

SCL Risk Management Policy RES ATT 1

SEATTLE CITY LIGHT

Wholesale Energy Risk Management Policy



SEPTEMBER 23, 2015

VERSION 2.0

© Seattle City Light
700 Fifth Avenue, Suite 3300
PO Box 34023
Seattle, WA 98124-4023
Phone (206) 684-3200 • Fax (206) 684-3158



This Wholesale Energy Risk Management (WERM) Policy was prepared by the City Light Department's Risk Oversight Division to provide a comprehensive framework to manage risk surrounding wholesale energy marketing activities. This policy has been distributed internally within the City Light organization, the Seattle City Council (City Council), the Mayor's Office, and with others that may be affected by its implementation.

WERM Policy requires approval by City Light's Risk Oversight Council, General Manager, and final adoption of the resolution by the Full City Council.

Upon adoption by the Full City Council, this WERM Policy would be made effective by City Light's Chief Financial Officer.

Jeff Bishop, Seattle City Light, Chief Financial Officer

Effective Date



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Table of Contents

1. Introduction	7
1.1. Background	7
1.2. Purpose	8
1.3. Authority	8
1.4. Scope	9
2. Organization & Governance	9
2.1. Independence & Segregation of Duties	9
2.2. Role of Seattle City Council	11
2.3. Role of the Mayor	11
2.4. Role of the General Manager (GM)	12
2.5. Role of the Chief Financial Officer (CFO)	12
2.6. Role of the Risk Oversight Council (ROC)	13
2.6.1. Risk Oversight Council Structure	13
2.6.2. Risk Oversight Council Responsibilities	15
2.6.3. Risk Working Group (RWG)	16
2.7. Role of the Power Management Division (PMD)	16
2.7.1. Power Management Division Responsibilities	16
2.7.2. Role of Resource Planning, Forecasting & Analysis (RPFA)	17
2.7.3. Role of Power Contracts & Resource Acquisition (PCRA)	18
2.8. Role of the Environmental Affairs and Real Estate Division (EA&RE)	18
2.9. Role of the Risk Oversight Division (ROD)	19
2.9.1. Risk Oversight Division Responsibilities	19
2.9.2. Risk Oversight Division Reporting Relationship	21
2.10. Risk Management Responsibility of Other Functional Areas	21
2.10.1. Accounting	22
2.10.2. Legal - City Attorney's Office (CAO)	22
2.10.3. ITSD Power Systems Automations (PSA)	23



2.11. Risk Policy Approvals & Amendments.....	24
2.12. Compliance with Laws & Regulations	24
2.13. Misrepresentation & Conflict of Interest	24
2.14. Policy Violations & Exceptions	25
3. Risk Management Approach	25
3.1. Risk Management Philosophy	25
3.1.1. Market Risk Policies	27
3.2. Forward Hedging Strategies & Plans.....	28
3.2.1. Strategies	30
3.2.2. Plans	31
3.3. Risk Limits	31
3.3.1. Volumetric Limits	32
3.3.2. Risk Metric Tolerance Limits.....	33
3.3.3. Risk Limit Changes.....	33
3.4. Delivery Points	35
3.5. Product Types.....	35
3.6. Credit Risk Management Philosophy	36
3.6.1. Credit Risk Policies	37
3.6.2 Special Conditions	38
3.6.3 Credit Enhancements	39
3.6.4 Credit Reporting	40
3.7. Procedures Manual.....	40
3.8. Risk Reporting.....	41
3.9. Compliance Assessment	41
Appendix A Wholesale Energy Risk Management Procedures Manual	42
Appendix B City Light’s Energy Risk Management Organization Chart	43
Appendix C Glossary of Terms.....	44
Appendix D Compliance Statement.....	47



1 INTRODUCTION

1.1 BACKGROUND

For the City of Seattle’s City Light Department (City Light), the supply of power exceeds its retail demand on an annual basis, under all but the most extreme low water conditions. This excess power is sold in the wholesale power market, and the revenue generated is used to offset costs that would otherwise be borne by City Light’s retail ratepayers. However, City Light faces significant uncertainty regarding both the quantity of energy available to the utility (due to its reliance on hydroelectric generation) and the prices prevailing in the wholesale power market. These uncertainties result in financial risk for the utility and its ratepayers.

City Light can sell its surplus power in the “spot market” as this surplus power becomes available, or it can sell its anticipated surplus in the “forward market” for future delivery. Both practices involve risks. Waiting to sell surplus power in the spot markets exposes City Light to the possibility of selling at low prices if the wholesale market is flush with power. Selling surplus power in the forward market at a known, fixed price mitigates this risk, but exposes City Light to the possibility of having to purchase power at unfavorable prices in order to meet these forward commitments (as well as retail demand) in the event actual supplies turn out to be less than projected at the time the forward sale was executed.

The policies outlined below are designed to establish the framework for City Light to manage the risks that are inherent in the wholesale energy markets it participates in. These policies specify a risk metric, a set of rules to guide decisions concerning the sale and purchase of energy and related products in the spot and forward markets, an organizational structure to support these activities, and a clear statement of roles and responsibilities of City Light’s Divisions and personnel.



1.2 PURPOSE

The purpose of this Risk Policy is to specify the management responsibilities, governance, organizational structures, risk management standards, risk exposure limits, transaction limits and operating controls that are necessary to ensure that City Light’s financial risk exposures associated with wholesale purchase and sale activities are properly identified and managed and that the appropriate segregation of duties are in place. This Policy provides the framework through which City Light management and staff will identify, measure, manage, limit, and report City Light’s financial risks and risk management activities associated with wholesale purchase and sale activities.

Further, this Policy serves to formally establish a Wholesale Energy Risk Management program and document the organizational structure ([Appendix B](#)) utilized by City Light to meet the electricity needs of its customers, manage the risks inherent in its wholesale energy, capacity, ancillary and transmission portfolio, and manage the variance in the value of surplus power and transmission assets. As such, this document describes City Light’s energy risk management roles and responsibilities, and delegations of authority that will govern how City Light conducts business in the wholesale energy markets.

1.3 AUTHORITY

City Light operates under the authority of the Mayor and City Council of the City of Seattle. City Light is charged with operating its power supply resources, transmission agreements, and electric system to meet the power needs of its customers. The City recognizes that because of the nature of its customers’ demands and power supply portfolio, City Light will experience imbalances between the two and must therefore transact in the wholesale energy markets for energy services and products to reliably serve its customers.

By endorsing this Wholesale Energy Risk Management Policy (WERM Policy) document by City Resolution, the City Council approves this WERM Policy and affirms the authority and responsibility of the General Manager (GM) of City Light and his/her designees to comply with it, consistent with the authority granted by Seattle Municipal Code Section 21.49.130.



1.4 SCOPE

This WERM Policy governs all wholesale market activities that may impact the financial risk profile of City Light pursuant to Seattle Municipal Code Section 21.49.130. This WERM Policy provides the general framework and guidelines within which the various divisions in City Light are to operate. The Procedures Manual provide the specific procedures and details under which the various divisions in City Light are to operate. Descriptions of physical transactions commonly utilized by the Power Management Division’s transaction staff are maintained in the Wholesale Energy Risk Management Procedures Manual (“Procedures Manual”).

The specific operating procedures and parameters for implementing this WERM Policy are detailed in the Procedures Manual to be reviewed and approved by the Risk Oversight Council (ROC), a body within City Light established by this WERM Policy that reports to the GM. The existing procedures are attached for informational purposes only as Appendix A.

