Management Audit of
The Connecticut Light & Power Company

Prepared for
Connecticut Department of Public Utility Control

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Preface

This report was prepared based in part on information not within the control of the consultant, Blue Ridge Consulting Services, Inc. Blue Ridge Consulting Services has not made an analysis, verified, or rendered an independent judgment of the validity of the information provided by others. While it is believed that the information contained herein will be reliable under the conditions and subject to the limitations set forth herein, Blue Ridge Consulting Services does not guarantee the accuracy thereof.

The management audit of CL&P was initially started on July 7, 2008. Discovery was conducted from July 15, 2008 through February 10, 2009. Field work and interviews were conducted from September 9, 2008 through November 5, 2008. The first draft of Blue Ridge's report was submitted to Staff on January 20, 2009, and to the Company on April 8, 2009. The Company provided factual corrections to the report on May 11, 2009. Blue Ridge released the final report on May 29, 2009. The report was not updated for subsequent events from Blue Ridge's initial draft report sent to Staff on January 20, 2009.

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1. EXECUTIVE SUMMARY

Background

Blue Ridge Consulting Services, Inc. (Blue Ridge) was retained by the Department of Public Utility Control (Department) to perform a diagnostic management audit of the Connecticut Light and Power Company.

Connecticut Light and Power Company (CL&P or Company) is a wholly owned subsidiary of Northeast Utilities (NU) and serves customers as a regulated electric power distribution company. CL&P provides more than 1.2 million customers with electricity in 149 cities and towns across Connecticut. With annual revenues of approximately $3.5 billion, CL&P is Connecticut's largest electric utility.

Objective and Scope

The objective of the Blue Ridge review included (1) an in-depth investigation and assessment of the Company's business processes, procedures, and policies relating to the management operations and system of internal controls in place and (2) an identification of areas of the Company that might require further investigation.

The scope of Blue Ridge's management audit included eight focus areas:

- Executive Management
- System Operations
- Financial Operations
- Marketing Operations
- Human Resources
- Customer Service
- External Relations
- Support Services

Blue Ridge will provide an in-depth review analyzing the development and implementation process of the Company's new customer information system, CustomerCentral (C2) in a separate report.

During the course of Blue Ridge's management audit, 89 interviews were conducted and 1,014 data requests were reviewed.

Conclusions and Recommendations

The general conclusions for each of the focus areas follow:

<u>Section 3 – Executive Management</u>

3.1 Blue Ridge concluded that NU's Board of Trustees provides the appropriate level of strategic directions and input to CL&P senior management team to meet the challenges facing the Company in future, and, therefore, has no specific recommendations for improvement.

3.2 Blue Ridge believes that although the Company has a stated vision and mission, it is not being internalized within the senior manager level. Additionally, although the Company's goals, objectives, and results are tracked and accessible to employees in a web based system that shows the vision, mission, strategies, and corporate performance, the Company could improve the value of this information in relation to how current and readable that information is maintained. Therefore, the auditors offer the following recommendations:

3.2.1 Officers should be encouraged to internalize the Company's vision, mission, and strategies to facilitate employee understanding of the same vision, mission, and strategies and provide a clear message to energize the workforce behind the vision and mission.

3.2.2 The NUnet CL&P website should reflect current key results areas and be readable.

3.3 Regarding operating divisions, although CL&P is geographically structured into four operating divisions, the Company has organized them functionally. As such, employees report up through their respective functional areas such as operations, customer service, and shared services, rather than through divisions. Since the existing organizational structure focuses primarily on functional vice presidential or director entities and not geographic entities or divisions, this information was addressed in other sections of the report and eliminated as a separate section.

3.4 Relative to management organization and structure, the Company made improvements in its focus towards customer service in recent months; however, opportunity still exists to streamline and reduce costs throughout the organization. Spans of control for directors and above vary significantly, but generally fall below the Company guideline. Therefore, Blue Ridge offers the following recommendation:

3.4.1 Evaluate spans of control throughout the organization to flatten and streamline operations and staff groups where possible.

3.5 Blue Ridge believes that NU's and CL&P's corporate objectives are reasonable, developed through a sound process, and consistent in format from year to year, thereby allowing for greater acceptance and awareness at all levels of the organization. However, a disconnect emerges as one moves down the organization between the overall corporate objectives and the line of sight to individual employees goals. Therefore, Blue Ridge offers the following recommendations:

3.5.1 CL&P should increase employee awareness of the specific corporate objectives that an employee can impact by including those objectives relevant to an employee's job function in his or her annual performance reviews.

3.5.2 Follow-up on the employee survey results to ensure the determination of what needs to be done to keep employees better informed.

3.6 Blue Ridge determined that the Company participates in a detailed and defined corporate planning process that is jointly executed with the corporate financial forecasting group. The process is appropriately structured to develop assumptions, issues, and challenges and explore their impact with the Board, senior management, and the Company's executives and managers. However, the meetings at which communication of the Company's goals and objectives resulting from the corporate planning process is provided to employees could be made more useful. Blue Ridge recommends the following:

3.6.1 The Company should use the existing Company officer/employee meetings to develop employee input for the following year's round of strategic planning.

3.6.2 The verbal communication of the goals and objectives to employees should receive more scrutiny by corporate planning.

3.7 Blue Ridge believes that the Company has adequate processes, such as the intranet, to communicate the corporation's strategies, goals, and objectives and the results as they are being achieved. Therefore, Blue Ridge has no recommendations regarding corporate communications.

3.8 The adequacy of administration through policies and procedure manuals and the adherence to individual functional area policies by employees varies throughout the organization. See other sections of this report for specific conclusions and recommendations regarding functional area policies and procedure manuals.

Section 4 – System Operations

4.1 CL&P has addressed its asset management responsibilities using the Maintenance and Inspection Program Manual and has a continuing program identifying system deficiencies and prioritizing necessary spending to repair and replace facilities in a timely fashion. The condition and age of the Company's distribution system magnify the challenges of managing a system in which component replacement of many devices and structures nearing the end of life is the only cost effective solution. Blue Ridge recommends the following:

4.1.1 The Company should evaluate a program to review third party pole attachments.

4.1.2 The Company should evaluate the value of implementing Condition Based Maintenance within the asset management program.

4.2 CL&P/NU substation design standards and procedures address safety, environmental concerns, capacity requirements, constructability, maintainability, esthetics, expansion planning, voltage variations, code requirements, flexibility, protection, security, and operability. Although protection designs were not reviewed, the standard feeder breaker relays demonstrated device protection for the conductor and devices associated with backbone distribution systems. Blue Ridge has no recommendations in this area.

4.3 The Company has provided evidence that it maintains adequate command and control of the distribution system while complying with its published procedures. Blue Ridge recommends the following:

4.3.1 The Company should increase the emphasis on operator training in outage modeling and documentation.

4.4 The Company continues to be dedicated to meeting its reliability goals and is proposing to spend considerable budget dollars to do so. However, it is very likely that they will not meet their reliability goals in the future due to limited capital available to replace aging equipment and limited funding to catch up the tree trimming cycle. Blue Ride recommends the following:

4.4.1 The Company should continue to pursue aggressively all of the programs proposed in their Long Term Reliability Plan and to work with the DPUC to secure funding. Failure to make aggressive efforts in this area will lead to significant reliability problems in the future.

4.5 The system planning process has planning/design criteria in place. Continued comparison with Best Practices will allow these criteria to continue to evolve, especially in the area of substation firming criteria. However, the Company documented radial and loop load flow analysis software does not have the needed flexibility relative to modern planning in the distribution arena. Modern algorithms with updated software are available to interface with the GIS in evaluating switching scenarios, fault analysis, reactive power management, and fault locating with SCADA interfaces. Therefore, Blue Ridge recommends the following:

4.5.1 The Company should evaluate additional software to enhance the planning process and explore additional savings possibilities not presently provided by the existing load flow analysis packages.

4.6 The STORMS system is an excellent tool for construction project development and tracking. A methodology is in place to provide proper documentation for projects which are being recommended for inclusion in the construction budget. However, project scope creep needs to be carefully monitored. The detailed design of distribution lines and facilities follow the Company's construction standards. Blue Ridge recommends the following:

4.6.1 The Company should study standardizing substation design, including upgrading or rehabbing existing substations. Standard substation designs reduce engineering costs, due to repetition of design work, and operational costs, as equipment and facility orientation is similar from substation to substation. Due to the wide diversity of existing substation, two or three standards might need to be developed. This would reduce the need for special designs on each substation project.

4.7 Based on the $300 million capital expenditure level, replacement of the aging infrastructure will continue to be slow process. The prioritization process allocates the expenditures to the appropriate projects based on the criteria. Blue Ridge recommends the following:

4.7.1 Annual allocations for the 42 initiatives should be reviewed and prioritized.

4.7.2 Expenditures should be allocated to obtain the largest benefit to the Company and its customers.

4.7.3 Timing of the expenditures in each category should be reviewed.

4.7.4 Contingency plans should be developed for obsolete equipment failures which will reduce the outage time to customers.

4.8 The Company has made significant efforts to improve its street light program since the DPUC docket in 2003. However, while many accomplishments have been made, many challenges still exist to improve service to customers. Blue Ridge recommends the following:

4.8.1 The Company should take additional steps to continue to improve its street light program, including the following:

- Be vigilant in the transfer of asset registry information and billing to the C2 project to ensure that any gains made in the past few years are not compromised by the move.
- Continue to fund the relamping project as recommended in the final assessment, i.e., maintain a 5-6 year cycle on lamp replacements unless failures in areas exceed 10%.
- Establish more rigorous KPIs to make sure that all the goals of the street lighting program are met.

4.9 The Company's Enterprise Resource Planning (ERP) is detailed and comprehensive, covering all of the pertinent aspects of emergency restoration. Blue Ridge recommends the following:

4.9.1 The Company should develop a more user-friendly version of its 504 page ERP, using flowcharts and/or an electronic version that is bookmarked and color-coded for ease of reference.

4.9.2 The Company should continue its efforts to participate in best practices workshops and studies to improve its plans.

4.9.3 The Company should explore a concept that is used by larger regional utilities in the southeastern U.S.—when appropriate, decentralize the restoration effort to the smallest element of the system to improve productivity. That smallest element may be at the substation level or at the feeder level.

4.10 The Company has an adequately managed Vegetation Management program with policies, procedures, and controls to effectively maintain the rights-of-way (ROW) acquired by the Company in the course of serving load. The Company has developed a methodology to attain a five year trim cycle mandated by the DPUC and according to the DPUC-established budget.

4.10.1 The Company should evaluate the use of GIS technology for identification of major species in forested areas, annual precipitation, and diseased/infested areas as a precursor to routine trim vs. hot spot trim.

Section 5 – Financial Operations

5.1 The Company has an adequate financing system in place that meets the needs of the Company while obtaining financing in a cost effective manner. The Company's debt to equity ratio has varied over the past several years and was inconsistent with the stated target. It was unclear how the Company measures performance in the issuance of financial instruments. Therefore, Blue Ridge recommends the following:

5.1.1 The Company should move toward meeting its target debt/equity ratio of 55%/45%.

5.1.2 The Company should develop a performance measurement system to assess the performance of the Treasury in the issuance of financial instruments so as to minimize the cost of capital to CL&P ratepayers.

5.2 The Company provides substantial and timely financial information through its filings with the Department, the SEC, and the FERC. Further, the Company's interest coverage ratios, liquidity, and Money Pool investments are reasonable. CL&P's ratings are appropriate for minimizing the cost of capital. However, its FFO/Debt and FFO/Interest ratios are decreasing which increases financial risk. Therefore, Blue Ridge offers the following recommendations:

5.2.1 With the anticipated capital investments in infrastructure during the next few years, the Company needs to monitor AFUDC so that it does not become a factor in the investment community's risk assessment.

