or Put options[7]
    c. Index options

OTHER AUTHORIZED ENERGY-RELATED COMMODITY TRANSACTIONS

1. Tolling agreements[8] for use as a vehicle for executing the physical power and gas options mentioned above. They shall be structured as financially settled transactions using the Day-Ahead and real-time ERCOT settlement price.
2. Structured transactions[9]

3. Physical Renewable Energy Credits (RECs) including two prior vintage years and all forward years up to the tenor of vintage limits set in the table under section B.5.4 above.

[7] Ibid.

[8] Tolling agreements are contracts where DME would essentially "rent" a power generation facility from its owner, paying a set fee to utilize the facility to convert fuel into electricity while retaining control over the operation and dispatch of the power generated.

[9] Structured contracts go beyond standard market contracts like futures and swaps and are tailored to address the specific risk profiles of the buyer and seller. They typically involve transactions where the quantity, duration or time periods do not line up with transactions regularly traded in over the counter markets or on commodity exchanges.

Appendix E FORWARD HEDGING STRATEGIES AND PLANS

Successful management of the price and volumetric risks faced by DME requires analysis, monitoring, and communication. Analysis of published weather forecasts and market price data serve as key inputs to models used for planning and ensures that the appropriate data is converted into useful information. Consistent with market risk policies defined herein and the risk limits defined in Appendix A, DME, in concert with the RMC, develops annual hedging strategies with underlying hedging plans as a means to manage the volumetric and price risks faced by the utility. A review of the status of current hedging plans will typically be a topic of discussion at RMC meetings.

During the second quarter of the Fiscal Year, DME shall submit a confidential updated Hedging Strategy to the RMC for managing the key components of its energy portfolio (load, renewables, congestion risk and the DEC) for the upcoming three (3) full calendar years. Due to the complexity of the wholesale energy markets and the energy regulatory environment, the Hedging Strategy may require several iterations to the Hedging during each year due to market conditions. The RMC shall provide an update of its current Hedging Strategy to the PUB and Council as soon as practical after it has been approved. The Hedge Plan is a confidential strategy document and, if requested, will be presented to the PUB and City Council in closed session.

Each Hedging Plan will:

- Cover a clearly specified forward time period.
- Explain the justification for the hedge (a general description of the resource mix and load that contribute to the open position for the specified time period, along with the Open Position tolerances for the specified forward time period).
- Define a volumetric limit for hedge purchases and sales.
- Document transaction types expected to be used to carry out the Hedging Plan.
- Proposed price triggers that will enable hedging activity within the Hedging Plan's limits.

DME may, at any time, request that the RMC consider changes to the current Hedging Strategy or to an individual Hedging Plan. Any approved changes to the Hedging Strategy or Hedging Plan shall be recorded in the RMC meeting minutes and an updated written Hedging Strategy or Hedging Plan document will be prepared as soon as practical incorporating such changes. All hedge strategy documents shall be confidential and not subject to the open record requirements due to the proprietary and commercial sensitivity of the plans. If it becomes apparent to DME management that additional transactions to reshape expected monthly forward positions are necessary given changes in generation

forecasts, market conditions, and load forecasts, the DME General Manager may direct EMO staff to enter into and execute such transactions to rebalance the forward position. These transactions will be discussed in RMC meetings ahead of time if conditions allow or reported after the fact and documented in the minutes of the next RMC meeting. Changes to the Hedge Plan outside the annual review and approval of the Energy Risk Policy does not require approval of the PUB and City Council. However, all transactions undertaken will still comply with the authority limits contained in this Energy Risk Policy.

Appendix F 2024 -2025 DME HEDGE PLAN

Hedge Plan Overview

The management of price and volume risk associated with the obligation to provide reliable, economically priced wholesale electric energy to the customers of Denton Municipal Energy ("DME") is one of the main responsibilities of DME. This responsibility is both a short term and long-term activity. Understanding the potential risks and their impacts along with executing hedging transactions (trades) that reduce or eliminate price risk while providing stable and predictable wholesale energy costs is the objective of the Hedge Plan.

The Hedge plan is a high-level summary and a tactical plan for managing the risks associated with the provision of energy and ancillary services required to meet the demands of the City of Denton, its residents and its businesses. Because the Hedge Plan lays out the specific risks and the plans to manage those risks into the future, it is a confidential document containing market sensitive information and is protected pursuant to Texas Government Code Section 551.086. The Hedge plan is however a component of the DME Risk Policy, and this summary is included to describe the purpose and methods that will be utilized by the EMO to remove risk from the power supply portfolio.