Please refer to [Appendix C](#), Glossary of Terms, for definitions of terms contained in this Policy and as used by City Light.

All City Light employees in relevant functional areas are expected to comply with and acknowledge their understanding of both this WERM Policy and the associated Procedures Manual as it applies to their current position at City Light. For additional information please refer to Section [2.13](#). Policy Violations and Exceptions.

2 ORGANIZATION & GOVERNANCE

2.1 Independence & Segregation of Duties

An effective risk management and compliance program requires clear segregation of duties, reporting lines, and incentives between functions and personnel who originate transactions and manage risk, and those who analyze, monitor, and report risk.



The “Front-Middle-Back Office” model standard in the industry provides for segregating Wholesale Marketing activities into Power Marketing (“front office”), Risk Oversight & Wholesale Settlement (“middle office”), and Accounting (“back office”) functions:

Within City Light, the duties of the Front Office lie with two groups within the Power Supply and Environmental Affairs Business Unit and reside within the wider Power Management Division (PMD). PMD is comprised of Power Operations and Marketing (POM), Resource Planning Forecasting & Analysis (RPFA) and Power Contracts and Resource Acquisition (PCRA).

POM is responsible for transactions of prompt month and 24 months or less, and the POM’s transaction staff maintain direct, day-to-day responsibility for the execution and management of transactions governed by the Policy.

PCRA is responsible for transactions greater than 24 months and maintains direct, day-to-day responsibility for the execution and management of revenue transactions governed by the Policy.

The functions of the Mid Office are carried out by the Risk Oversight Division (ROD), which provides independent risk oversight and wholesale settlement. ROD has the primary role in implementing the Policy, and is functionally separate from the PMD and Accounting Divisions to ensure independence.

The Back Office functions are carried out by the Accounting Division by supporting the PMD and ROD with a wide range of administrative activities necessary to execute and invoice transactions, record transactions to the General Ledger, prepare required reporting and to support the risk control efforts (data collection, financial hedge accounting, billing, etc.) consistent with the Policy. The Accounting Division is again functionally separate from the PMD and ROD to ensure independence.

City Light has developed a risk management and risk oversight organizational structure to support this requirement (see Appendix B City Light’s Energy Risk Management Organization Charts). The core elements of the structure for risk management purposes are:

- Seattle City Council
- Mayor
- General Manager (GM)



- Chief Financial Officer (CFO)
- The Risk Oversight Council (ROC)
- The Power Management Division (PMD)
- The Risk Oversight Division (ROD)

The following sections define the wholesale energy risk management roles and responsibilities of the individuals and groups listed above.

2.2 Role of Seattle City Council

In regards to the City Light Wholesale Energy Risk Policy the City Council is responsible for:

- Understanding the nature of the financial risks City Light faces; and
- Adoption of the WERM Policy to ensure proper measuring, monitoring, control and reporting of all risks surrounding the power marketing activities of City Light.

The City Council generally establishes a standing committee to review legislation and recommend action to the City Council on issues related to City Light. This Policy refers to that committee as the City Council's Energy Committee (EC) and it will be understood to mean the City Council Committee with responsibility for City Light issues, regardless of the actual name of that committee.

2.3 Role of the Mayor

In regards to the City Light Wholesale Energy Risk Management Policy the Mayor is responsible for:

- Appointing City Light's GM, who ensures compliance with the WERM Policy;



- Reviewing and approving the WERM Policy that will be presented to the City Council,
- Transmitting a WERM Policy to the City Council that ensures proper measuring, monitoring, control and reporting of all risks surrounding the power marketing activities; and
- Ensuring compliance with the WERM Policy following its approval by the City Council.

2.4 Role of the General Manager (GM)

Concerning wholesale energy risk management efforts, the GM is responsible for:

- Ensuring compliance with this WERM Policy;
- Ensuring adequate internal controls exist to safeguard City Light's financial integrity and its retail customers with respect to wholesale energy purchase and sales activities;
- Ensuring that all wholesale energy purchase and sales activities are monitored by City Light staff not directly involved in executing the transactions; and
- Resolving Risk Oversight Council vacancies in the best interests of the Utility while preserving the segregation of duties necessary for adequate oversight; and
- Making final decisions on risk management issues.

2.5 Role of the Chief Financial Officer (CFO)

In regards to wholesale energy risk management efforts, the CFO is responsible for:



- Serving as the Chair of the Risk Oversight Council, leading the ROC meetings;
- Briefing the GM on City Light’s risk exposures and ROC actions on a regular basis during the monthly financial review and as necessary;
- Presenting requests for changes in risk limits contained in this Policy to the GM;
- Setting the counterparty credit limit threshold defined as the maximum secured and unsecured credit limit that may be extended to any counterparty;
- Recommending to the ROC the methodology used to establish appropriate credit for counterparties; and
- Suspending transacting with counterparty at any time due to concerns about the counterparty’s credit-worthiness or ability to fulfill the terms of a transaction.

2.6 Role of the Risk Oversight Council (ROC)

The ROC is the primary body within City Light with the authority and responsibility for implementing the wholesale energy risk management and oversight functions of this Policy and leading City Light’s energy risk management efforts on a path of continuous improvement.

2.6.1 Risk Oversight Council Structure

2.6.1.1 Voting and Non-Voting Membership:

The ROC shall be comprised of three voting members and three non-voting members. The Chief Financial Officer (Chair), the Power Supply & Environmental Affairs Officer, and the Director of Risk Oversight shall each have a single vote on matters that come before the ROC. At least three voting members, or their designees, must participate in the ROC meeting in order to vote and approve a proposed action.



The other three non-voting members are the Director of Power Management, the Director of Power Contracts & Resource Acquisition, and the Financial Planning Manager or their equivalent, as determined by the Chair of ROC.

2.6.1.2 Meeting Timing and Frequency:

The ROC shall meet no less than twice per calendar month. Attendance at ROC meetings shall be mandatory for appointed members. For a ROC meeting to be held, there needs to be at least four members in attendance, of which three will need to be voting members or their designees but limited to no more than two voting designees.

Member attendance shall be recorded in the ROC meeting minutes. Any member of the ROC can request an emergency meeting of the ROC to address circumstances or issues that may require immediate attention.

In the event a voting member is unable to attend a ROC meeting in person or by telephone, the member may designate an alternate to attend and vote in their absence, including one of the non-voting members. If any two of the voting members, or their designees, are not present at a ROC meeting, a vote on a proposed action cannot take place. The ROC will make decisions and take actions by a simple majority vote. If the ROC reaches an impasse that cannot be addressed through a vote, the Chair will refer the issue to the GM by the end of the next business day for resolution.

2.6.1.3 Member Vacancies:

In cases where a member of the ROC leaves the employment of City Light, the GM will resolve the ROC vacancy by making an interim appointment at his/her discretion.

The Director of Risk Oversight will act as Secretary to the ROC and will document all meetings and actions taken by the ROC in meeting notes that will be distributed to ROC members for their review and acceptance. Meeting notes approved by the ROC will be distributed by the Director of Risk Oversight to the GM, ROC members, Mayor, and City Council central staff.