5.2.2 CL&P should monitor its Interest Coverage, FFO/Debt and FFO/Interest Ratios in the future. If it appears that those ratios will fall below the S&P Guidelines, the Company should aggressively decrease costs and seek rate increases to maintain those ratios.

5.3 Blue Ridge concludes that NUSCO's cash management function has the policies and procedures in place along with trained personnel to effectively manage the cash resources of CL&P and all other NU operating companies. Blue Ridge recommends the following:

5.3.1 NUSCO should implement its plans to fully digitize the accounts payable process so that receipt of invoices and payments are made electronically. This will allow a more aggressive approach to taking purchase discounts by paying within the allowed discount period.

5.4 NU has an effective system of accounting process and controls to manage its business. Through various benchmarking studies and internal assessments, NUSCO management has identified numerous opportunities for improvement for which they have taken action or established plans to do so. In the plant accounting area, using two different systems to establish work orders works effectively for the Company. IT resources are still available to support the MIB Work Order System for non standard work orders. Blue Ridge recommends the following:

5.4.1 The Company should consider, on a cost effective basis, using more of the modules available through the Power Plant System. Specifically they should consider using the work order module that interfaces with the AMS and other modules already utilized by the company. This change can lower the cost to close and unitize a work order and make the entire process more efficient.

5.5 The Tax Department personnel are experienced professionals that maintain their skills through regular continuing education. The mid-term challenge, however, will be to find qualified replacements for turnovers and/or retiring staff. The group's tax processes ensure timely submittal, and there have been recent changes to accelerate tax filings. The group does not have any specific performance metrics beyond meeting filing deadlines. Due to the size of NU, the group must regularly support audits from various taxing authorities. Several recent audits resulted in significant refunds, which, though better than underpayments, could still disrupt cash flow. Therefore, Blue Ridge offers the following recommendations:

5.5.1 The Tax Department, like other groups within NU, should work closely with HR to address the challenges of succession planning.

5.5.2 The Tax Department should consider implementing performance measures to monitor its performance with the ultimate goal of improving the quality of its performance beyond just meeting tax filing deadlines.

5.5.3 The reasons for the various tax refunds should be understood and the tax process adjusted to avoid future overpayment.

5.6 The Internal Audit Department (IAD) reporting lines are appropriate with the Director reporting functionally to the Audit Committee of the Board and administratively to the CEO of NU. The group is well organized and adequately staffed. The audit planning process is appropriately risk based and audits are identified and prioritized based upon input from across the organization. The group participates in non-audit consulting assignments, but these assignments are not formally tracked nor included within the audit plan. Blue Ridge offers the following recommendations:

5.6.1 Consulting assignments performed by the internal audit group should be tracked and included on the Audit Plan to ensure that these assignments are not draining resources and potentially impairing independence and objectivity.

5.6.2 The status report for open audit recommendations should include aging to identify older open items.

5.7 NU's financial planning process is well established and provides corporate and operating company management with timely forecasts sufficient for effective decision-making. Major budget components are synthesized into a uniform budget by NU's Corporate Financial Model providing management a complete picture of the Company's cash and capital needs as well as its expected results. However, Blue Ridge noted that the O&M budget process requires a significant number of manual hand-offs between personnel due to limitations in the MIBS system. To address shortcomings in the current legacy financial reporting, forecasting, budgeting, and projection systems, NUSCO plans to install a Corporate Performance Management (CPM) system. Blue Ridge recommends the following:

5.7.1 Ensure that the limitations associated with the MIBS system that require manual hand-offs during the O&M budget process are resolved as NU upgrades its financial systems with the CPM discussed in Section 5.4 of this report.

5.8 Blue Ridge concludes that NU and its Operating Companies have an adequate capital budget system in place which is closely linked to the overall financial planning process. Blue Ridge has no recommendations in this area.

5.9 NUSCO's financial planning process utilizes the necessary tools and procedures for controlling costs at its operating companies. Blue Ridge offers no recommendations in this area.

5.10 The method the Company uses to monitor deferrals and review its asset base for potential stranded investments is reasonable. Blue Ridge has no recommendations in this area.

5.11 Within the Company's Rates department, the TRACS system provides an excellent method of managing all aspects of the rate case filing and subsequent implementation of Department-ordered rates, terms, and conditions. In addition, the Company is effectively coordinating the filing efforts with the other financial, accounting, and operational organizations within the Company. However, resources still become an issue during a rate case. Blue Ridge recommends the following:

5.11.1 The Company should consider cross training among the various Rates and Regulatory departments to help "shave the peak" from the work associated with a rate case.

5.11.2 The Company should also consider developmental rotational assignments of other financial / accounting personnel into the various rates departments. Blue Ridge understands that rates cases are sporadic; therefore, an individual in a developmental assignment may not work on a rate case. However, the primary benefits are to provide a ready pool of resources to assist in rate cases without using temporary employees and to give employees a better understanding of the rate making process. Developmental assignments should also be considered between the various regulatory departments.

5.12 Blue Ridge concludes that service function charges allocated by NUSCO to CL&P are reasonably and appropriately established, documented, and controlled. However, while benchmarking studies performed by the Company and NUSCO did provide adequate review and comparison for certain service company functions and charges, benchmarking studies had not been performed on all service company functions. Blue Ridge recommends the following:

5.12.1 NUSCO should develop a benchmarking studies program that touches on all service functions of the Service Company as applied to CL&P. The program may be done on a five-year rotating basis coordinated to the internal audit program, ensuring that NUSCO continues to provide services in all areas within industry norms.

5.13 NU's corporate strategy to exit its unregulated energy business ventures has significantly reduced the potential impact of these types of affiliate transactions. However, the issue of compliance with affiliate transactions rules should remain a priority with the Company. Blue Ridge recommends the following:

5.13.1 NU should continue to emphasize compliance with its Affiliates Transaction Code of Conduct.

Section 6 – Marketing Operations

6.1 The Company has developed a flexible organization led by experienced personnel with a broad range of expertise to address the challenges of the energy arena. However, there does not appear to be any overall, comprehensive marketing plan to direct the efforts of the individual Customer Solutions groups. Also, major goals and milestones for the Conservation and Load Management program are not reflected in the KPI reports. Blue Ridge recommends the following:

6.1.1 The Company should re-evaluate its organizational structure to ensure that it is functioning as intended.

6.1.2 The Company should develop a comprehensive marketing plan that formalizes and consolidates its overall strategy.

6.1.3 Blue Ridge recommends that given the exposure of the Conservation and Load Management Program, the Company should include additional program goals in its KPI report. Doing so would better integrate Customer Solutions activity in the corporate goal hierarchy.

Account Executive goals cannot be considered departmental in nature. In fact, achieving these goals does not translate into any measure of effectiveness for the group. Blue Ridge recommends the following:

6.1.4 The Company should develop and formalize higher level goals for this Department.

6.1.5 The Account Executive group should develop a comprehensive business plan and consider using the Economic Development Group's plan as a model.

6.1.6 Given the change in the Yankee Gas affiliation, CL&P should re-evaluate the Account Executive organization.

Economic Development and Community Relations has an excellent, comprehensive Business Plan. Blue Ridge has no recommendations for this area.

Much of Distributed Resource's work is the result of legislative and/or regulatory proceedings and decisions. However, Blue Ridge believes that Distributive Generation would benefit from the direction and focus a business plan would provide. Blue Ridge recommends the following:

6.1.7 Distributed Resources should institute a formal process to develop initiatives or business plans for the group. A formal process would ensure that all major issues, inter-relationships, and alternatives are addressed.

6.1.8 Distributed Resources should also develop a comprehensive business plan and consider using the Economic Development Group's plan as a model.

6.2 While CL&P has developed and implemented a comprehensive and effective Conservation and Load Management (C&LM) Plan, budgetary and rate concerns remain. While some C&LM initiatives may come directly from the DPUC, the ECMB or other outside parties, no formal process exists for the development of proposed or modifications to ongoing programs. While there appear to be adequate checks and balances in the Company's individual program procedures for the processing and payment of outside contractors and/or customer rebates, Internal Audit has had little involvement in the C&LM Program over the past several years. Blue Ridge recommends the following:

6.2.1 Given the DPUC's C&LM budget concerns, the Company must be more proactive, anticipate and/or prioritize program or operational changes in its annual plan submission, and focus on improved cost performance both in-house and with its contract vendors. The Company should re-evaluate its budgetary and cost control procedures, and accountability for its C&LM program.

6.2.2 The Company should develop a formal process for the development of C&LM programs or initiatives. A formal process would enhance the current program. Whether it is a solicitation, top down or bottom up process, there should be a formal avenue, company wide, to propose and review potential endeavors. Such a process would better ensure that specific projects be developed and prioritized based on cost effectiveness, manageability, or other criteria. Specific procedures would require that each proposal contain all the required information necessary for management to properly evaluate such proposals. This is especially important in light of the recently implemented Integrated Resource Process directed by the Legislature.

6.2.3 The Company should increase its internal audit activity in vendor implemented programs. There should be more independent oversight given the nature of the transactions and sums of money involved. Even though many programs require verification of particular measures, it is important from a control perspective, for the Company to have its own auditors randomly verify that procedures have been followed.

Section 7 – Human Resources

7.1 The HR organization thinks, plans, and acts strategically. The Balanced Scorecard measurement system and the Performance Management and Performance and Talent Management System seem to be running parallel measurement systems where the wording and measures should be aligned. When reporting the results of employee surveys, Northeast Utilities' compares favorably to norms of other respondent companies in the data pool. Many of the 2004 communications vehicles identify the relationship to norms, but the 2007 Workforce Survey Reports did not identify these. Also, the 2004 data were presented in a way in which the reader could synthesize more accurate conclusions. Measurement for Human Resources process performance is limited and not completely aligned with the metrics of the corporation. Individual performance evaluations do not align and reinforce the importance of the Key Results Areas. As a result, Blue Ridge recommends the following:

7.1.1 The organization should work on those issues indicated as negative in the Workforce Survey Reports, such as improving communication and trust.

7.1.2 In reporting the results of surveys, when the Company does compare Northeast Utilities' numbers to norms of other respondent companies in the data pool, share the norms so readers can identify the actual impact of the responses. Many of the 2004 communications vehicles did identify the relationship to norms as did the Management Committee Report date 12/7/07, but the 2007 Workforce Survey Reports did not for the general reader.

7.1.3 Create a Balanced Scorecard for the Human Resources Department and the HR sections. Ensure that the Scorecards measure all of the same four Key Results Areas employed in the corporate version (for alignment, achieving all KRAs, and employee line-of-sight), and that all Scorecard metrics drive the KRAs and KPIs of the layer above.

7.1.4 Craft deployment process maps for quality assurance and training purposes. (See more on this topic in the Process Management section).

7.1.5 Use these same measures in the individual performance evaluations for consistency and alignment.

7.2 Best practices indicate that proactive recruiting will be one way to ensure diversity, equal opportunity, and replacement of the work completed by the Baby Boomer generation as they retire from the workforce. The Company's programs to attract high school and college students may be one of the best means to help alleviate shortages of potential recruits in the long-term. Blue Ridge recommends the following:

- 7.2.1 The Recruiting and Staffing organization should continue to explore initiatives to support the recruiting process through collaboration with secondary and college level awareness initiatives (e.g., for example, eighth grade career fairs).
- 7.2.2 Continue to work with technical and engineering educational institutions to facilitate students pursuing utility related careers.
- 7.2.3 Northeast Utilities should consider offering a cooperative program within its summer intern program with an engineering school.
- 7.2.4 When creating performance measures for recruiting, explore changing the metric of Time-to-Fill (T2F) to Need Date. The percentage of those jobs filled at the time hiring managers need them mimics OTD or On Time Delivery on the manufacturing shop floor. A decrease in Time-to-Fill does not really measure performance since a decrease in the average may still not meet the customer's timeliness or deadline needs.

