

# Seattle City Light

## *Wholesale Energy Risk Management Assessment*

City Council Presentation

Seattle, WA

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The Deloitte logo is positioned in the bottom right corner of the slide. It features the word "Deloitte" in a bold, dark blue sans-serif font, followed by a small yellow dot.

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# Agenda

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# Project Overview

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Seattle City Light (“SCL”) engaged Deloitte & Touche LLP (“Deloitte & Touche”) to conduct the 2010 - 2011 annual compliance assessments of SCL’s Wholesale Energy Risk Management Policy (“WERM” or “RMP”) for the period of May, 1 2009 through April 30, 2011. As required by the Policy, each year an external party conducts a review of SCL’s adherence to the Policy, and in alternating years will conduct an additional assessment of the capability of existing wholesale energy risk management controls. This year, we have conducted the assessment of adherence to the Policy for 2009 – 2010, as well as the assessment of adherence to the Policy and the assessment of the capability of existing wholesale energy risk management controls for 2010 – 2011. Specifically, our assessment is related to all physical wholesale energy purchases and sales, transmission services, and ancillary services pursuant to Seattle Municipal Code Section 21.49.130 under SCL’s current WERM. The purpose of this presentation is to:

- ❑ Provide a high-level description of SCL’s risk infrastructure;
- ❑ Assess the design and operating effectiveness of SCL’s energy transacting risk controls;
- ❑ Compare SCL’s current risk infrastructure to industry prevalent practices;
- ❑ Identify gaps between industry prevalent practices and SCL’s current risk control practices. (Note: we have limited the scope of our gap analysis to three categories: Risk Governance, Transactional Controls, and Credit Risk);
- ❑ Describe the results of the assessment derived from select wholesale energy transactions in comparison to WERM authorizations, limits and other provisions; and
- ❑ Provide high-level recommendations for improvement to SCL for its consideration.

# Project Approach

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This work was predominantly conducted during the months of October and November 2011 through a process of conducting interviews, reading of policies and assessing existing documents and reports utilizing a three-phased approach:



## Phase 1 – Data Gathering:

- Extensive “fact-observation” exercise to develop a broad understanding of SCL’s transacting and risk management activities.
- Gathered information through interviews with SCL’s management and business line personnel. Analyzed relevant risk related documentation (e.g., policies, procedures, model descriptions, organizational charts, process flows and reports).

## Phase 2 – Assessment:

- Observations of SCL’s current practices were compared against industry prevalent practices.
- Sample selection analysis was performed to assess compliance of certain wholesale energy transactions to stated ordinances and policies.
- Each aspect of the assessment is evaluated using a rating scale, and is supported with commentary regarding SCL’s current practices to provide context and rationale for the ratings.

## Phase 3 - Develop Recommendations

- Documentation of observations and identification of meaningful opportunities for improvement.
- Analysis to identify the differences between high and low impact issues.
- High impact issues were aggregated and prioritized with management before recommendations were proposed.

# Project Approach

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Given the specific scope of this assessment, our work did not include:

- ❑ An evaluation of the appropriateness of transacting and risk mitigation strategies;
- ❑ Performing an independent valuation of transactions or validating quantitative methods or calculations;
- ❑ Developing process flows or procedures;
- ❑ Developing risk and management reports;
- ❑ Developing and/or evaluating tax or accounting policies for proposed transactions; and
- ❑ Testing the processes and internal controls associated with the development or reporting of budget amounts.

# Summary of Key Observations

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In general, SCL performs a majority of the processes and has established risk control infrastructure components that are similar to the prevalent practices performed at an energy transacting company of its size, scale and complexity (SCL primarily optimizes its asset portfolio and hedges energy price risk).

Our observations and recommendations range across the spectrum from risk policy and process design to operating effectiveness improvement and includes:

- Enhancing segregation of duties related to confirmations,
- Establishing a more formalized book structure,
- Formally documenting business processes and operational procedures.

It should be noted that many of our observations and recommendations are related to formalizing the documentation of the processes, procedures and controls that are already performed related to SCL's transacting activities.