2.6.2 Risk Oversight Council Responsibilities

The ROC is responsible for:

- Review and approve, if applicable, wholesale transactions greater than prompt to 24 months as outlined in the Procedures document of this Policy;
- Reviewing and approving the Procedures Manual associated with this Policy and changes to it;
- Reviewing and approving transactions outlined in the Product Authorizations table in the Procedures document, including the annual Hedging Strategy and Hedging to be implemented by the PMD;
- Approving, upon the recommendation of the CFO, the methodology used to establish counterparty credit limits;
- Monitoring and assessing compliance with this Policy and associated procedures;
- Discussing and pre-approving risk metrics and limit exceptions, when appropriate;
- Discussing Policy violations or exceptions and taking corrective action to minimize related losses or increased risks as appropriate;
- Reviewing this Policy on an annual basis and recommending changes to the GM by July 1;
- Discussing elements of wholesale energy risk management best practices and developing a City Light opinion of their specific practicality;
- Conducting other activities relevant to the implementation and oversight of this Policy and related procedures;
- Providing a timely summary of ROC accomplishments for the past year and setting of goals for the upcoming year to the GM by March 15th. This summary will also be provided to Mayor and Council staff;
- Ensuring the continual improvement in City Light's risk management and oversight functions;
- Ensuring the continual improvement in City Light's risk analytics by directing the activities of the Risk Working Group;



- Review and approve expected, recurring, and material changes to all modeling inputs used by the ROC to ensure that market, operational and credit risks are accurately quantified; and

Review wholesale transactions of greater than 24 months, and recommend approval, if applicable, to the GM prior to submission to Energy Committee for their approval.

2.6.3 Risk Working Group (RWG)

The RWG is a technical work group, functioning under the delegation of the Risk Oversight Council, with the primary role of providing analytical support to the ROC by examining methods and procedures used to calculate City Light's forward portfolio position, wholesale market pricing and risk management. The RWG will be comprised of employees from the three Divisions - Risk, Finance and Power Management with familiarity of the models used to perform this work. The RWG will be chaired by the Director of Risk Oversight or his/her designee and membership in the RWG will be confirmed by the ROC.

2.7 Role of the Power Management Division (PMD)

The PMD is led by the Director of Power Management, who reports directly to the Power Supply and Environmental Affairs Officer, and manages the power supply portfolio on behalf of City Light. The PMD through Power Operations and Marketing (POM) transacts in the physical wholesale energy market as needed to balance the supply of electricity to demand and to mitigate the risks inherent in managing the system, subject to the limitations established by this WERM Policy and the ROC and in accordance with the Procedures Manual.

2.7.1 Power Operations and Marketing Staff Responsibilities

The POM is led by the Chief Power Marketer/Power Operations and Marketing Manager, and manages the wholesale energy portfolio for the next 24 months. The POM Manager reports directly to the Director of Power Management. The responsibilities of the POM include:



- Meeting City Light’s customer load obligation;
- Managing City Light’s generating resources, short-term contracts and transmission agreements to meet its sub-hourly, hourly, daily, balance of month, prompt month, and forward month obligations (up to 24 months forward on a rolling basis);
- Extracting value from City Light’s power supply portfolio and transmission contracts with due consideration of risk;
- Formulating and recommending risk mitigation strategies and hedging plans to the ROC that are consistent with City Light’s objectives and this Risk Policy;
- Implementing strategies and hedging plans approved by the ROC; and
- Other activities relevant to the daily management of a power system.

2.7.2 Role of Resource Planning, Forecasting & Analysis (RPFA)

The RPFA is led by the Manager of the Resource Planning, Forecasting and Analysis and manages resource and load forecasting. The Resource Planning, Forecasting & Analysis (RPFA) Manager reports directly to the Director of Power Management. The responsibilities of the RPFA include:

- Providing resource and load forecasts to Risk, the Director of Power and staff and to ROC;
- Presenting, providing and/or recommending expected, recurring and material changes to model inputs used in the forecasts it provides to the ROC;
- Producing City Light’s Integrated Resource Plans, updates as required and presentation to ROC, prior to City Council and GM;
- Updating the Table of Expected, Recurring and Material changes to modeling inputs as required, from time to time;
- Updating the resource forecasts as outlined in the Procedures manual; and

Documenting resource and load forecasting models including (a) the theory and assumptions, (b) the mathematical and empirical basis, (c) data inputs, and (d) important model limitations and key sensitivities.



2.7.3 Role of Power Contracts & Resource Acquisition (PCRA)

The PCRA is led by the Director of Power Contracts & Resource Acquisition and manages the long-term contract portfolio including the procurement and disposition of energy, capacity, ancillary and environmental compliance resources on behalf of City Light, as needed to balance the supply of environmental attributes to maintain compliance with City policies, state law, and federal law, subject to the limitations established by this Risk Policy and the ROC and in accordance with established procedures. The Director of PCRA reports directly to the Director of Power Management. The responsibilities of the PCRA include:

- Meeting City Light’s customer load obligation by managing long-term contracts and acquiring new resources consistent with City Light’s Integrated Resource Plan, City policies, state law, and federal law;
- Extracting value from City Light’s environmental attributes portfolio with due consideration of risk;
- Formulating and recommending resource acquisition and environmental attribute risk mitigation strategies to the ROC that are consistent with City Light’s objectives and this Risk Policy;
- Implementing strategies approved by the ROC; and
- Other activities relevant to the management of City Light’s long-term contracts and environmental attributes portfolio as defined in the Procedures document.

2.8 Role of the Environmental Affairs and Real Estate Division (EA&RE)

The EA&RE is led by the Director of Environmental Affairs & Real Estate and oversees all of City Light’s environmental and real estate responsibilities and activities including managing the utility’s licensing of hydro facilities, environmental compliance, fisheries research and protection, and surplus real estate sales.

City Council has directed Seattle City Light to be carbon-neutral. In order to meet this directive, EA&RE Division has been entrusted with the responsibility to manage the program for procuring greenhouse gas offsets for the utility



under the oversight of Risk Oversight Council. The procurement process for such products is outlined in the WERM Procedures document.

2.9 Role of the Risk Oversight Division (ROD)

The ROD is led by the Director of Risk Oversight and provides the day-to-day continuous independent risk management and oversight functions at City Light. It serves as the “middle office” in City Light’s energy risk management organization.

The Director of Risk Oversight will meet with the EC and with Council Staff as requested to review recent City Light risk management activities.

The Director of Risk Oversight will act as temporary chair of the ROC in the absence of the CFO.

2.9.1 Risk Oversight Division Responsibilities

Daily responsibilities and activities of the ROD can include but not limited to the following:

- Assess and monitor compliance with the WERM Policy and Procedure Manual;
- Report violations or exceptions of WERM Policy or Procedure Manual limits and recommend remediation as necessary;
- Monitor market and counterparty events in order to anticipate changes in City Light’s risk profile;
- Develop and propose practical improvements to business processes and internal controls within the transaction lifecycle;
- Recommend specific risk limits consistent with the utility’s risk management objectives and risk tolerance;
- Engage the ROC in discussions regarding events or market developments that could expose the utility to potential opportunities and losses;
- Conduct credit scoring and analysis of City Light’s existing and proposed counterparties;



- Recommend credit limits for counterparties to the Chief Financial Officer;
- Negotiate and manage counterparty credit enhancements;
- Document proper accounting treatment of power and transmission transactions and any associated attributes, and provide reports, disclosures, and related information to the Accounting and Finance Divisions for their end use;
- Issue to the ROC periodic reports on WERM Policy compliance, hedging plan status, market positions, and risk profile;
- Report the utility's transaction prices daily to specific index price developers;
- Validate and test models used in risk management to ensure that market and credit risks are accurately quantified including the evaluation of risk metrics employed;
- Research, develop, test, and implement risk measurement methodologies and models by coordinating such activities through the RWG;
- Review expected, recurring, and material changes to all modeling inputs used by the ROC to ensure that market, operational and credit risks are accurately quantified;
- Facilitate, lead and coordinate City Light's internal model validation processes; and
- Ensure that wholesale transactions are reviewed and approved as defined in the Procedures Manual.