7.3.1 Overall, NU's compensation program for non-executives is well planned and implemented. However, there are opportunities to enhance several aspects of the non-executive compensation program, including simplifying the Index of Job Descriptions, updating the list for the newly created Customer Experience/C2 positions and develop a balanced scorecard that identifies compensation. Blue Ridge recommends the following:

- 7.3.1.1 As part of the current project to update and standardize formatting for CL&P job descriptions, convert the Index of Job Descriptions to a simple matrix with the jobs listed on the left and the companies of NU across the top. Addition of the Customer Experience/C2 positions to the list would make the packet more complete.
- 7.3.1.2 Continue to update and evaluate job descriptions when the position is to be backfilled or is identified as a hot spot for a revamping project. Include the new company-wide and layer-specific competencies as they are updated.
- 7.3.1.3 Craft a Balanced Scorecard for the Compensation section that identifies and creates measures for what Compensation needs to do and at what level of performance.

7.3.2 The Compensation Committee of the NU Board of Trustees utilizes industry standard procedures for developing executive compensation. The committee members are trained, analytical, experienced, and competent in translating the Company's business goals and objectives into a coherent and fair executive compensation plan that attracts, motivates, and retains executives for the long run. They tie the plan to the business strategy and study a myriad of data to ensure that there is equity among the officers both internally and externally. Blue Ridge recommends the following:

- 7.3.2.1 Identify the executive compensation consultant in the proxy and in the CL&P Annual Report, to whom he/she reports, yearly fees from the Compensation Committee, and fees from other parts of the Company.

7.3.2.2 Capture executive severance or walkway prices in the CL&P Annual Plan's Summary of Compensation (as CL&P executives do not appear on the proxy as Named Executive Officers).

7.3.2.3 Mirror the newly revised data display for the Summary of Compensation Table in the proxy in the CL&P Annual Report display. Make them parallel in format and type of data.

7.3.2.4 Document a process for job analysis for officer positions. Because the customers, the press, the Office of Consumer Counsel, the DPUC, and the Connecticut Attorney General are looking for transparency, especially in executive compensation, a standardized, documented process would add to the rigor and demonstrate that the same process is used for both executives and other Company employees.

7.4 NU began using the on-line Performance and Talent Management System at the beginning of 2008, so the organization is just finishing the first full cycle of implementation in the field along with developing merit compensation and incentives and the requisite performance evaluations. The individual's goals are linked to departmental and officer goals. They appear to be aligned to overall organizational performance goals and Performance and Talent Management System Goals, but they do not seem to be aligned to the Key Performance Indicators (KPIs) or MileMarkers of the Balanced Scorecard. Blue Ridge recommends the following:

7.4.1 Align the Scorecard metrics with officer metrics, the Performance Enhancement System, and the Performance Management System (and measures) so that employees know exactly what and how they are being measured.

7.5 The Company has created an award-winning, employee-pleasing, and cost saving benefits program based on helping employees and their families improve their health. Because the benefits and other post retirement benefits are based on the median of the market analysis of similar sized companies and industry, until the entire group moves to a different scale, the Company will not be able to change its supplementary executive pension plan. There needs to be greater transparency in all the supplemental benefits that executives receive. Blue Ridge recommends the following:

7.5.1 Break out the Summary of Compensation Table of the NU 2007 FORM 10-K with more detail, so shareholders, customers, and the public can see exactly how much the executives cost: walk-away parachute price, Senior Executive Retirement Plans, non-SERP Benefits, etc.

7.5.2 Capture requisite procedures for Benefits and Pensions administration to prepare for trained employees retiring.

7.6 Both the Technical Training and the Organizational Change and Learning departments strategically offer a broad aggregation of technical, professional development, talent management, and cultural change courses, programs, and interventions. However, the perception by employees of employee development and training is not favorable. Both training/learning organizations provide best practice training for the completion of specific jobs; however, they do not seem to offer training/learning for development opportunities or career growth for a broad slice of the organization. Blue Ridge recommends the following:

7.6.1 Complete a root cause analysis to determine why sets of respondents for the Blue Ridge and the 2007 Workforce Surveys rated training lower than we would expect with all the good activity going on.

7.6.2 Expand training opportunities to a broader section of the workforce. Where the technical training courses are not available for the general NU population and more technical skills are needed (and wanted for career growth by employees) explore the establishment of an After Hours Program.

7.6.4 Conduct a sample survey of employees to discover what employees and managers think are priorities to prepare employees to do their jobs and to grow within the organization.

7.6.5 The SuperVISION modularized format and topics do not match or support the strategic and Talent Management thrust of newer programs. Put this program on the revision list to bring it up to the standard of the other courses.

7.6.6 Enhance the training evaluation process by utilizing a model such as the Donald Kirkpatrick training evaluation model.

7.6.7 Create a cross-functional forum of all those who administer training in the organization. Meet with them monthly to share tools, techniques, successes, and failures so that everyone coordinates, collaborates, and plans together.

7.6.8 Investigate the creation of Supervisor Assessment Centers in which candidates are screened and trained in advance. When positions open, the prepared candidates may consider themselves more capable and, therefore, apply. The process also screens out those not prepared in advance so that they are not promoted to supervisory jobs.

7.7 The new Performance and Talent Management System is included in the structure of the Performance Management System and tied closely to the annual Merit Pay process. The implementation/execution seems well-supported. The team members should all have a direct line-of-sight from their own performance measures back up to those of the department and on to those of the business. Blue Ridge recommends the following:

7.7.1 Create an HR Strategy Map and develop measures that ensure that Human Resources work drives and/or influences the results of the Key Results Areas of the corporate Balanced Scorecard Measurement System.

7.7.2 Ensure that every member of the HR organization (and the NU organization, too) can follow the direct line-of-sight back up the chain to the Key Performance Indicators and Key Results Areas of the Balanced Scorecard. Measure HR on all four Key Results Areas: People, Operational Performance, Customer Care, and Financial Performance.

7.8 The Labor Relations organization manages their part of the business at a level above industry standards. Nevertheless, the lack of written procedures for administrative work and metrics to run the business is not comparable to the other best practice work. Blue Ridge recommends the following:

7.8.1 Develop written standard operating procedures for the administrative processes in Labor Relations.

7.8.2 Follow the analysis and recommendations from the 2007 Workforce Survey to the Management Committee presentation about strengthening communication with the union.

7.9 Although Human Resources employed a customary gap analysis method to gather data surrounding their future workforce needs, the resulting solutions were creative and innovative. Blue Ridge recommends the following:

7.9.1 Include with the Manpower Plan a sheet of costs for the recommended initiatives and impact on compensation to fill the critically needed positions.

7.9.2 Ratchet up the plan to backfill potential retirees and prepare them to backfill as this issue concerns almost the entire workforce.

7.10 The Standard Operating Procedures of the Recruiting and Staffing organization vie for a best practice. The remaining sections of the organization have not outlined the steps in the processes or procedures for ensuring accurate usage, training new employees, or improving increments of the process. Blue Ridge recommends the following:

7.10.1 Begin to develop the infrastructure for process management and allow one of the newly trained Green Belts in Operations to facilitate the work sessions.

7.10.2 Develop process and results measures for core HR processes. Begin to measure and monitor them.

7.10.3 Certify 1-2 CL&P Strategic Business Partners as Six Sigma Green Belts, and then, Black Belts.

7.10.4 Volunteer Human Resources facilitators for process improvement teams. Arrange for them to co-facilitate with Operations and the newly minted Green Belts. It will strengthen Human Resources' process improvement skills and creditability in the field plus strengthen the advanced process facilitation skills of the Green Belts.

7.11 The Office of Diversity and Ethics has creatively embraced organizational development approach to diversity with support for employees including the employee advisory councils and management committees to help embed the philosophies, tools, and techniques of diversity perspective into the culture of the business. The CL&P workplace survey data would be more helpful if they were compared to the normative rating of other companies who had answered these same questions. The Company is addressing all protected classes under the umbrella of diversity. However, CL&P may need to reconsider its programs and procedures to support women considering the concern raised in Blue Ridge's mini-survey of interviewees. Blue Ridge recommends the following:

7.11.1 Compare the diversity survey data with the normative results from other companies in the survey consultant's database. The World Class differential data also creates stretch goals for CL&P's Human Resources organization as they strive for a high level of performance.

7.11.2 Create task or process improvement teams to find root cause and draft develop actions plans to increase the diversity and ethics-related survey scores for those identified as "good, but could be improved," such as diversity, respect, and ethical organization, and "needs improvement: openness and trust" for both the Company and for Human Resources.

7.11.3 Study developing a formal support system for women, especially for managers, as they work in a traditionally male dominated industry.

7.12 CL&P's safety and health initiatives are solid. The preventive health program is innovative, exceeds industry standards, and saves healthcare and days not worked costs. The safety initiative, although proactive, still misses internal targets, failing to reach best practice score for DART. Blue Ridge recommends the following:

7.12.1 Change from the current program approach in safety to a cultural change approach. Ask: what do we need to do to weave this safety custom deeply into our culture? (Do not eliminate the programs, but reframe them as part of a change process rather than a series of programs overlaid on the organization.)

7.12.2 Charter a cross-functional planning team to develop a strategic plan to improve the safety approach. Include operating people, Organizational Change and Learning, and Strategic Employee Relations Business Partners to help infuse the change management focus, methodology, and tools.

<u>Section 8 – Customer Service</u>

8.1 Blue Ridge concluded that the Customer Experience organization is in a state of transition, but moving in the right direction. The Company does establish plans and goals, although targets seem to be set within historical achievement rather than toward improving performance. A balanced scorecard is in progress, but currently no balanced approach exists for reviewing all of the elements that influence the organization and the service that is provided to the customer.

The concept on which CL&P bases its service measurement results is in need of upgrade and underway. Measuring the execution and success of the Chip Bell and employee survey initiatives will be key to service improvements and to ensuring expected value. Blue Ridge offers the following recommendations:

8.1.1 Dates and deliverables for the Chip Bell initiatives should be tightened and tracked with accountabilities clear. The new management team is capable of faster execution. Follow up on the Gelfond study should also be monitored and tracked to ensure value for money spent.

- 8.1.2 The balanced scorecard, operations plans, and goals need to be confirmed, reviewed, and cascaded down through the organization. Results against objectives should be tracked monthly at all levels.
- 8.1.3 Stretch targets should be set for all measurements to encourage a culture of continuous improvement.
- 8.1.4 The new management within Customer Experience needs to build a relationship with the DPUC based on a policy of setting stretch targets and meeting commitments while providing the optimum number of reports to keep the DPUC informed.
- 8.1.5 The cost of service quality should be balanced with a cost measure to ensure that financial concerns are addressed.
- 8.1.6 All measures used within the organization need to be reviewed collectively to ensure that they support the ultimate goals in the same way and with a common focus.
- 8.1.7 Best Practices should be pursued as a future initiative as the Customer Experience organization has not performed any benchmarking or best practices studies since 2004.