# Findings / Observations

## Seattle City Light: Transaction Sampling and Evaluation Results

As a part of this assessment, Deloitte & Touche selected a series of samples from each transaction segment entered into by the Power Management Division during the observation period (May 1, 2009 – April 30, 2010 and May 1, 2010 – April 30, 2011). These samples were assessed for adherence to the City of Seattle Municipal Code Section 21.49.130 and compliance with SCL policies.

Based on our evaluation, we identified

- 1) 6 exceptions to processes and controls as documented per the Policy and Procedures were identified;
- 2) No exceptions to limits set forth in the Policy were identified; and
- 3) No exceptions to Credit and other provisions set forth in the Policy were identified.

# Findings / Observations

## Areas of Concern

### Risk Management Governance

#### Risk Management Policy:

SCL's current version of the WERM RMP and Wholesale Energy Risk Management Procedures Manual ("Procedures Manual") do not have an appropriate level of detail or sufficient coverage of several of the key aspects that would be expected in the documentation of policies, processes, procedures and controls for a commodity transacting organization that is in alignment with prevalent practices. Some examples of this include:

- Various sources of risk and risk types, such as the various components of market risk, (e.g., price, time spread, liquidity, basis, option risk, and execution risk) are not covered in significant detail;
- Specific risk types that can impact the organization (Legal and Regulatory risk) are not mentioned in the Policy;
- Roles and responsibilities for key functional areas (discussed in more detail below) are not included in the Policy;
- Authorized products are not consistent between the Policy and Procedures Manual; and
- Description of processes and controls related to validation of modeled market prices, new product approval, credit risk management and credit limit approval processes, data submission to market indices, transaction execution and entry, and model validation procedures are not at a level of detail commensurate with prevailing practices.

#### Book Structure:

SCL does not currently have a book structure in place but is working on implementing a book structure once the new Trading and Risk Management system is fully functional. SCL has designed a book structure for use in the new Trading and Risk Management System which has the following three main categories for transactions:

- Resource book - Long-term transactions such as wind generation, hydro forecast, etc
- Marketing book – balancing between resource book and load.
- Operations book – Includes prompt month transactions and closer (day-ahead, real-time)

# Findings / Observations

## Areas of Concern

### **Roles and Responsibilities:**

- Roles and responsibilities for certain key functional areas within the organization are not defined in an appropriate level of detail (or in some cases not at all) within the Policy and Procedures.
- Roles and responsibilities for the City Council (which is the de facto Board of Directors) and the Accounting function are not described in the Policy. Prevailing industry practice would suggest that the roles and responsibilities for these groups be defined and documented.
- It is prevailing industry practice for certain responsibilities currently being performed within the PMD (i.e., generating confirmations, developing and/or validating position forecasts for risk reporting) to be performed by a function independent from the transacting function in order to allow for independent risk oversight.
- The Risk Oversight Division (“ROD”) does not appear to have the quantitative resources necessary to support the development and maintenance of risk models, or to provide independent evaluation and validation of PMD models.
- The ROD is responsible for providing independent management reports to the Risk Oversight Committee (“ROC”), however is dependent on external functions, including the PMD, to develop the models which calculate valuation and risk results used for the risk reports. Part of the role for a ROD operating under prevailing practices is its role in challenging model assumptions, monitoring changes to models, stress testing and back testing the model and requiring model changes to be presented to the ROC.

**Management Reporting:** SCL management reports appear to be at a high level, with limited ability to drill down on individual transacting strategies or product types to evaluate performance on a more granular level.

# Findings / Observations

## Areas of Concern

### Transactional Controls

**Documentation of business processes and controls:** Many transacting processes and controls do not have detailed desk level procedure documentation (e.g., Transaction Execution, Deal Capture/ Transaction Modeling for the Deal Capture system, Market Data Collection and Validation, Confirmations, Credit Risk Management and Limit Establishment, etc.). Often documentation in place is outdated, not reflective of current practices or inconsistent between the Policy and the detailed procedures (i.e. authorized product). For many of the processes, the documentation does not adequately describe the specific process and the control points and are not to the level of detail of expected in prevailing practices and when compared other processes described in the procedures document. Detailed procedure documentation can be valuable in facilitating the training of newly hired personnel or assisting backup personnel perform procedures consistently.