In broad terms, the ROD functions include but are not limited to the following in relation to the Wholesale Energy Risk Management.

2.9.1.1 Risk Control & Reporting

To ensure all transactions are appropriately recorded and meet Risk Policy guidelines, Risk Control & Reporting performs the deal review of all transactions, including pre-deal assessments, prior to approval and confirmations.



Provides position reports and Mark-to-Market (M-t-M) valuation of forward transactions, where available, and relevant risk metrics to evaluate hedging strategies and compliance to applicable risk limits.

2.9.1.2 Credit Risk Management

Wholesale Credit Risk Management performs technical and administrative duties in connection with credit analysis and approving new and existing counterparties, and calculating, aggregating, monitoring and reporting all credit exposures.

The responsibility to accept and manage credit risks within Policy guidelines shall reside within ROD and is required to maintain accurate records and produce timely reports to enable the evaluation and analysis of credit.

2.9.1.3 Wholesale Settlements

The Settlements function within ROD performs a wide range of operational and administrative activities necessary to process transactions and to support the wholesale energy marketing: transaction settlement and/or checking, data collection, invoice verification, historical reporting etc.

2.9.1.4 Wholesale Deals and Transactions Oversight

ROD plays an oversight role in the wholesale deal and transaction process including (a) deal valuation, (b) review of deal structure, commercial terms, and execution guidelines.

2.9.2 Risk Oversight Division Reporting Relationship

The head of the ROD, the Director of Risk Oversight, reports directly to the Chief Financial Officer and also has a direct line of communication to the GM and reports to the GM on a regular basis.

2.10 Risk Management Responsibility of Other Functional Areas

The following responsibilities shall be carried out by the listed functional groups supporting City Light to ensure Policy compliance.



2.10.1 Accounting

- Review all approved transaction types to determine financial disclosure requirements and work with the ROD to ensure compliance with applicable accounting standards such as GASB 53;
- Work with the ROD to develop appropriate credit reserves (if required) and to record such reserves quarterly and in accordance with Generally Accepted Accounting Principles;
- Ensure financial accounting policies and procedures with respect to hedging and risk management are clearly defined;
- Review this Policy and supporting operating procedures for Accounting-related issues; and
- Review new transaction type proposals for Accounting-related issues and advise on accounting treatment.

2.10.2 Legal - City Attorney's Office (CAO)

- Facilitate the negotiation, review, and approval of contracts - WSPP, long form or other wholesale agreements that may arise with counterparties and brokers as well as contracts related to electronic platforms for trading and data gathering;
- Facilitate in the assessment of impact of regulatory changes or enactments, such as the Dodd-Frank Act, orders from the Federal Energy Regulatory Commission (FERC) or others as they occur relating to wholesale trading activities. This includes the engagement and management of external legal expertise when required;
- Assess enforceability of fully executed contracts pursuant to applicable laws and regulations; and
- Review transaction confirmations language for compliance as requested.



2.10.3 ITSD Power Systems Automation Unit (PSA)

The PSA is led by the Manager of Power Systems Automation and reports directly to the Chief Information Officer. PSA is responsible for supporting the PMD and ROD,¹ which includes:

- Provide system security support with the approval of ROD;
- Comply with the approval and change management process as described in the procedures for any official system or report changes related to marketing transactions;
- Collaborate with the ROD staff to develop and maintain business process mapping that relates to the marketing and risk operation to IT system operation, interfaces and reporting;
- Architect, implement and maintain IT systems that support marketing transactions, interfaces and reporting with internal systems (EMS, Accounting, ECM, Data Warehousing, etc.) and external systems (ICE, FERC, WECC, OATI, market pricing sources, etc.);
- Monitor IT system performance with 24x7 call-out support for internal systems related to marketing operations;
- Support POM to minimize interruptions/outages of the ETRMS that is needed for wholesale marketing activities 24x7;
- Deploy system software version upgrades and patching to maintain compatible and reliable system operation. This includes (QA) verification and user acceptance testing with current business operating procedures; and
- Assist in periodic systems evaluations and in recommendations for inclusion of modules and necessary systems upgrades to meet business and compliance requirements.

¹ PSA also provides IT support for the System Control Center, whose efforts are outside the scope of this Policy.



2.11 Risk Policy Approvals & Amendments

This WERM Policy will be made effective by the City Light Chief Financial Officer upon the adoption of the Policy by the City Council. Each year prior to July 1, the ROC will review the elements of this policy and present any recommended changes to the GM or provide notification that no changes are necessary. If changes have been recommended, the utility will present the proposed changes to the Council by September 1. In reviewing the policy and recommending modifications, the ROC will consider any material changes in the markets in which City Light transacts, in City Light's business activities and in the financial circumstances of the utility.

2.12 Compliance with Laws & Regulations

Employees shall comply with all applicable laws and regulations including, but not limited to, Anti-Market Manipulation rules established by Congress and implemented by state and/or federal agencies. Employees should be familiar with the relevant laws and regulations and seek clarification from the City Attorney's Office as required. As requested, the City Attorney's Office shall examine relevant regulatory guidelines that govern the purchase and sale of all authorized products, and provide training to employees as needed. However, it shall remain City Light's responsibility to ensure that its employees are adequately trained.

2.13 Misrepresentation & Conflict of Interest

City Light personnel shall comply with the Seattle Ethics Code, Seattle Municipal Code 4.16. Consistent with this code, City Light personnel shall not withhold or conceal information regarding transactions or risk management activities from any person responsible for the accurate recording and reporting of such activities, nor shall they misrepresent any such information.



Employees shall always put the interests of City Light ahead of any interest they may have in entities with which they transact. Further, employees authorized to place or execute wholesale energy transactions on behalf of City Light may not engage in such activities for their personal accounts. Employees will disclose to their supervisor any interest in an entity that could reasonably be construed as preventing them from acting solely in the interests of City Light. Failure to do so is a violation of this WERM Policy.

2.14 Policy Violations & Exceptions

All persons engaged in the implementation, management, or administration of this Policy and associated procedures, as detailed in the Procedures Manual, will sign the Compliance Statement (see [Appendix D](#)), stating that they have read, understood, and agree to comply with them.

Any person found in direct violation of this Risk Policy and the Procedure Manual may be subject to disciplinary action, including possible termination, at the discretion of the ROC. Inadvertent exceedances of risk limits (deemed an “exception”), upon notice to the ROC, shall be corrected in a timely manner.

Employees who become aware of potential non-compliance with this Policy are obligated to immediately report such events to City Light’s Risk Oversight Director, Chief Financial Officer and Power Supply and Environmental Affairs Officer.

3 RISK MANAGEMENT APPROACH

3.1 Risk Management Philosophy

City Light's current power supply portfolio consists primarily of hydro-based generation (approximately 90%) and historically, City Light's combined generation output has exceeded its retail customer demand on an expected annual basis. Hydro uncertainty, coupled with wholesale energy market price volatility, leads to significant variability in City Light's net wholesale revenue from the sale of that surplus energy.



To manage this revenue risk and thereby protect the interests of the ratepayers, City Light hedges its exposure by buying and/or selling physical energy and associated products in the wholesale energy markets. While City Light's principal objective is to ensure that it meets its retail customer demand obligation, it tries to do so in a way that generates additional value from its generation portfolio, with due consideration of risk.