8.2 CL&P has benefited substantially from the introduction of AMR. The new management is focused and addressing existing issues associated with meter information that is being collected and reported. CL&P's meter testing practices are in place, but process reviews of the entire meter to bill cycle need to be initiated. Blue Ridge offers the following recommendations:

- 8.2.1 Set target goals on measurements to encourage continuous improvement over time.
- 8.2.2 Perform a QA review of the meter to bill process to streamline the process and automate manual activities.
- 8.2.3 Perform an organizational assessment to consider consolidating meter reading or other Customer Operations functions in NUSCO within Customer Experience to increase spans of control, eliminate conflicting objectives and assist the flow of information.
- 8.2.4 Seek out best practices and benchmark results with other companies.
- 8.2.5 Identify all manually read meters and develop a plan to convert them to electronic reads.
- 8.2.6 Include in the CL&P Smart Meter Rate Pilot Plan a detailed testing plan that is both thorough and scalable. Ensure that customer feedback is included as a key driver that shapes any conversions.

8.3 Blue Ridge believes that the complaint and inquiry area has much room for improvement. The attitudes of those working the issue are positive, however, and seem to be focused on the correct concerns. Blue Ridge sees an opportunity to utilize complaints and inquiries as one more way to look at customer feedback in the quest to improve strategies, practices, procedures, and service quality. Therefore, Blue Ridge offers the following recommendations:

- 8.3.1 Use process reviews and representatives' input to improve and automate manual call handling procedures, such as customer payment arrangements.

8.3.2 Complete the Chip Bell initiative, ensuring that complaint data is consistently entered into the system, reports are prepared and utilized, root cause analyses performed, and results tracked. Set performance targets to encourage continuous improvement. Share results with critical stakeholders including representatives, those in other departments, regulatory interests, and executives.

8.3.3 Collect data from representatives regarding complaints received that are not escalated or logged. This could be helpful customer feedback that is not currently captured.

8.4 Due to workarounds, complexity of changes, system interfaces, and importance of accurate, timely billing, CL&P needs to undertake a complete quality review from meter to billing to collection, identifying ways to automate and streamline the process, as well as build in checks and balances and measurements to evaluate on-going results. All billing changes need to be thoroughly tested before implementation. Resources need to be trained not only in the system mechanics, interfaces, and dynamics, but also in the performance process begun in the Company. Blue Ridge offers the following recommendations:

8.4.1 CL&P needs quality processes in place and rigorous testing of billing system changes.

8.4.2 The 2005 study to support the larger bill statement and envelope needs to be updated post implementation with postage costs and estimates for reductions in bill inserts.

8.4.3 CL&P needs to analyze the bill to collection process to identify opportunities to shorten the cycle.

8.4.4 CL&P should track returned postal mail and do root cause analysis on all returns to reduce levels over time.

8.4.5 Payment processing studies should be done to determine best practices and drive toward cost effective methods. No studies have been done since 2005.

8.4.6 Determine the reason Uncollectibles and 90 Day Receivables are trending higher and, if necessary, conduct best practice studies and/or implement controls.

8.4.7 CL&P needs to undertake a process review to optimize the use of in-house collection representatives.

8.5 Theft of service training, programs, practices, and communication vehicles are available within CL&P. The Company tracks collection (and has a good record collecting payments) on those theft of service cases which involve amounts greater than $10,000. The Company should track all cases. Blue Ridge recommends the following:

8.5.1 Make theft of service training mandatory for meter service installers, mechanics who perform field investigations, and their supervisors. Keep training logs to ensure that required individuals attend the training.

8.5.2 Track the collection efforts on all cases of theft and measure results over time.

8.5.3 Perform benchmarking studies or seek out best practices.

8.6 The customer support systems are in transition and will depend heavily on the new C2 system which began implementation in October 2008. Through the new automation and lengthy training provided, the new system should provide relief from the many former manual work-arounds. The Company should review staffing levels and overtime to determine requirements necessary to handle the new mix of calls in the C2 environment. Blue Ridge recommends the following:

8.6.1 Customer Experience personnel should review call volumes, call handle time and other relevant Automated Call Distributor data to determine proper staffing levels that will provide optimal service and call wait time while balancing costs and reducing overtime expense.

8.6.2 Customer Experience should seek out, research, and potentially adopt relevant best practices on an on-going basis.

Section 9 – External Relations

9.1 Blue Ridge has determined that the Company has a detailed mechanism to track compliance with regulatory filings during rate cases and in response to dockets and/or orders. The Company's regulatory goal accords regulators an appropriate and timely response. However, while the Company's regulatory and communications annual goals reflect the need to address the regulatory process, the latest version of the Corporate Communication Plans does not include a strong focus on the regulatory process. Therefore, Blue Ridge recommends the following:

9.1.1 The next version of the Corporate Communications Plan should include a strategy that confirms the Company's existing attention to the regulatory process.

9.2 The Company's standards of compliance are imposed both externally as lobbying requirements and as its own ethical standards. The Company's 2008 Corporate Communications Plan has limited ties to the legislative (governmental) area. However the annual goals for Governmental Affairs do address the area. The Company's communications planning includes the engagement of senior management of CL&P as a key means of explaining the Company's positions. The Company also has assigned an officer level individual as its Government Affairs representative. Blue Ridge recommends the following:

9.2.1 The next version of the Corporate Communications Plan should include a strategy that confirms the Company's existing attention to the various governmental and legislative processes.

9.3 Blue Ridge found that the Company has a detailed disclosure process, has formal goals for investor relations, and reviews costs and performance. Blue Ridge has no recommendations in this area.

9.4 Blue Ridge determined that the Company has a detailed Corporate Communications Plan, which is strategic in nature and focused at a high level.

The tactical elements are contained within the operating companies' goals. Blue Ridge has no recommendations in this area.

<u>Section 10 – Support Services</u>

10.1 Blue Ridge found that NU adequately manages CL&P's risk. Both NU senior management and the Board of Trustees provide appropriate oversight for the management of risk. The Risk and Capital Committee, along with the support of the Enterprise Risk Management group, provides the necessary resources and policy and procedural direction to ensure proper attention on risk. However, the Company could benefit from conducting periodic reviews of industry best practices concerning risk management. Therefore, Blue Ridge recommends the following:

10.1.1 The Company should incorporate guidelines for focusing on industry best practices to ensure continuance of industry improvements in the risk management process.

10.2 The Company reasonably manages and controls its legal function through the use of guidelines and procedures. The Legal Department establishes goals annually as part of the budget process. They compare costs and productivity to outside peer groups using established data sources. A clearly expressed decision exists to use inside counsel when appropriate to achieve cost savings and utilize better knowledge of the Company. Blue Ridge has no recommendations in this area.

10.3 Blue Ridge concludes that the Company's Facilities Management operations is adequate and appropriate in effectively accomplishing its intended goal of providing internal customers with safe, clean, and effective facilities within which to conduct business. However, the costs associated with the NU executive area renovation may not have been necessary. Therefore, Blue Ridge recommends the following:

10.3.1 DPUC Staff is encouraged to evaluate the NU executive area renovation issue more fully in the Company's next rate requests (both for Yankee Gas and CL&P as both companies may be allocated a portion of these costs).

10.4 In order for Purchasing and Materials Management to work cohesively in the future, frequent, meaningful, and comprehensive communications between each group will be required. That communication should focus on senior management's goals and objectives relative to customer service and Company assets. In addition, future storage facility requirements will change as a result of the DOE required distribution transformer changes effective 2010. Blue Ridge recommends the following:

10.4.1 Future communications should focus on senior management's goals and objectives relative to customer service and company assets.

10.4.2 Stores should develop a detailed plan, on a cost benefit basis, that addresses the future storage facility requirements and the impact to the customer relative to additional cost resulting from the DOE required distribution transformer changes effective 2010.

10.5 Blue Ridge concludes that the Company adequately and appropriately operates its Transportation Services organization. Policies, procedures, and practices are effective and suitable. Blue Ridge has no recommendations in this area.

10.6 Blue Ridge concludes that the Information Technology function of the Company operates effectively in performing its strategic objectives, balancing need, risk, and cost. Blue Ridge has no recommendations in this area.

10.7 Blue Ridge concludes that the Company's records management program is appropriate and adequate for proper guidance on records and information management and records retention. However, a disconnect seems to exist between the department director's rating of the department and the rating assigned to the department by others. Blue Ridge has no recommendations in this area.

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2. INTRODUCTION

Background

Blue Ridge Consulting Services, Inc. (Blue Ridge) was retained by the Department of Public Utility Control (Department) to perform a diagnostic management audit of the Connecticut Light and Power Company.

Connecticut Light and Power Company (CL&P or Company) is a wholly owned subsidiary of Northeast Utilities (NU) and serves customers as a regulated electric power distribution company. CL&P provides more than 1.2 million customers with electricity in 149 cities and towns. With annual revenues of approximately $3.5 billion, CL&P is Connecticut's largest electric utility.

Objective and Scope

The objective of Blue Ridge review included (1) an in-depth investigation and assessment of the Company's business processes, procedures, and policies relating to the management operations and system of internal controls in place and (2) an identification of areas of the Company that might require further investigation.

The scope of Blue Ridge's management audit included eight focus areas:

- Executive Management
- System Operations
- Financial Operations
- Marketing Operations
- Human Resources
- Customer Service
- External Relations
- Support Service

An in-depth review of the Company's CustomerCentral (C2) implementation will be reported separately.

During the course of Blue Ridge's management audit, 89 interviews were conducted and 1,014 data requests were reviewed.

Approach

Blue Ridge employed an approach in this management audit methodology that allowed the Company the opportunity to explain their processes fully while providing to the auditors the means to observe, question, and otherwise interact with key personnel to ensure complete understanding of the business practices. For each of the eight focus areas, Blue Ridge prepared initial data requests to examine the documentation produced from the business and by which the business operates. Blue Ridge also scheduled interviews with key personnel to obtain information concerning (1) the communication/integration of corporate policy and activity, (2) departmental activity, (3) clarification concerning responses received through data requests, and (4) additional issues/questions generated through previous data requests and other interviews.

The data request/response process and interview scheduling was an iterative process based on the need for clarification to understand process and practice fully and for information concerning emerging potential issues.

Well into the data gathering activity of the project, but still overlapping it, the auditors began analysis of the information, including determining the efficacy and efficiency of operations as well as the possible affect of any potentially ineffective or inefficient activity. This report provides the results of that analysis along with recommendations to correct or alter any activities in order to move closer toward ideal performance.

The interview process that Blue Ridge developed included an informal, non-statistically valid survey in order to generate a general impression of certain focus areas so that investigation could be directed toward potentially weak areas.

Survey questions asked included the following:

Compensation (including Salary and Benefits) Q1: As a whole does the Company's compensation program appropriate in terms of its ability to fairly compensate existing employees and attract and retain capable new employees?
Training and Knowledge Transfer Q2: Does the Company have processes to train employees to perform their jobs well and prepare them for potential opportunities?
Safety Q3: Is the Company a safe place to work?
Accounting & Budget Q4: Do the Company's reporting systems provide timely and accurate information to allow you to manage expenditures?
Transportation Q5: Does the Company provide safe and appropriate vehicles so that you can accomplish your assignments at an economical cost?
Information Technology Q6: Does the Company provide the information resources including hardware and software to allow you to perform your assignments effectively?
Purchasing Q7: Does the Company have an efficient and effective process to obtain the resources you need to perform your assignment and pay vendors in a timely and fair manner?
Facilities Q8: Does the Company provide appropriate facilities to allow you to perform your assignments effectively?
Performance Measurement (department, not personal) Q9: Does the Company provide a performance measurement system, Balanced Scorecard or a series of benchmarking tools and information that allow you to evaluate and improve the performance of your assignments?

Code of Conduct Q10: Does the Company have a Code of Conduct that is clear and well explained to provide appropriate guidance that allows you to perform your assignments effectively?
Records Management Q11: Are the Company's procedures for records management and confidential records management effective and efficient in providing you with access to records and control of documents to perform your assignments effectively?
Equal Opportunity Q12: Does the Company provide impartial and equal opportunities for jobs and promotions?
Customer Focus Q13: Does the company have a coherent and well-articulated customer philosophy that is communicated throughout the company?
Quality Q14: Does the company encourage employees to continuously improve all activities at all levels?