The Hedge Plan does not provide a comprehensive description of the day-to-day activities of the EMO, but rather provides a description of the risk reduction transactions that will be authorized for the EMO to execute. The intra-day optimization of positions for the benefit of customers and the required scheduling and interaction with ERCOT in its role as the transmission reliability entity of Texas will continue to be the primary focus of the EMO.

The uncertainty of load and renewable energy generation at any specific point in time coupled with the changing price for power at each delivery point (generation and load) every five minutes and the variability of natural gas price for the DEC make a single algorithm to determine hedge actions impossible. Consequently, DME will seek to de-risk the supply and demand component of its positions by looking at each position independently. Maximizing value and minimizing price risk to customers for each position is manageable and quantifiable and as such the Hedge Plan will be executed on a position-by-position basis. The main positions include Load; Renewable Energy Generation and associated basis or congestion positions; and the Denton Energy Center Position.

This Hedge Plan sets forth the types of risk-reducing transactions that are recommended, along with the execution and optimization strategies that will be employed by DME through the EMO department. All recommendations are based upon the risk positions that DME owns and their relative risk is the current forward markets. Forward markets change daily and on an intraday

basis and the Hedge Plan is intended to permit sufficient flexibility to the EMO personnel, consistent with the Risk Management Policy, to react to these market changes. However, the Hedge Plan sets specific targeted volumes for hedging each position by certain dates and with an objective for each set of trades entered into to reduce risk. The DME middle office will monitor compliance with the mandated activities in the Hedge Plan and will report on the compliance status on a daily basis to the front office and DME management. Any violations of limits or requirements in the Hedge plan and Risk Policy will be reported to the Risk Committee along with any recommended mitigation and disciplinary action if required.

Appendix G NEW PRODUCT/MARKET INSTRUMENT APPROVAL CHECKLIST

Checklist Items	Primary Accountability
Benefits	
Identify and describe the benefits of using the new product	Front Office
Risk	
Understand and document the payoff profile of the new product	Front Office
Identify and analyze credit risk of new product	Middle Office
Develop methodology for measuring credit risk of new product (mark-to-market, potential exposure, stress exposure.	Middle Office
Identify prospective counterparties for new product/instrument and determine credit suitability.	Front Office & Middle Office
Approve new product valuation methodology.	Middle Office
Determine if staff, systems, and management skill sets are sufficient for valuing and transacting new product.	Middle Office
Determine physical disposal or financial settlement requirements.	Front Office & Back Office
Determine stress test requirements for new product.	Middle Office
Define how stress testing must be performed (frequency, scope, independent source).	Middle Office
Financial	
Define the capital requirements (exchange margin or collateral) of the new product.	Front Office & Middle Office
Determine contract documentation required.	Front Office & Middle Office
Accounting, Tax, and Regulations	
Identify applicable U.S. and local regulatory restrictions for new product.	Back Office/City Finance
Determine regulatory compliance requirements, if any, for new product.	Middle Office & Back Office/City Finance

Review accounting policies and approve proposed treatment.	Back Office/City Finance
Determine audit requirements.	Back Office/City Finance
Consider tax consequences of new product.	Back Office/City Finance
Policy	
Verify counterparty authority to enter into contract for new product.	Middle Office
Develop and implement monitoring and review procedures to ensure Policy compliance.	Middle Office
Define procedures and responsibilities for independent verification of positions and market valuation inputs (prices, and volatilities if applicable).	Middle Office
Determine impact on position/risk limits/hedge targets	Middle Office
Determine and define procedures for confirmation and reconciliation of new product.	Middle Office
Verify that all groups involved in new product transaction procedures can handle anticipated transaction volume.	Middle Office
Determine and define management reporting requirements.	Middle Office

Appendix H ENERGY RISK MANAGEMENT POLICY ACKNOWLEDGEMENT FORM

The purpose of this form is to confirm that City of Denton employees involved with the Energy Portfolio Management program have received, read, and understand DME's Energy Risk Management Policy and appendices, and the City of Denton policies regarding employee conduct.

Employee Name: _____

Title: _____

Department: _____

Supervisor: _____

My signature below confirms that I have received, read and understand DME's Energy Risk Management Policy and appendices, and the City of Denton policies regarding employee conduct. I understand that my violation of the Risk Policy may result in disciplinary action that may include termination of my employment with the City of Denton.

_____
Signature of Employee

_____
Date