By participating in the wholesale energy markets, City Light is exposed to, and needs to manage, a variety of risks including:

- Market Risk – market risk is the uncertainty of City Light's financial performance due to uncertainty in commodity markets (i.e., "market price risk" and "market liquidity risk") and uncertain price relationships (i.e., "correlations", "basis risk" and "curve risk"). Market risk is inherent in City Light's operations due to the financial impact of the variability of energy and related commodity market prices and the price relationships. Variability in these parameters results in uncertainty, both positive and negative, in earnings, cash flow, and the value of assets and liabilities. Accordingly, it is important that they be monitored and limited to levels consistent with the risk tolerance levels determined by the ROC;
- Credit/Performance Risk – the risk of financial loss due to default or failure by counterparties to perform on contracts;
- Volumetric Risk – the risk of financial loss due to unpredictable variations in the output of the generation fleet or in retail demand;
- Modeling Risk – the risk of financial loss due to a potentially inaccurate or incomplete characterization of a transaction or of portfolio elements due to fundamental failure of models and/or information systems to match reality sufficiently well;
- Operations Risk – the risk of financial loss due to physical assets failing to perform;



- Operational (Commercial) Risk – the risk of financial loss due to flawed or inadequate business processes due to imperfections in the quality, scope, or content of operating procedures or process execution by human or technical resources within City Lights; and
- Legal/Regulatory Risk - the risk that a counterparty does not have the legal or regulatory authority to engage in a transaction or that the transaction is prohibited by law. It also includes changes to regulatory policies, vague or unsolicited contract language that may transfer and increase risk to City Light.

While all of these are under the jurisdiction of the ROC, only the approaches to Market, Credit, Volumetric, and Operations risks are discussed here as they are specifically focused on energy market events.

3.1.1 Market Risk Policies

The following market risk policies shall govern City Light’s participation in wholesale energy markets. Specific limits, methodologies, reports, operational procedures, and approval processes are detailed in the Procedures Manual.

- City Light will meet its native retail customer demand obligation at the highest levels of certainty as determined by models validated by Risk and approved by ROC.
- Subject to the constraints of the system, City Light shall not engage in any transactions that are purely speculative in nature or that cannot be tied directly to managing its underlying electricity demand, purchase power agreements, generating plant, transmission asset positions, or price risk.
- City Light will ensure that it has full knowledge of its position in all transacted products and the resulting exposure, and understands the implications of its hedging activities.



- Only personnel authorized by the GM pursuant to a written Delegation of Authority Agreement can transact on behalf of City Light in the wholesale energy market.
- City Light may only transact in physical wholesale energy-market products approved by the ROC.
- City Light may only transact within limits approved and defined in this Risk Policy and the Procedure Manual.
- Metrics for assessing City Light's market risk exposure will be specified, measured, monitored, and reported on a regular basis.
- All wholesale energy transactions will need an appropriate verification process and contracts of 24 months or less duration will be carried out on recorded phone lines , electronic trading platforms or other ROC approved system or platform capable of archiving the details of the agreed upon transactions.
- On a daily basis, all wholesale transactions will be recorded in the official system of record, as defined in the Procedures document
- Models and inputs for valuation and risk measurement shall be subjected to a validation and a change control process. The models employed and associated processes shall be described in detail in the Procedures Manual.
- Periodic risk and policy compliance reports will be delivered to the ROC, GM, Mayor and the City Council's central staff.

3.2 Forward Hedging Strategies and Plans

The objective of forward hedging strategies is to maximize risk-adjusted expected surplus revenues from the sale of surplus energy while meeting reliability, environmental, and recreational constraints. The Risk Metric Tolerance Limits defined in Section 3.3.2 are used to make sure any forward hedging proposal meets this tolerance limit. The ROC may update the risk



metric and any associated limits with proper notification to the relevant authorities.

Hedging plans associated with the annual Hedging Strategy will be addressed in the WERM Procedures.

Successful management of the price and volumetric risks faced by City Light requires analysis, monitoring, and communication. Analysis of published hydrological and weather forecasts and market price data serve as key inputs to several internally developed models and ensure that the appropriate data is converted into useful information.

One of the statistical models used for this purpose is the Finance Division's Wholesale Revenue Model (WRM), which produces a statistical distribution of revenues from the sale of surplus power and cash from operations. The average of the 5% worst outcomes in this distribution is called the "5% Tail Risk" metric. This is a conservative risk metric and the use of it is intended to protect the utility and its ratepayers against the worst outcomes.

The primary objective of City Light's hedging practices is to ensure a high certainty of meeting load and obtaining the best possible value for its surplus assets while meeting NERC/WECC reliability standards and environmental requirements.

In order to avoid frequent adjustments in the utility's forward position City Light may, within the limits established in Section 3.3.2, choose not to transact in the forward market in order to move it closer to the minimum risk position, as defined by the Cash from Operations Model.

Furthermore, City Light may, at times, transact in forward positions that move it further from the optimal forward position projected by the Cash from Operations Model. Such actions are allowed only to address operational concerns or risks not captured by the Cash from Operations Model. This practice is actively monitored by the Risk Oversight Division's report on the Power Management Division's transaction staff's compliance with the risk tolerance band established in Section 3.3.2. The ROC will highlight in its meeting minutes any transaction it approves that moves the utility further away from the minimum risk position, and will provide a clear rationale for approving the action in the minutes.



As the water year progresses, increased certainty in our level of resources is attained. As greater certainty is achieved, the risk tolerance level for the 5% Tail Risk metric is reassessed and approved by the ROC through the planning process described below. Changes to the 5% Tail Risk metric value are closely monitored to ensure City Light remains within its accepted level of risk tolerance.

The 5% Tail Risk metric calculation process is a cross functional effort. The Resource Planning, Forecasting and Analysis Division provides the hydro forecast input and load/resource balance for the Cash From Operations Model. The Finance Division then runs the Cash From Operations Model. Finally, the Risk Oversight Division determines the appropriate risk metrics to consider and leads the communication of the specific metric's results to City Light's stakeholders. In addition, the Risk Working Group led by the Director of Risk Oversight and comprised of Power Management Division, Finance, and Risk Oversight Division personnel work on the continued refinement of the model, while keeping a close eye on changes in the risk metric value.

Consistent with market risk policies defined herein and the risk limits defined below, the Power Operations and Marketing staff, in concert with the ROC, will develop annual hedging strategies with underlying hedging plans as a means to manage the volumetric and price risks faced by the utility. This will be achieved by hedging the resource portfolio within the constraints of the 5% Tail Risk metric and risk tolerance band.

The following two sections describe the requirements for formal written communication of City Light's hedging strategies and detailed hedging plans.

3.2.1 Strategies

Prior to July 1, of each year, the Director of Power Management shall submit an initial written hedging strategy ("Hedging Strategy") for the upcoming next two full calendar years to the ROC for review and approval. The Hedging Strategy will be finalized by the end of July of the preceding year and will remain in effect until such time as it is modified and approved by the ROC.



3.2.2 Plans

Due to the amount of uncertainty concerning the hydrological, operational and market conditions the Hedging Strategy will be updated and approved each quarter.

The Director of Power Management may, at any time, request that the ROC consider changes to the current Hedging Strategy or hedging plan. Any approved changes to the Hedging Strategy or hedging plan shall be recorded in the ROC meeting minutes and an updated written Hedging Strategy or hedging plan document will be prepared as soon as practical incorporating such changes. On occasion, it will become apparent to Power Management that additional transactions to reshape expected monthly forward positions are necessary given changes in generation forecasts, market conditions, and load forecasts.