To each question the interviewee was asked to provide a numerical response with 1 as Poor, 2 as Fair, 3 as Good, 4 as Excellent, and 5 as Outstanding. With each question the interviewee had the options of not providing an answer and responding that the question was not applicable.

Although this was not a statistically valid survey, average results for each question were in the 4-Excellent range. The following chart shows the ratings and averages for each question.

Table 1: Blue Ridge Interview Survey Results

Question #	# of Responses	Data Missing	# of Score 5	# of Score 4.5	# of Score 4	# of Score 3.5	# of Score 3	# of Score 2.5	# of Score 2	# of Score 1.5	# of Score 1	# of Score 888	# of Score 999	Check Total	Average All
Q1	83	7	10	1	43	8	14	1	2	0	0	2	2	0	3.84
Q2	83	7	9	0	32	12	25	1	3	0	0	0	1	0	3.64
Q3	83	7	45	3	28	0	7	0	0	0	0	0	0	0	4.48
Q4	83	7	15	0	31	5	18	1	3	0	0	3	7	0	3.82
Q5	82	8	18	1	22	2	1	0	0	0	0	3	35	0	4.38
Q6	83	7	17	3	36	6	18	0	3	0	0	0	0	0	3.90
Q7	83	7	9	5	33	4	14	0	2	0	0	5	11	0	3.87
Q8	83	7	27	3	37	4	12	0	0	0	0	0	0	0	4.17
Q9	83	7	11	3	31	7	20	2	4	0	0	3	2	0	3.72
Q10	83	7	55	4	18	1	2	0	2	0	1	0	0	0	4.57
Q11	83	7	11	2	42	3	16	0	1	0	0	2	6	0	3.90
Q12	83	7	29	4	33	3	10	1	0	0	0	1	2	0	4.23
Q13	83	7	12	1	28	6	28	2	3	0	0	3	0	0	3.66
Q14	82	8	18	1	36	6	14	1	2	0	0	4	0	0	3.95
												Average of the Average All			4.01

A separate question was asked concerning the top challenges to the Company. The answer most often given concerned the economic pressure facing the Company. Second to that were responses of workforce attrition, technology, and the legislative/regulatory culture.

Report Organization

The report is organized by focus area as noted under Scope (above). Within each focus area, sub-sections concerning major elements (groups, departments, initiatives, projects, etc.) are delineated. Each sub-section is discussed, providing Background, Analysis, Findings, and Conclusions and Recommendations. The report includes an appendix defining Acronyms.

3. EXECUTIVE MANAGEMENT

Objectives and Scope

Executive management included a review of the Company's Board of Directors, officers, divisions, management organizational structure, corporate objectives, corporate planning, corporate communications, and administration.

The executive management review concentrated on the effectiveness of organizational structure in channeling information from the organization to executive management and from executive management back to the organization. The examination included a review of the coordination of activities of functional areas and tasks with positions and reporting hierarchy. Additionally, corporate and strategic planning, responsible for translating the vision and mission of the Company into objectives and measures, was reviewed for (1) formulation and application of corporate objectives ranging from vision/mission statements to short and long-term goals set by senior management, and (2) the Company's investigation of the communication of these objectives throughout the organization including the performance monitoring standards developed to achieve them. The review also determined whether organizational control is robust in establishing performance standards, measuring actual performance, comparing actual performance against performance standards and evaluating the results, and initiating corrective action if needed.

Overall Assessment

Overall, CL&P is a well managed operating company within the Northeast Utilities family of regulated utilities. As the primary governance body for CL&P corporate and management direction, NU's Board of Trustees is well-positioned to provide the appropriate level of strategic directions and input to CL&P senior management team to meet the challenges facing the Company in the future.

Blue Ridge found that although there is a stated vision and mission, it often is interpreted differently between managers at the officer level. Goals, objectives and performance results are tracked over the course of the year and employees have access to a web-based system that shows the vision, mission, strategies and corporate performance information. However, this information was dated and unreadable. There are presently four geographic divisions within CL&P. However, the Company is organized along functional lines thereby eliminating duplicative functions were possible.

Blue Ridge noted opportunities for CL&P to further streamline its organization and reduce costs while also improving communications and customer service.

Blue Ridge found that NU's and CL&P's corporate objectives are reasonable, developed through a sound process, and consistent in format from year to year thereby allowing for greater acceptance and awareness at all levels of the organization. However, auditors noted a disconnect as one moves down the organization between the overall corporate objectives and the line of sight to individual employee goals. As a result, Blue Ridge believes that NU's corporate message is losing its effectiveness as it moves down the organizational ladder.

Blue Ridge has determined that the Company participates in a detailed and defined corporate planning process. The process is appropriately structured to develop assumptions, issues and challenges and explore their impact with the Board, senior management and the Company's executives and managers.

Finally, Blue Ridge found that the Company has adequate corporate communication processes, such as the intranet to communicate the corporation's strategies, goals and objectives, and the results as they are being achieved.

3.1 Board of Trustees

Background

In any capital intensive, publicly traded organization, such as an investor-owned utility, the Board of Trustees should play an important role in providing the overall strategic direction of the utility. Trustees typically bring a wealth of knowledge, expertise, and business acumen which should provide the organization with direction and leadership for the short and long term. The Trustee's role in the formulation of the organization's strategic direction and high level policy positions and statements is essential to the success of the utility. Trustees should provide independent oversight and not be unduly influenced by senior management in setting the overall direction of the Company.

The Board's main responsibilities are establishment of priorities and review of the Company's strategic plans and budget to ensure their coalescence with those company priorities.

In this area, Blue Ridge analyzed the NU Board of Trustee's selection, communication, committees, and issue actions.

Analysis

To determine the extent to which the NU Board interacts with the management and operations of CL&P, Blue Ridge conducted interviews of CL&P Senior Managers, including the Chairman of the Board as well as the Chair of the Compensation Committee. Further, Blue Ridge reviewed the credentials of the Board members and make-up of the key committees of the Board.

Blue Ridge reviewed the reports that are provided to the Board of Trustees as well as the minutes of the Board of Trustees and several of the Board committees, including Audit, Compensation, and Risk.

Findings

The NU Board is comprised of executives with a broad base of experience and knowledge across business, government, education, community, and charitable organizations.[1]

NU has an established policy for filling vacancies on the Board via the Corporate Governance Committee.[2] The Board has established several key committees and has members who are qualified to hold these committee chairs.[3]

At the higher levels of management, including NU's Executive Committee and Officers, Blue Ridge found that NU's Board is actively involved in reviewing and providing counsel to senior management on the strategic direction of the Company.[4]

The Board meets eleven times per year at roughly monthly intervals. A major strategic planning meeting takes place in July in which the Board reviews the upcoming business plans for all the operating companies, including CL&P.

Connecticut Light and Power's Board of Trustees is responsible for approving the debt financing issued by the Company.[5] The Board does not approve the capital and operating budgets for the operating companies. However, their opinions and views of the strategic direction of the Company do factor heavily into the final approved amounts.[6]

Conclusions and Recommendations

Blue Ridge believes that NU's Board of Trustees provides the appropriate level of strategic direction and input to CL&P senior management team to meet the challenges facing the Company in future.

Blue Ridge Recommendations: none

3.2 Officers

Background

Critical to the long term health and operational effectiveness of the Company is an evaluation of the leadership, responsibilities, authority, and decision-making capabilities of the officers of the corporation. Clearly, the officers should drive the organization's ability to anticipate and respond to strategic issues facing the corporation.

As with the Board, the leadership and direction exhibited by the officers of the corporation as they position the Company for the short and long term is significant.

[1] *http://www.nu.com/investors/corporate_gov/board_trustee_info.asp.*
[2] Response to Data Request BRCS EM-03-006.
[3] *http://www.nu.com/investors/corporate_gov/Committee_Members.asp.*
[4] Interviews C. Shivery 9/16/08, L. Olivier 9/16/08, D. McHale 10/6/08 and G. Butler 8/21/08.
[5] Response to Data Request BRCS GR-01-009.
[6] Interviews C. Shivery 9/16/08, L. Olivier 9/16/08, D. McHale 10/6/08 and G. Butler 8/21/08.

Proper and effective leadership should better enable the Company to provide safe, reliable, and cost effective service.

Analysis

Blue Ridge reviewed job descriptions and compensation levels for the Company's officers and interviews were conducted of officers and members of NU's Executive Committee. Questions were raised to identify departmental responsibilities, mission statements, and specific roles within the organization.

Organizational charts, goals, and objectives were reviewed for each officer entity. Relevant corporate policies and programs initiated were also assessed. Departmental strategic planning documents were examined, and performance metrics and corrective follow-up procedures were assessed.

The NUnet Corporate website, as of the first of October 2008, listed three directors and 25 officers for the Northeast Utilities Service Company.[7] Within CL&P, there are four directors and 19 officers (last revision 6/18/08). All of the directors at NUSCO are officers at CL&P. Blue Ridge's review in this section will focus on the CL&P officers.

In January 2007, Northeast Utilities changed their vision to "Energy, Growth, Leadership—Energy to Make a Difference." Prior to that time, the vision issued in March 2003 was described as "one clear vision."[8] Since 2006, an enVision booklet has been provided to all CL&P employees to communicate the vision, mission, values, and objectives for the upcoming year. CL&P's Vision (as shown on the Company's website) is "We are the trusted choice for our customers' energy needs and admired for the performance of our people." The Company's mission is "To safely meet the changing needs of our customers by providing dependable energy and services."

The enVision booklet identifies KPIs (Key Performance Indicators) and/or Milemarkers. Individual functional departments, such as Human Resources, develop lower level departmental KPIs.[9] The database used to monitor CL&P's KPIs includes corrective actions for measures with performance below targeted levels. Quarterly 2008 goal status reports are based on Officers' year-to-date self evaluations. The "Annual Executive Appraisal" is the official form used to report the Officer's year end performance and is created during January of the subsequent year.[10]

Findings

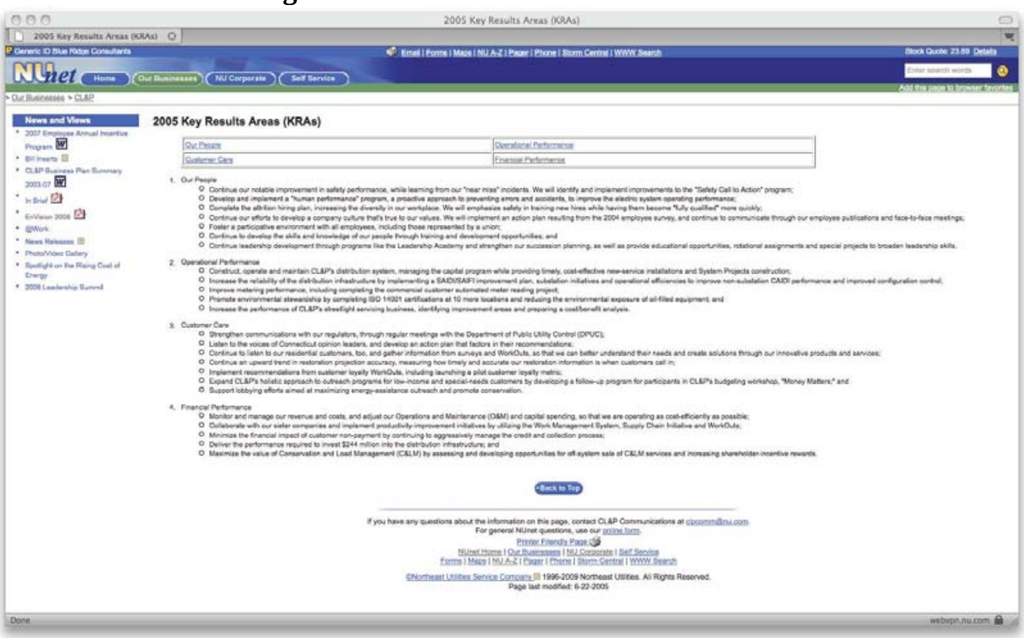
Blue Ridge found that the Company's officers and managers are less conversant with CL&P's vision, mission, and strategies. During interviews, several of the Company's

[7] "Directors" in this context refers to these individuals as member of the subsidiary company Board of Directors. While somewhat confusing, there are positions discussed in other sections of this report which refer to senior manager positions as "directors." They are not the same level in the Company's organization hierarchy.
[8] Response to Data Request BRCS GR-01-001.
[9] Response to Data Request BRCS EM-03-019.
[10] Response to Data Request BRCS HR-07-074, BULK.

officers were asked to describe the Company's vision or mission. Only one of the 11 interviewed mentioned "Energy, Growth and Leadership."[11] None repeated the CL&P Vision, although one referred Blue Ridge to the presentation given at the kick-off meeting for this audit in which two Company officers did provide a presentation slide which included the Company's vision and mission. Several of the Officers mentioned lower costs or lower rates as an integral part of the Company's mission.