**Deal Execution and Amendment / Deal Ticket Process:** SCL's WERM Policy and Procedures Manual documents how to create deal tickets but not how to edit, track changes, or investigate / explain / resolve deal ticket discrepancies. Certain fields displayed on SCL deal tickets (specifically counterparty credit available) use calculated information which is known to be incorrect.

**Monitoring of Taped Phone Lines:** Previously, the ROD group reviewed samples of selected executed transactions monthly to determine whether the recording device was working properly. Due to various staffing vacancies, this monitoring activity has not been performed recently on a regular basis.

**Settlements Process:** Currently, the Settlements process involves sending out a summary invoice to counterparties (with detailed information only provided upon request or in the event of a discrepancy). This process is cumbersome and could lead to SCL not receiving proper payments from counterparties in the event that the discrepancy is in the counterparty's favor.

# Findings / Observations

## Areas of Concern

### Credit Risk

#### ***Measurement and Monitoring:***

The Credit function is monitoring current credit exposure on a weekly basis, and does not consider potential exposure in its credit measurement and monitoring which is not consistent with our understanding of prevailing practices.

#### ***Credit Limit Establishment:***

Currently, the Credit Analyst is able to lower the credit limit for counterparties to a zero dollar value without any further review or consultation with management (Risk Oversight Director or CFO). This level of authority for an analyst role is not in alignment with prevailing practices which requires a more formalized approval process or Committee decision for credit reductions of significant amounts.

#### ***Credit Risk Management Systems / Processes:***

The current credit risk management system is a series of spreadsheets with limited automation and integration to related systems (e.g., Deal Capture, A/R). SCL currently has one full time resource focused on monitoring the creditworthiness of dozens of wholesale counterparties.

The Credit Window in the Power Ops application displays Remaining Available Credit to the PMD; however it only includes the Settlement Exposures, and not the Forward MTM exposure. This measure of credit is inconsistent with the accepted credit limits and the weekly credit exposures that are reported in the *Risk Oversight Weekly Status Update Report* which include both the Settlements Exposures as well as the Forward MTM.

#### ***Credit Enhancement Documentation:***

The credit files and enhancement documentation (i.e. Letters of Credit, etc.) are not maintained in a centralized, fire-proof, storage location.

# Assessment Results

Risk Controls Assessment						
<i>Design Effectiveness</i>						
Category	No Gaps Identified 		Point to Consider 		Gaps Requiring Actions 	
	Count	Percentage of Total	Count	Percentage of Total	Count	Percentage of Total
<i>Risk Governance</i>	4	36%	7	64%	0	0%
<i>Transactional Controls</i>	4	33%	5	42%	3	25%
<i>Credit Risk</i>	5	50%	5	50%	0	0%

# Assessment Results (continued...)

Risk Controls Assessment						
<i>Operating Effectiveness</i>						
Category	No Gaps Identified 		Point to Consider 		Gaps Requiring Actions 	
	Count	Percentage of Total	Count	Percentage of Total	Count	Percentage of Total
<i>Risk Governance</i>	13	41%	15	47%	4	12%
<i>Transactional Controls</i>	20	42%	19	39%	9	19%
<i>Credit Risk</i>	27	63%	15	35%	1	2%

# Recommendations

## Recommendations

The identified issues are potential gaps that were identified by comparing SCL's current practices to our understanding of prevailing industry practices, which could create potentially significant risk exposures. However, they are not uncommon and are typically correctable. Based on the identified issues and the broader findings documented in this report, Deloitte & Touche recommends that SCL consider taking the following actions:

### Revising the WERM and Procedures Manual to include prevailing practices such as:

- Defining a broader and more complete set of risks that encompass both current and potential future activities,
- Clarifying and documenting roles and responsibilities (particularly for the City Council and the Back-Office),
- Updating the Policy and the Procedures Manual to be consistent in the documentation of allowable transacting locations and transacting types,
- Formally documenting current transacting procedures, including:
  - Transaction Execution / Deal Capture** – document procedures for transaction execution describing required activities by front, middle and back office personnel as well as the deal amendment process. Documentation should promote consistency over time and between various front-office personnel that execute transactions on how each product type is represented in the system of record, as well as provide the middle office with guidelines for transaction validation.
  - Contract Administration** – document procedures that require valid enabling agreements and contracts to be in place before SCL commits to a transaction or deal, and that describes the process for monitoring compliance with the terms of the contract throughout the life of the agreement.
  - Credit Risk Management** - update the Procedures Manual to include a more complete and accurate description of the current credit scoring methodology.