3.3 Risk Limits

The Power Operations and Marketing staff will manage City Light's exposure consistently with the risk limits as defined below. In the event of a potential conflict between a specific hedging plan and these risk limits, the risk limits will prevail and the hedging plan will be modified to bring it into compliance with these risk limits. Under normal operating conditions, if such limits are exceeded, the Power Operations and Marketing staff will take immediate corrective action. Corrective action will start with written notification to the ROC of any limits that are exceeded, the reasons and conditions that caused such exceedance, and the actions being undertaken to return the utility to within approved risk limits. The Chair of the ROC will then notify the GM in writing of the risk limit exception and the cause of the exception. The Power Operations and Marketing staff's corrective action may include purchasing power to eliminate forecasted deficits in any month or calendar quarter, or re-balancing City Light's forward portfolio position through a combination of purchases, exchanges, or other products available from the market. There may be occasions when it will be necessary to change the risk limits listed below. The process for changing these risk limits are documented in Section 3.3.3 Risk Limit Changes.



3.3.1 Volumetric limits

3.3.1.1 Prompt and Within the Month

The Power Operations and Marketing staff will maintain City Light's power portfolio position for any prompt month or any Balance of the Month period so that such position shall not exceed a 50 average megawatt deficit during such period. Such limit will be calculated as the net position of City Light's combined physical position, adjusted for any call options (daily or monthly) that City Light has purchased for such month. If this limit is exceeded, the Division will take immediate action to reduce the deficit to under 50 average megawatts.

3.3.1.2 Forward Month's Resource Requirement

The Power Operations and Marketing staff will immediately suspend any further forward sales for any future calendar quarter, within the next full 24 months, if the forecasted net combined system energy projected surplus for that quarter is less than zero when calculated on a 75% probability of occurrence. Further, the Director of Power Management will take immediate corrective action to purchase for a specific future calendar quarter if the net combined system energy position for that specific future calendar quarter, which includes the next full 24 months, is less than zero when calculated on a 50% probability of occurrence. This corrective action shall reduce said deficit to zero at the 50% level of confidence for that specific future calendar quarter. Such limit will be calculated as the net position of City Light's combined physical position adjusted for any physical call options (daily or monthly) that City Light has purchased for such month.

3.3.1.3 Forward Sales Limit

The Power Operations and Marketing staff will not sell forward a quantity of more than 1,750,000 net megawatt hours over a rolling four full calendar quarter year period. Such limit will be calculated as the net position of City Light's combined physical position adjusted for any physical call options (daily or monthly) that City Light has purchased for such period.



3.3.1.4 Physical Options Limits

As the utility introduces physical “put” and “call” options into its portfolio it will do so in a conservative manner. This will allow for the refinement of business practices and internal controls that these transactions will impact. The Power Operations and Marketing staff will limit its option volumetric position so that it will not transact more than 300 average megawatts in physical put and call options (including daily and monthly options) nor will it spend more than \$2 million for option premiums for any calendar year.

3.3.2 Risk Metric Tolerance Limits

For the current calendar year, the Power Operations and Marketing staff will conduct its hedging activity to maintain the Utility’s position within an \$8 million Risk Tolerance Band (RTB) around the calculated 5% Tail Risk metric. For the prompt year (the year immediately following the current calendar year), the Utility’s position will remain within a \$10 million RTB around the 5% Tail Risk metric.

The prompt year’s RTB will change to current year’s RTB with the first calculation of the 5% Tail Risk metric in the month of November. This coincides with the start of City Light’s Finance Division running the prompt year’s Cash From Operations Model on a bi-weekly rather than a monthly basis.

Under normal operating conditions, in the event the approved 5% Tail Risk metric limit is exceeded or would become exceeded if the remainder of the active hedging plan was executed, planned hedging activity will stop until a revised hedging plan is approved by the ROC.

3.3.3 Risk Limit Changes

The risk metric and volumetric limits described above may be exceeded from time to time for reasons beyond City Light’s control including, but not limited to unexpected or extreme market events (weather, system constraints, prices), resource under performance, and other system conditions (prolonged plant outage, transmission line availability). To ensure that the limits contained in this Policy can be changed in a timely manner, the following protocol will apply:



1. Should the ROC desire to have an existing limit changed, a request to revise a limit along with a corresponding justification for the requested change shall be communicated to the GM in writing and logged in the meeting minutes of the ROC;
2. The GM will approve or disapprove the requested change in writing within 2 business days of receiving such request;
3. If approved, the chair of the ROC will promptly transmit the request, with all necessary supporting information, to the chair of the City Council's Energy Committee (EC);
4. The Chair of the EC, after consulting with the other members of the EC, will notify the CFO/Chair of the ROC and GM in writing within two business days of the EC's decision. An email through the City's email system will suffice as written notification. If the Chair of the EC does not respond within this time period, the requested change to the limit will be deemed to have been approved by the EC; and finally
5. The period from the exceedance of the risk limits to 2 business days following the notification of the CFO/Chair of the ROC by the EC of its decision, the PMD will not be considered in exceedance of the risk limits.

Should the GM disapprove the requested limit change per #1 above, the Chair of the ROC will notify the Power Operations and Marketing staff to transact as needed in order to bring City Light's portfolio of forward positions back into approved risk limits.

Should the GM be unavailable to respond in the time frame required by this Policy (#2 above), the CFO/Chair of the ROC will transmit the request directly to the chair of the EC.



On an annual basis, timed to coincide with the exit conference of the annual external assessment of policy compliance (refer to Section [3.9 External Assessment](#)), the limits contained in this policy as modified during the course of the year per this Section will be reviewed and reaffirmed by the City Council's Energy Committee.

3.4 Delivery Points

City Light may transact in the Western Electricity Coordinating Council markets at delivery points approved by the ROC, as defined in the Procedures Manual.

3.5 Product Types

City Light may transact for the following authorized products within the PSEA following the procedures for each transaction type, outlined in the Procedures Manual. The PSEA will ensure proper documentation on contract management and analysis, along with specified settlements and billing instructions (if applicable). There are seven major approved product types:

- 1.** Electrical Energy
- 2.** Transmission
- 3.** Capacity
- 4.** Physical Energy Exchange
- 5.** Physical Options
- 6.** Ancillary Services
- 7.** Tradable Environmental Attributes

In each product type, there are variations of the general terms that will constitute a subtype of the product and this can be found in the WERM Procedures.



3.6 Credit Risk Management Philosophy

To protect its financial integrity, City Light will actively manage its credit risk by making informed decisions regarding which counterparties to transact with and how much business it will conduct with each of them. Credit risk is defined as the risk of counterparty nonperformance, or failure to deliver its obligation (whether that is an energy product or payment of amounts owed). Further, counterparty credit exposure at any given time is defined as the sum of all payments due to City Light (billed or delivered and unbilled) plus the replacement cost of the contracts if positive or netted when applicable. Credit risk is especially important to City Light due to the volume City Light transacts in the wholesale energy markets (as a net seller in most years), and particularly the seasonal peak, during spring run-off season that requires increased credit risk tolerances, to avoid the opportunity cost from spilling water and thereby wasting the resource. Credit Risk Management at City Light entails performing technical and administrative duties in connection with credit analysis and approving new and existing counterparties, and calculating, aggregating, monitoring and reporting all credit exposures. For the purposes of comprehensive risk management and to facilitate effective risk control, Credit Risk Management shall be performed by the Risk Oversight Division, who is required to maintain accurate records and produce timely reports to enable the evaluation and analysis of credit.