Compounding this problem is that the Company's internal employee website reflects the current vision and mission but does not reflect current Key Result Areas (KRAs) for 2008. Instead, it lists metrics or KRAs from 2005[12] on the 2008 link, as shown in the following figure from NUnet:

Figure 1: Screen Shot NUnet 2008 KRAs



As a result, the website information, while proactive in its approach, is woefully inadequate in its application by containing outdated information. Further, portions of the enVision booklet when shown on a computer have screens that are upside down as it appears the Company simply scanned the enVision brochure. The following is an example of the screen:

[11] Interviews C. Shivery 9/16/08, L. Olivier 9/16/08, P. Clarke 9/18/08, K. Bowes 9/16/08, D. McHale 10/6/08, K. Kuhlman 9/19/08, M. DiPietro 9/17/08, P. Cosgel 9/17/08, W. Quinlan 10/8/08, S. Payne 9/17/08, and R. Shoop 10/6/08.

[12] *https://webvpn.nu.com/business/clp/,DanaInfo=nunet.nu.com+default.asp* when clicked led to *https://webvpn.nu.com/business/clp/clppublications/,DanaInfo=nunet.nu.com+kra.asp#financial*

Figure 2: enVision Screen Capture from NU Web Page

The awkward display of the enVision screen limits the usefulness of the online version of the information. This is another example of a proactive approach limited by its application.

The Company's officers have a common view of key issues and major challenges facing the Company but, as revealed in interviews, were primarily focused on those relating to their specific responsibilities. The Company's vision and strategies are incorporated into their individual departmental plans but could be better aligned with individual manager and employee performance objectives. This focus on individual departmental goals may be contributing to other problems auditors discovered with line of sight from the employees performance measures to the corporate objectives.[13]

CL&P has a Performance Enhancement System that contains current KPI results.[14] However, Blue Ridge noted that sometimes targets are set below actual performance. For example, the monthly target on the Customer Contact Survey KPI is consistently lowered from 70.2% in January down to 62.6% in December, while results through September YTD hit their low in March at 70.7% and high in June and July at 72.4% and were always better than even the highest January target.

[13] See Section 7-Human Resources for a discussion of employee performance appraisals and goal setting
[14] Response to Data Request BRCS EM-40-002-RV-01-BULK.

Conclusions and Recommendations

Blue Ridge believes that although the Company has a stated vision and mission, it is not being internalized within the senior manager level. Officers have departmental plans that tie into the vision and mission, and these are communicated to employees by means of a number of media (electronic and paper).

The Company's goals, objectives, and results are tracked over the course of the year, and employees have access to a web-based system that shows the vision, mission, strategies, and corporate performance. However, the Company could improve the value of this information to the employees by ensuring that it is current and easily readable.

Blue Ridge recommendations:

3.2.1 Officers should be encouraged to internalize the Company's vision, mission, and strategies to facilitate employee understanding of the same vision, mission, and strategies and provide a clear message to energize the workforce behind the vision and mission.

3.2.2 The NUnet CL&P website should reflect current key results areas and be readable.

3.3 Divisions

Background

Presently, four geographic operating divisions exist within CL&P: Central, Eastern, Western, and Southern. Each reports to a division director who reports to the Vice President-Customer Operations.[15] Each division has work centers for the differing geographic land areas. All divisions have approximately an equal number of customers, CL&P employees, and functional budgets/workload.

While these divisions exist in geographic terms, the Company has organized them functionally. Employees report up through their respective functional areas, such as operations, customer service, and shared services.

Since the existing organizational structure focuses primarily on functional vice presidential or director entities and not on geographic entities or divisions, this information was addressed in other sections of the report and eliminated as a separate section.

[15] Response to Data Request BRCS EM-03-005.

3.4 Management Organization Structure

Background

The organizational structure of a utility can contribute to a company's ability to provide safe and reliable service at a reasonable cost. A streamlined organization with clear delineation of roles and responsibilities and an emphasis on providing efficient, effective, safe, and reliable service can be a means by which the utility controls costs and provides safe, reliable, and quality service. Likewise, an organizational structure that has overlapping areas of responsibilities and unclear or non-existent roles and responsibilities can lead to ineffective service and higher costs.

Awareness of how best to establish the organizational structure and developing management to achieve the strategic goals and objectives are paramount in an era of increasing costs, of changes in environmental awareness, and in which the dynamics of the industry continue to change.

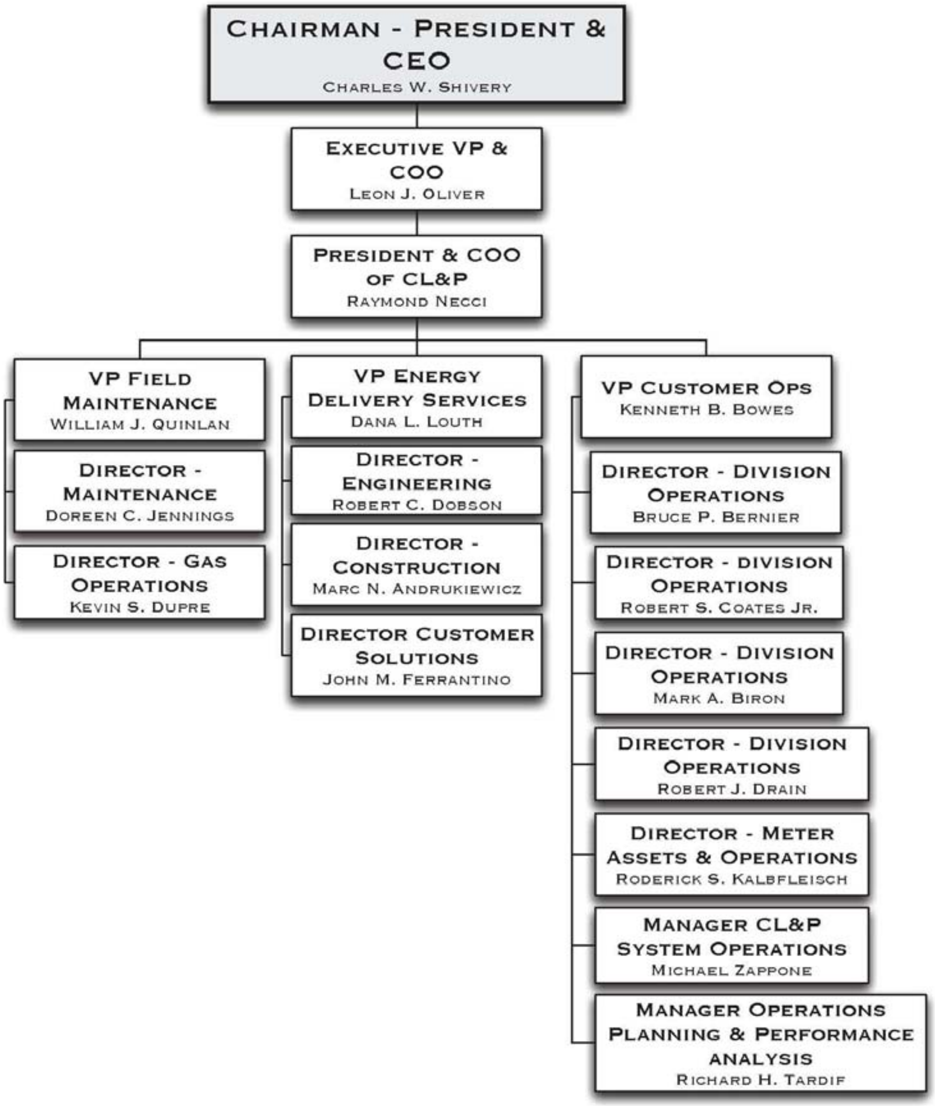
Analysis

The review of CL&P's organizational structure encompassed an assessment of organizational charts, organizational mission statements, and goals and objectives. The results of recent organizational studies and internal audit reports regarding corporate management were reviewed. Interviews were conducted with officers so that auditors could fully understand the Company's current management structure and any changes that may be anticipated in the near future. Blue Ridge also reviewed the Company's philosophy on accountability, responsibility, and decision-making authority. Auditors also reviewed with officers the major technological, regulatory, and competitive challenges confronting the Company.

The following figure is the organization chart for the President and Chief Operating Officer-CL&P/Yankee Gas:[16]

[16] Response to Data Request BRCS GR-01-004.

Figure 3: Organization Chart-CL&P



Since 2007, as shown in the table below, the number of CL&P employees decreased by 21.8% while customer growth increased by only 1.1%.[17] However, the number of CL&P executives increased from 3 to 4.

Table 2: Employee Count vs. Customer Growth

Year	Executives	Exempt	Non-Exempt	Hourly/Craft	Total Employees	Total Customers
Source:	(HR 07-020)	(HR 07-020)	(HR 07-020)	(HR 07-020)	(HR 07-020)	(CS -01-018)
2004	3	617	464	1292	2376	1,186,886
2005	3	584	423	1236	2246	1,193,887
2006	3	460	141	1161	1765	1,192,940
2007	4	487	144	1146	1781	1,200,536
July 2008	4	526	152	1176	1858	1,205,828
Percent change 2004 - July 2008					**-21.8%**	**1.6%**
Percent change 2006 - July 2008					**5.3%**	**1.1%**

[17] Response to Data Request BRCS CS-01-018.

Conversely, from 2006 to July 2008, the number of CL&P's employees rose from 1,765 to 1,858 (5.3%), while the number of customers grew by only 1.1%.

Executive movement within CL&P during 2007 and 2008[18] included the promotion of the Vice President, Customer Operations responsible for both Yankee Gas and CL&P, who replaced the Vice President of Customer Operations who assumed the position of Vice President of Shared Services. The second promotion was for the Vice President, Field Maintenance. This is a new officer position responsible for the operations of Yankee Gas and the maintenance of both companies' distribution systems. The Vice President, Field Maintenance is also responsible for the transportation, supply chain, and facilities functions.

The Company has guidelines for layers of management and spans of control as shown in the following tables.[19]

Table 3: Maximum Layers of Management (Excluding CEO)

	Staff	Field
Highest level Officer to exempt employee	4	5
Highest level Officer to non-exempt employee	5	7

Table 4: Spans of Control (Minimum Ranges)

	Staff	Field
Officers	7-10	7-10
Directors	6-8	6-8
Managers	6-8	6-10+
Supervisors	*	8-14+

*Most staff organizations have limited or no supervisory positions

Other factors impacting spans of control include job scope, type of work, use of technology, managerial skills, and the decision-making empowerment allowed in the group.