# Recommendations

## Recommendations

**Market Price Validation** - Develop a more formal price curve download methodology including detective price curve validation. SCL should also adopt a methodology for the submission of price information to index publishers.

**ETRM Implementation** - SCL should continue to:

- Implement the identified functionality and test the various system processes and controls from deal inception to invoicing and accounting to gain comfort that the system is functioning as designed and that identified controls and reporting are operating as expected.
- Create and document a consistent process for deal execution and transaction capture in which components of the deal are entered into the system of record for risk reporting, credit monitoring, settlement and invoicing, and other processes.
- Implement standard reporting tools that are made available to front, middle and back office personnel which sources data from a centralized data repository. Reporting functionality should include standard management level dashboard reports, as well as drill down functionality for different levels of transaction granularity.
- Refine the Settlements process to enable detailed “line item” transaction settlement information that could be “rolled up” to a higher level of detail, if desired.

**Segregation of Duties** - Realign roles and responsibilities to allow for proper segregation of duties and process efficiencies:

- Develop the quantitative capabilities of the ROD. This should allow the ROD to accept additional responsibilities such as providing independent validation of PMD developed position models, providing support for the generation of the risk metrics, developing additional “at-risk” or stress testing reports.
- The ROD should assume responsibility of generating confirmations. Confirmations should be generated from the system of record, with the executed contract language in a read only format.
- Consolidate MTM valuation calculations in a common system and generated by a single business function from a centralized system of record.

# Recommendations

## Recommendations

### Risk Reporting

In conjunction with the rollout of the new system, and to take advantage of the enhanced capabilities and functionality of the new system, SCL should consider redesigning risk reports in order to potentially improve management's decisions regarding market, credit and operational risk and improve the communication between PMD, ROD, General Accounting and Cost Accounting:

- Wholesale energy positions should be recorded into trading portfolios or books and aggregated for reporting by transaction type, region, and tenor.
- Risk reports should include risks exposures and positions that have been reviewed and compared by the middle office. In addition, daily risk reports (or if not daily, reports generated whenever significant amounts of transacting have occurred) should be generated as soon as possible after market close and should be distributed by the beginning of the next business day.
- Credit exposure by counterparty should be calculated, reported and distributed at least once a day (or if not daily, whenever significant amounts of transacting have occurred). This should include AR / AP, unbilled revenue and Mark-to-Market ("MTM") gains and losses on the portfolio of positions.

SCL should consider modifying the process for credit limit assessments to where the Credit Analyst can lower credit limits based on a pre-determined percentage or dollar amount threshold with additional approvals beyond those limits provided by the Risk Oversight Director and CFO respectively.

# Other Matters

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The sufficiency of the services performed is solely the responsibility of SCL. In addition, we assumed that the information and data provided to us by SCL was complete and accurate.

Our services were performed in accordance with the Statement on Standards for Consulting Services that is issued by the American Institute of Certified Public Accountants (AICPA). We provided to SCL our observations and recommendations. However, our services did not constitute an engagement to provide audit, compilation, review, or attestation services as described in the pronouncements on professional standards issued by the AICPA, and, therefore, we will not express an opinion or other form of assurance with respect to our services. In addition, our services did not constitute an examination or compilation of prospective financial information in accordance with standards established by the AICPA. We did not provide any legal advice regarding our services; the responsibility for all legal issues with respect to these matters is SCL's. It is further understood that SCL's management is responsible for, among other things, identifying and ensuring compliance with laws and regulations applicable to SCL's activities.

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