City Light manages its credit risk by:

- Establishing an annual maximum risk tolerance threshold for counterparty credit limits, including allocating a credit risk tolerance for credit limit sharing among approved higher risk counterparties;
- Periodically assessing counterparty creditworthiness and credit limits;
- Authorizing transactions with approved counterparties up to their assigned credit limit;



- Obtaining acceptable credit enhancements when necessary, such as parent guaranties, letters of credit, prepayments, etc.;
- Monitoring counterparty credit exposures (including but not limited to short-term, long-term, RECs etc.) and reporting to executive management and City Officials (Mayor, City Council and other relevant parties);
- Requiring Power Marketers transacting in the forward markets to have Risk Oversight approval prior to entering into term deals;
- Coordinating with the City Attorney’s Office in its review of acceptable parent guaranties, letters of credit, confirmations, etc.; and
- Maintaining credit files for all counterparties, including parent guaranties, letters of credit and prepayment information.

3.6.1 Credit Risk Policies

City Light sells significant quantities of power in the wholesale market. Industry practice dictates counterparty payment no sooner than 20 days after the end of the delivery month, requiring that City Light extend credit to its counterparties. Further, as noted earlier, City Light seeks to manage its volumetric and price risk by transacting in the forward market, resulting in its extending credit to counterparties.

The following policies shall govern City Light’s credit exposure management efforts. Specific limits, methodologies, reports, operational procedures, and approval processes are detailed in the Procedures Manual.

The Chief Financial Officer sets the following by:

- Establishing and approving a comprehensive Maximum Risk Tolerance level for both secured and unsecured counterparty credit limits;
- Establishing credit limit framework table that guides the Director of Risk Oversight during the year to manage counterparty credit;
- Recommending credit methodologies used for counterparty credit limits or any changes necessary to existing methodologies for ROC approval;



- Approving initial counterparty credit limits to ensure that at the beginning of each year credit limits are aligned with established portfolio risk tolerance;
- Establishing and approving a Risk Tolerance for The Higher Risk Credit Portfolio whereby all higher risk counterparties, under the Portfolio share that credit limit; and
- Authorizing credit approval levels for the Director of Risk Oversight and the Sr. Credit Analyst.

The above decisions and any changes to them during the year will be documented in the ROC meeting minutes. The Director of Risk Oversight will utilize these decisions and any additional parameters documented in the Procedures Manual to develop and adjust counterparty specific credit limits to present to the CFO for approval at the ROC and to manage credit limits during the year.

Credit limits will be based on a number of factors including the counterparty's probability of default, and credit score that focuses on liquidity, profitability, cash flow and other relevant factors.

3.6.2 Special Conditions

Except under the following circumstances, City Light will not extend unsecured credit to counterparties having a net worth of less than \$2.5 million:

- 'must sell' (e.g., spill conditions); or
- Negative priced energy transactions that result in City Light receiving payment for taking the counterparty's energy (a seasonal event driven by a combination of high wind and high water flow);
- REC purchases for periods greater than 24 months where a transaction-specific ordinance is approved by the Mayor and City Council.



During spill events the Power Supply & Environmental Affairs Officer and/or the Director of Power Management will seek approval from the CFO and/or the Director of Risk Oversight to extend credit to parties that currently do not have credit or do not have sufficient credit for a proposed transaction. In the case where neither of these two members of the senior leadership team can be reached for authorization, the Power Supply & Environmental Affairs Officer and/or the Director of Power Management may authorize the real time marketer to sell to a specific counterparty that has no available credit once per shift to minimize lost opportunities, and in no event, more than three such sales (different counterparties) per real-time marketer shift. Before the end of the shift, the real time marketer will notify the Chief Power Marketer, Director of Power Management, and the Power Supply & Environmental Affairs Officer of each transaction including dollar amount. Each of these transactions will be discussed and documented at the next regularly scheduled Risk Oversight Council meeting. These are expected to be low frequency events. By anticipating and documenting that such events may happen, opportunities are not lost. The post-transaction discussion will cover the underlying drivers of the event's occurrence, effectiveness, the results of the decisions that were made and whether any policy or procedure changes are warranted.

3.6.3 Credit Enhancements

In establishing credit for counterparties, City Light may consider credit enhancements that meet the following criteria:

- Prepayment for the product or service. Prepayment is due within 5 business days of signing the confirm or contract and prior to delivery of product; or
- An acceptable irrevocable standby letter of credit for the benefit of City Light from a United States office of a commercial bank or trust company organized under the laws of the United States of America or a political subdivision thereof or a foreign bank with a branch office located in the United States with at least a standard "A", or equivalent, credit rating from two or more major credit rating agencies; or



- An acceptable payment guarantee from a parent or otherwise qualified entity having standard investment grade credit ratings of at least 'BBB' or 'Baa2' from S&P and/ or Moody's, respectively. The Guarantor must meet City Light credit qualification requirements and qualify for the amount of credit support to be provided; or
- Other credit enhancement deemed acceptable by the CFO.

3.6.4 Reporting

City Light will measure and report its counterparty credit exposure in the following ways:

Settlement Exposure: A rolling 60-day notional value. This is equal to the higher of existing Accounts Payable plus current delivered but unbilled plus scheduled to be delivered through the end of the current month (CM) or the CM plus next month notional value.

Mark to Market Exposure (MTM): The change in market value of undelivered obligations.

Current Exposure: The sum of Settlement Exposure plus Mark to Market Exposure.

A credit exposure that exceeds a credit limit due to the MTM component will be considered a passive exception by the Power Marketers; however, such exception would need authorization of ROD.

The ROD will provide such reports to the ROC no less than once per month or more frequently if conditions warrant.

3.7 Procedures Manual

The specific operating procedures and parameters for implementing the policies in this document are detailed in the Procedures Manual. Changes to the Procedures Manual will be reviewed and approved by the ROC for consistency with this Risk Policy within 90 days of the Council's approval and the City Light CFO making this Policy effective.



3.8 Risk Reporting

The Risk Oversight Division will produce the following periodic reports at a frequency determined by ROC:

- A report documenting City Light’s compliance with this Policy.
- A report identifying Risk Policy violations or exceptions, if any, and summarizing the status of City Light’s existing Hedging Plan, existing positions, forecast of resources, and credit exposures.
- A position report that reflects resources, load expectations and forward positions by month and market locations for a rolling 24 month period.
- A Mark-to-Market valuation report of forward positions, by month and market locations for a rolling 24 month period.

These reports will be distributed to the ROC, the GM, the Mayor and the Council’s central staff.