Blue Ridge analyzed the span of control for the officer and director positions listed in the Company organizational chart.[20] Auditors reviewed the number of direct reports to each of these positions, including the executive and/or administrative assistants reporting to them. The results of this analysis are shown in the table below.

[18] Response to Data Request BRCS GR-013-001.
[19] Response to Data Request BRCS CS-22-012.
[20] Response to Data Request BRCS GR-01-004.

Table 5: Analysis of Span of Control
Direct Reports to Officers and Directors
CL&P Organization Charts

	Position (Officers and Directors)	Total	Total w/o EA/AA	Guideline Min	Meets Minimum w/ EA/AA	Meets Minimum w/o EA/AA
1	CEO	8	7	7	Yes	Yes
2	COO	8	7	7	Yes	Yes
3	VP - Utility Services	7	6	7	Yes	No
4	Dir - Training	4	3	6	No	No
5	Dir - Distribution Engineering	6	5	6	Yes	No
6	SVP - Transmission	5	4	7	No	No
7	VP - Transm Strategy & Ops	7	6	7	Yes	No
8	Dir - Project - Transmission	8	7	6	Yes	Yes
9	Dir - Municipal Relations & Siting	4	3	6	No	No
10	Dir - Transmission System Planning	3	2	6	No	No
11	Dir - Transmission Operations	5	4	6	No	No
12	Dir - Transm Project Community Rel	0	0	6	No	No
13	VP - Transm Project Engr & Mnt	5	4	7	No	No
14	Dir - Transmission Projects	18	17	6	Yes	Yes
15	Dir - Transmission Engineering	8	7	6	Yes	Yes
16	Dir - Transm Mnt & Work Mgmt	21	18	6	Yes	Yes
17	Dir - Project Director - Transm	7	6	6	Yes	Yes
18	Dir - NEPOOL & ISO Relations	1	1	6	No	No
19	Dir - Transmission Asset Strategy	5	4	6	No	No
20	VP - Customer Experience & CCO	5	4	7	No	No
21	Dir - Customer Exp Support	4	4	6	No	No
22	Dir - Customer Exp Operations	5	5	6	No	No
23	Dir - Customer Exp Support	2	2	6	No	No
24	Dir - Customer Exp Operations	6	4	6	Yes	No
25	COO-CL&P	6	5	7	No	No
26	VP - Field Maintenance	6	5	7	No	No
27	Dir - Gas Operations	9	8	6	Yes	Yes
28	Dir - Maintenance	10	9	6	Yes	Yes
29	VP - Energy Delivery Services	4	3	7	No	No
30	Dir - Customer Solutions	5	4	6	No	No
31	Dir - Construction	6	5	6	Yes	No
32	Dir - Engineering	9	8	6	Yes	Yes
33	VP - Customer Operations	9	8	7	Yes	Yes
34	Dir - Division Operations	7	6	6	Yes	Yes
35	Dir - Division Operations	8	7	6	Yes	Yes
36	Dir - Division Operations	6	5	6	Yes	No
37	Dir - Meter Assets & Operations	3	2	6	No	No
38	Dir - Division Operations	7	6	6	Yes	Yes
39	Dir - Distribution Projects	1	1	6	No	No
40	VP - Customer Service Integration	2	1	7	No	No
41	Dir - Cust Serv Int Project Director	0	0	6	No	No
42	Dir - Internal Audit & Security	4	3	6	No	No
43	CFO	9	8	7	Yes	Yes
44	Dir - Wholesale Power Contracts	4	3	6	No	No
45	Treasurer	4	3	7	No	No

Table Continued

	Position (Officers and Directors)	Total	Total w/o EA/AA	Guideline Min	Meets Minimum w/ EA/AA	Meets Minimum w/o EA/AA
46	Dir - Claims and Insurance	8	7	6	Yes	Yes
47	Dir - Investment Management	3	3	6	No	No
48	VP - Investor Relations	1	1	7	No	No
49	Exec Dir - Bus. Fin. Serv.	6	5	6	Yes	No
50	Dir - Pricing Strategy & Admin	3	2	6	No	No
51	Dir - Rev Reg & Load Resources	3	3	6	No	No
52	Dir - Revenue Requirements	2	2	6	No	No
53	Dir - Bus. Financial Performance	6	6	6	Yes	Yes
54	Dir - Transmission Rates	1	1	6	No	No
55	VP - Accounting & Controller	7	6	7	Yes	No
56	Dir - Taxes	2	2	6	No	No
57	Pres - NUEI	5	4	7	No	No
58	Pres- SECI, NGS, Mech & Acq	2	2	7	No	No
59	Dir - Enterprise Risk Management	6	5	6	Yes	No
60	VP - Finance	5	4	7	No	No
61	Dir - Corporate Financial Policy	1	1	6	No	No
62	Dir - Corp Financial Forecasting	3	2	6	No	No
63	VP - Human Resources	6	5	7	No	No
64	Dir - Human Resources	5	4	6	No	No
65	Dir - Human Resources	10	9	6	Yes	Yes
66	Dir - Human Resources	4	4	6	No	No
67	Dir - Human Resources	10	8	6	Yes	Yes
68	Dir - Ethics, Diversity, & EEO	1	1	6	No	No
69	Dir - Org Change & Learning	5	5	6	No	No
70	General Counsel	9	8	7	Yes	Yes
71	VP - Communications	7	6	7	Yes	No
72	Dir - Corporate Communications	5	5	6	No	No
73	Dir - Operating Co Communications	0	0	6	No	No
74	VP - Regulatory & Gov Affairs	8	7	7	Yes	Yes
75	Dir - Governmental Affairs	1	0	6	No	No
76	Dir - Legislative Policy & Strategy	0	0	6	No	No
77	Dir - Regulatory Policy	1	1	6	No	No
78	Exec Dir - Gov Affairs	1	1	6	No	No
79	Dir - Reg Policy and Planning	4	4	6	No	No
80	VP- Gov Affairs	3	3	7	No	No
81	Dir - Governmental Affairs	0	0	6	No	No
82	VP - Corp Secy & Chf Comp Off	3	1	7	No	No
83	SVP - Enterprise Plng & Dev	6	5	7	No	No
84	Dir - Enterprise Planning	1	0	6	No	No
85	Dir - Enterprise Plng & Dev	2	1	6	No	No
86	Dir - Enterprise Planning	3	2	6	No	No
87	VP - Shared Services	5	4	7	No	No
88	Dir - Purchasing	5	4	6	No	No
89	Exec Dir - IT	9	9	6	Yes	Yes
90	Dir - Technical Services	6	5	6	Yes	No
91	Dir - Strategy	1	1	6	No	No
92	Dir - Projects	5	4	6	No	No
93	Dir - App Dev & Maintenance	6	5	6	Yes	No
94	Dir - Infrastructure	6	5	6	Yes	No
95	Dir - Application Services	0	0	6	No	No
96	Dir - Environmental & Prop Mgmt	6	5	6	Yes	No

On September 25, 2008, NU announced that it is separating the combined management of Yankee Gas and CL&P effective January 1, 2009. Details of the organizational split were not available at the time of Blue Ridge's request in October 2008.[21] However, the Company informed Blue Ridge that the decision was based not on a study or analysis but rather on "a growing concern that the strategic issues and needs of the two companies are growing apart."[22] Although requested, the Company did not provide any reports that might have been shared on the subject with NU's Board of Trustee's and Management Committee.[23]

With the implementation of the Customer Experience C2 project in October 2008, a Vice President stated that in 2009, Customer Service will be process-defined with the meter to bill function.[24] Currently, the NU meter reading function resides in two vice presidential entities, Customer Experience and Customer Operations.

Findings

Blue Ridge found that there are opportunities to consolidate and reduce costs within the organization. Based on the analysis of the span of control, NU and CL&P could reduce costs by adhering to its span of control policies. Of the officer and director positions reviewed (covering both NU and CL&P), 62.5% of the officers and directors had fewer direct reports than the minimum guideline. If executive and administrative assistants are excluded for each of these positions, the percentage increases to 77% of the officer/director positions that had fewer direct reports than the minimum level in the Company's guidelines.

The following chart shows how many officer and director positions have fewer than the guideline minimum of direct reports. For example, the first line of the chart shows that in the Company there are 96 total officers and directors (according to the organizational chart). Of those 96 positions, 60 of those officers and directors do not have the minimum number of direct reports. That translates to 62.5% of all officers and directors whose direct reports fall short of the guideline minimums. If the executive and administrative assistants are removed from the calculation, 74 of those 96 officers and directors fail to meet guideline minimums for direct reports. On the next lines, the chart shows those same numbers specifically for officers and then for directors. The final (bottom) portion of the chart shows the numbers and percentages for each of the major divisions that report to the CEO. At least half of the officers and directors among all these divisions fail to meet minimum guidelines for direct reports.

[21] Response to Data Request BRCS EM-35-002.
[22] Response to Data Request BRCS EM-35-002
[23] Response to Data Request BRCS EM-35-002
[24] Interview K. Bowes 9/16/08.

Table 6: Results of Span of Control Analysis[25]

Officers and Director Categories	Total Officers and Directors	Direct Reports fewer than Guideline Minimums (*Including* Exec/ Admin Assistants)	%	Direct Reports fewer than Guideline Minimums (*Excluding* Exec/ Admin Assistants)	%
Total Company Officers and Directors	96	60	62.50%	74	77.08%
Total Company Officers	27	17	62.96%	21	77.78%
Areas Reporting to CEO					
Operations	40	21	52.50%	27	67.50%
Internal Audit & Security	1	1	100.00%	1	100.00%
Financial	20	14	70.00%	17	85.00%
Human Resources	7	5	71.43%	5	71.43%
Legal	13	10	76.92%	11	84.62%
Enterprise Planning & Development	4	4	100.00%	4	100.00%
Shared Services	10	5	50.00%	9	90.00%

The analysis also revealed that 21 of the officer/director positions not only were below guideline minimums among direct reports, but the entire organizational count below those positions would not meet the minimum for direct reports.

The organization is reviewed periodically by top management to assess necessary changes to improve efficiencies within the organization.[26]

The most recent changes implemented in the Company with the addition of two newly promoted vice presidents and the hire of a new Vice President-Customer Experience and Chief Customer Officer have been beneficial to NU.[27]

Conclusions and Recommendation

Although the Company made improvements in its focus toward customer service in recent months, there still remain opportunities for CL&P to streamline its organization further and reduce costs while also improving communications and customer service.

Spans of control for directors and above vary significantly but generally fall below the Company guideline, suggesting an opportunity to flatten the organization and consolidate positions to reduce costs, improve communications cross functionally, and empower lower level employees.

Blue Ridge recommendations:

3.4.1 Evaluate spans of control throughout the organization to flatten and streamline operations and staff groups where possible.

[25] Workpaper EM 3.4 - *Span of Control Analysis.xls.*
[26] Response to Data Request BRCS-GR-63-001.
[27] Interviews J. Magwood 8/19/08; K. Bowes 9/16/08; and W. Quinlan 10/8/08.

3.5 Corporate Objectives

Background

At the center of an effective management strategy is the formulation of corporate strategies, goals, and objectives. These strategies, goals, and objectives form the foundation upon which every aspect of the utility should center its efforts to provide safe and reliable service as efficiently and effectively as possible. The processes that are used to arrive at these strategies, goals, and objectives are as important as the objectives themselves. The process must provide the rigor, forethought, and analysis needed to arrive at reasonable conclusions and decisions. This includes challenging key assumptions and considering alternatives that may be "out of the box." Only then will the Company know whether it has explored those reasonable courses of action and allowed strategies to develop which are sound and balance the interests of its customers and shareholders.