3.9 Compliance Assessment

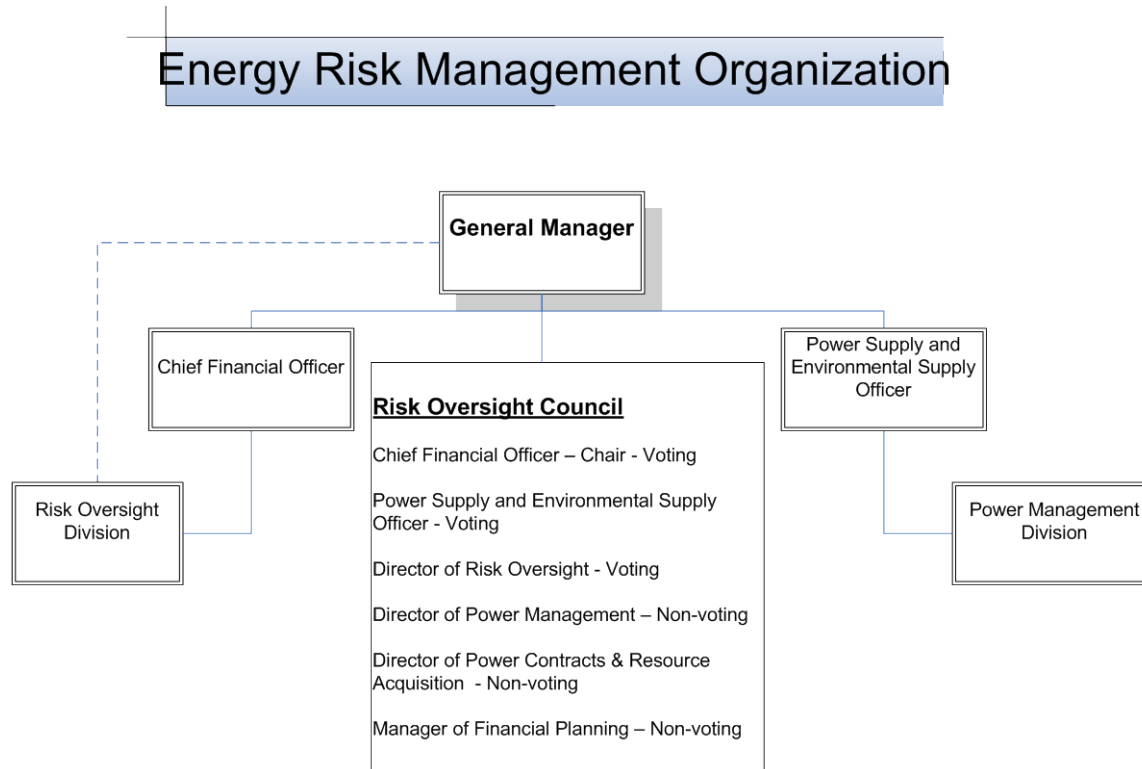
The Mayor’s staff and the Council’s central staff will consult with the Director of Risk Oversight regarding the selection of an external party to conduct a review of City Light’s adherence to this Risk Policy. This compliance review will be performed and reported every three years to the Mayor and the City Council. In the interim years; such review would be conducted by the City Light’s Internal Audit Group.



APPENDIX A WHOLESALE ENERGY RISK MANAGEMENT PROCEDURES MANUAL

Refer to Wholesale Energy Risk Management Procedures Manual as of November 23, 2015, VERSION 2.0.

APPENDIX B CITY LIGHT'S ENERGY RISK MANAGEMENT ORGANIZATION CHART



APPENDIX C GLOSSARY OF TERMS

5% Tail Risk: The risk metric produced from the Cash From Operations Model. It is the average financial outcome of the worst 5% of all outcomes.

Basis Risk: The uncertainty of an entity's financial performance due to fluctuations and/or uncertainty in price relationships between two products or instruments. Basis risk can be differentiated by type of product, time of delivery, quality or grade of a commodity, delivery point called for in the two instruments, etc.

Calendar Quarter: Three-month blocks of time, often referred to as "Q's." Q1 is comprised of January through March; Q2 contains April through June; Q3 contains July through September; Q4 contains October through December.

Call Option: Contracts that give the holder the right, but not the obligation, to buy a fixed quantity of energy at a fixed delivery point by a certain date and for a certain price. The price in the contract is known as the strike price (can include market index price) and the date is known as the expiration date. American options can be exercised at any time until maturity, and European options can only be exercised on the expiration date. This transaction type serves as a form of energy supply resource insurance.

Cash From Operations Model: The Financial Division's model that estimates net revenue available to fund capital requirements taking into account the variability of cash flows resulting from uncertainty of water conditions, market prices, and system load.

Cash From Operations: The net revenue expected from wholesale energy transactions, retail sales, other expenses, and incomes.

Correlations: A relationship between two variables, such as, two different commodity prices, power generation and electricity prices, weather and load etc.. In most power markets, an important price correlation is the relationship between natural gas and power prices.

Credit Risk: The uncertainty of an entity's financial performance due to the possibility of non-performance in payment or delivery by a counterparty.

Curve Risk: The risk that the relationship between two points on a forward curve (i.e., one month out vs. six months out) is not constant over time. Because the shape of a forward curve changes to reflect the market's expectations of spot and future prices, the relationship between any two points on the curve is not always constant.

ETRMS: Energy Trading Risk Management System

Hedge Transactions: Transactions executed to alleviate, on an expected basis, the potential volatility of an organization's cash flow, earnings and/or asset values. Hedging transactions include activities that reduce risk or that convert one type of risk to another deemed more tolerable.

Hedging Plan: Specific plan of action derived from the Hedging Strategy.

Hedging Strategy: High level direction that serves as the framework for developing courses of action (Hedging Plans) that will lead towards achieving a goal.

Market Liquidity Risk: The risk of an adverse cost or return variation stemming from the lack of marketability of a financial instrument. Liquidity risk may arise because a given position is very large relative to typical trading volumes of like commodities and contract tenors, or because market conditions are unsettled. Liquidity risk is usually reflected in a wide bid-ask spread and large price movements in response to any attempt to buy or sell. A firm facing the need to quickly unwind a portfolio of illiquid instruments may find it necessary to sell at prices far below fair value.

Market Price Risk: The risk that arises from the uncertainty of movements in the level or volatility of market prices.

Modeling Risk: The uncertainty of an entity's financial performance due to inaccurate or incomplete characterization of a transaction or portfolio value due to fundamental deficiencies in the model(s) being used to perform such valuations.

Operational Risk: The risk of loss due to flawed or inadequate business processes.

Operational Transaction: Procurement or sale transaction entered into for the purpose of managing resources.

Operations Risk: The risk of loss due to physical assets failing to perform.

Procurement: Energy product purchase transaction in the Balance of Month or shorter time horizon for the purpose of serving City Light's native load.

Prompt Month: Closest calendar month that has not yet begun.

Power Supply: All functions relating to the generation and supply of energy including ancillary services.

Put Option: Contracts that give the holder the right, but not the obligation, to sell a fixed quantity of energy at a fixed delivery point by a certain date and for a certain price. The price in the contract is known as the strike price (can include market index price) and the date is known as the expiration date. American options can be exercised at any time until maturity, and European options can only be exercised on the expiration date.

This transaction type serves as an additional surplus resource sales tool that will be used to lock in a floor price (guaranteed bottom). This is a useful tool to protect from the market price dropping below a stated price for a specified quantity of energy.

Risk Tolerance Band: An acceptable variance, in either direction (positive or negative), from the 5% Tail Risk's calculated optimal position.

Volumetric Risk: The financial uncertainty resulting from the variations in generation output or customer demand.

APPENDIX D COMPLIANCE STATEMENT

Compliance Statement

The undersigned employee hereby acknowledges receipt and review of City Light's Wholesale Energy Risk Management Policy dated _____ and corresponding Wholesale Energy Risk Procedures Manual version _____.

The undersigned further acknowledges that this risk policy and corresponding risk procedures manual defines the standards of City Light's energy risk management efforts that the employee is expected to comply with, and that failure to comply with the Policy and procedures may result in, among other things, disciplinary action up to and including termination.

As Utility compliance with the Wholesale Energy Risk Management Policy requires the involvement and support of many City Light staff, employees who become aware of non-compliance with these policies are obligated to report such anomalies to the Risk Oversight Director, Chief Financial Officer , or Power Supply Officer.

Acknowledged by:

Employee Name (Print)

Employee Signature

Date

© Seattle City Light
700 Fifth Avenue, Suite 3300
PO Box 34023
Seattle, WA 98124-4023
Phone (206) 684-3200 • Fax (206) 684-