Once the strategies, goals, and objectives have been decided upon and approved, monitoring their implementation through performance metrics and tracking reports provides management with the information it needs to evaluate their effectiveness. These metrics also provide warning signals alerting of action which may be needed to determine the root cause of problems or whether the strategy needs to be revisited.

Analysis

Through interviews and documents, Blue Ridge reviewed Northeast Utilities' corporate planning process. Auditors identified NU's corporate vision, mission, goals, and objectives to determine how the process worked and how it was disseminated throughout the organization, beginning with the Board of Trustees, through Senior Management, and on to various functional layers in the Company. Likewise, the implementation of strategies, goals, objectives, and performance metrics were assessed throughout the organization. Selected performance appraisals were reviewed to assess ratings for documented achievement against objectives.

Findings

Blue Ridge found that the Company (through the parent company, Northeast Utilities) has a clear vision and mission statement. As stated on the Company's website, the Company's vision is "NU Vision – Energy, Growth, Leadership – Energy to Make a Difference," which states the Company's core values.[28] The Company defines each element as follows:

Energy	It's our product and the way we work – with spirit, dedication, and pride.
Growth	It's our business goal and the way we succeed – by expanding our skills, partnerships, and energy system.

[28] http://www.nu.com/aboutnu/vision/default.asp.

Leadership	It's our commitment and it's the way we shape our future – through stewardship, innovation, and influence.

Blue Ridge observed this vision statement throughout the Company in numerous displays, banners, posters, and printed materials. The Company's website helps customers, employees, and stakeholders understand the full meaning of the Company's vision.[29]

The Company defines its mission statement as "to safely meet the changing needs of our customers by providing dependable energy and services." The Company's "business strategy" shows NU's and CL&P's basic purpose and reason for existence. This high-level strategy statement, "Invest in and operate our regulated businesses to benefit our customers, employees and shareholders,"[30] is clear as to the direction the Company intends to take.

Blue Ridge found that the Company's corporate objectives support the corporate vision, mission, and business strategy. These corporate objectives are broken down into four major categories: Our People, Operational Performance, Customer Care, and Financial Performance.[31] These objectives include measurable targets and are broken down between CL&P and Yankee Gas and include items related to safety; staffing; reliability; environmental compliance; productivity; customer service, including speed of answer; regulatory compliance; and financial indicators, such as net operating income and O&M and capital budgets.

Blue Ridge found that the Company's strategic planning process is well-established, documented, and suited to address the major issues and challenges facing the Company.

Blue Ridge found that management at all levels is aware of the corporate planning process. Outside the Executive Committee, the more senior managers were aware and involved in the annual process through support of completing the annual strategic planning process. However, interviews of lower level managers and some supervisors, revealed involvement in a more traditional, tactical, "budget time" preparation process approach rather a strategic review of the linkage between their responsibilities and the corporation's vision, mission, and strategy.

In the 2008 Utility Operations Plans presented to the Board of Trustees by the Chief Executive Operating Officer,[32] the key issues and major challenges were identified and were based on a process which took into account the Company's strengths, weaknesses, opportunities, and threats. Issues and challenges were repeated in part by all officers during the Blue Ridge interviews. The CL&P Business Plan 2009-2013 provided to the Board of Trustees in July 2008 by the President and Chief Operating Officer[33] was

[29] http://www.nu.com/aboutnu/vision/energy.asp.
[30] http://www.nu.com/aboutnu/vision/strategy.asp.
[31] Response to Data Request BRCS GR-01-001 – EnVision Book, page 13.
[32] Response to Data Request BRCS GR-63-001.
[33] Response to Data Request BRCS GR-63-001.

consistent with the presentation in December 2007 but also included "New Developments."

Blue Ridge noted a disconnect between the goals for which senior managers are responsible and those for which directors and subordinate managers are responsible. Throughout the interview process, auditors noted that departmental directors had individual goals and objectives, as established by their respective vice president, which supported the vice presidents goals and objectives. However, there appears to be a lack of clear line-of-sight from the employee and his/her specific goals to those of the corporation.

Blue Ridge found that the major objectives, such as net operating income, expenses, and capital outlays, are reasonable and based on assumptions supported by sufficient information. The annual strategic planning process, which includes development of the budgets for both capital spending and O&M, are well-documented and supported by assumptions and analyses that have been challenged and validated.[34]

Blue Ridge found that the Company has an effective set of objectives and measures for establishment of the effective and efficient use of critical resources, such as people, capital, technology, and time. For example, the Company has established objectives and measurement criteria for areas such as line crew productivity and utilization.[35] Other areas within the Company have similarly resource-related objective measures.

Through interviews, Blue Ridge found that Company personnel at all levels supported the Company's major objectives and initiatives. Although the support at lower levels would be directed towards individual departmental goals and objectives, Company personnel were aware of the overall corporate objectives in a general context, such as to provide safe and reliable service for the customer. However, employees, while aware, rarely had a clear line-of-sight to the corporate objectives beyond a general feel for providing good service, safety for the employees, and earning money for the Company. As a result, the Company would benefit by having employees better understand the major objectives and the accompanying metrics to improve the line-of-sight to the fundamental objectives that the Company is attempting to achieve.

For example, the Company conducted an employee survey which included an assessment of how well the corporate message is communicated. This September 2007 survey found that only about half of the Company's employees believed that they were well informed about the Company's business goals. The following shows the results for the related survey questions:

[34] However, we did note a lack of a formal procedural manual which documents the institutional knowledge associated with the process.
[35] Response to Data Request BRCS GR-63-001.

Table 7: 2007 NU Employee Workplace Survey: Communication of Vision and Goals[36]

	NU
How well informed are you about NU's vision of Energy, Growth and Leadership	46%
Senior Management has effectively communicated NU's vision of Energy, Growth and Leadership	54%
How well are you informed about NU's overall business goals	49%

There is a lot of time and energy spent updating employees regarding strategies, key initiatives, and progress, yet from employee survey results, these same employees do not reflect a high degree of knowledge related to overall goals.

Based on the review of documents regarding goals and objectives, Blue Ridge found that since 2004, the Company has used similar corporate objectives from year to year.[37]

Conclusions and Recommendations

Blue Ridge believes that NU's and CL&P's corporate objectives are reasonable, developed through a sound process, and consistent in format from year to year, thereby allowing for greater acceptance and awareness at all levels of the organization. However, auditors noted a disconnect as one moves down the organization line-of-sight from the overall corporate objectives to the individual employees goals.

Employee survey results indicate that only 49% rated favorable the fact that they were informed about NU's overall business goals. As such, Blue Ridge believes that NU's corporate message is losing its effectiveness as it moves down the organizational ladder.

Blue Ridge recommendations:

3.5.1 CL&P should increase employee awareness of the specific corporate objectives that an employee can impact by including those objectives relevant to an employee's job function in his or her annual performance reviews.

3.5.2 Follow-up on the employee survey results to ensure the determination of what needs to be done to keep employees better informed.

3.6 Corporate Planning

Background

The utility's corporate planning effort has evolved as some companies have changed from fully integrated (including the ownership of generation) to a distribution utility. The

[36] Response to Data Request BRCS-CS-01-017.
[37] Response to Data Request BRCS GR-63-001.

utility corporate planning group typically serves senior management and the entire organization. This function is the gatherer of information and conducts the in-depth analyses needed for senior management to assimilate and determine which strategies are in the best interest of the Company, its customers, and shareholders.

In addition, corporate planning may be responsible for the corporate budget and projected financial statements based on the strategic objectives, goals, and objectives. In some organizations the budget function, including both operating and capital budgets, is performed in concert with the financial organization.

Analysis

Blue Ridge's analysis of Corporate Planning included data requests and interviews with the Senior Vice President – Enterprise Planning & Development, the Chairman/President/Chief Executive Officer, the Executive Vice President/Chief Operating Officer, the President/Chief Operating Officer – CL&P, the Vice President Finance, and the Executive Director Business Financial Services. In addition, interviews were done in related areas such as Operations, Legal, Regulatory, and others.

The Senior Vice President – Enterprise Planning & Development reports to the Chairman of NU. The Company's planning function is operated in concert with financial operations. The planning process is located within NU but is designed to solicit strong input and support from the operating companies. The corporate planning process establishes goals for all officers and provides general oversight to the operating company planning process.[38]

Findings

The Company elevated the enterprise planning process by the establishment of the position of Senior Vice President – Enterprise Planning & Development in late 2007.[39]

The Company defined its Enterprise Planning Process in detail. The planning cycle begins in the first quarter with a senior management off-site session (including NU, the Company, and other operating company executives) to discuss expected challenges and potential assumptions for the planning cycle.[40] The major technological, regulatory, and competitive challenges span a wide range, and the narrative provided was jointly sponsored by both the planning and regulatory areas of the Company.[41] Specific issues are developed for the planning cycle. Strategies for these issues are then developed.[42]

In the second quarter, the management committee holds further planning reviews, including factors from environmental scanning and a strengths, weaknesses, and opportunity analysis.[43]

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[38] Interview J. Robb 8/19/08.
[39] Response to Data Request BRCS-EM-03-013.
[40] Interview C. Shivery 9/16/08.
[41] Response to Data Request BRCS-EM-03-004.
[42] Response to Data Request BRCS-EM-03-013.
[43] Response to Data Request BRCS-EM-03-013, Interviews R. Necci 9/4/08 and L. Olivier 9/16/08.

In the third quarter, a review of the five-year forecast for each operating unit is developed and reviewed. Inputs from the Company form the basis of the forecast. As part of the planning process the Company develops projections of revenue and operating expenses and capital budgets.[44] The Board's input is solicited at a structured two-day meeting, which provides context for the following year's detailed operating plan.[45] The Board's participation has been characterized as active, challenging, and appropriate.[46] A recent change has the Company's presentation made by the President.[47]

In the fourth quarter, the operating budget is developed along with financial projections. The management team develops and monitors the priorities, budgets, and annual plans of the Company.[48] A detailed timetable is developed for this process, which is executed by many areas of the Company and led and compiled by the Corporate Financial Forecasting group.[49] The one year budget is approved in December by the Board.[50]

The exploration of operating initiatives is handled by the assessment of assumptions. Certain assumptions are considered certain or sure, while others may have greater variability. A risk management process handles these assumptions by establishing signposts to determine when reconsideration of the assumption is appropriate or needed.[51]

Financial commitments are explored using a variety of scenarios. Forecasts are made in ranges rather than as points.[52]

Major wild card events are considered within the planning process and focus is on the negative portion of the probability tail.[53]

After the approval of the budget, Company officers travel to work sites and present the goals and objectives to employees.[54] The communication of goals and objectives is not supervised by Corporate Planning.[55]

Management's goals include the effectiveness and integration of Enterprise Planning.[56] The Company's goals and performance indicators are tracked at monthly and/or quarterly intervals, including a quarterly review between the Company President and the NU Executive team.[57]

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[44] Response to Data Request BRCS-GR-01-023 and Interview C. Bready 10/6/08.
[45] Response to Data Request BRCS-EM-03-013 and Interview C. Shivery 9/16/08.
[46] Interview J. Robb 8/19/08.
[47] Interview L. Olivier 9/16/08.
[48] Response to Data Request BRCS-EM-03-018.
[49] Response to Data Request BRCS-FO-04-110 and Interview G. Osgood 10/7/08.
[50] Response to Data Request BRCS-GR-01-023.
[51] Interview J. Robb 8/19/08.
[52] Interviews J. Robb 8/19/08 and R. Necci 9/4/08.
[53] Interview J. Robb 8/19/08.
[54] Interview L. Olivier 9/16/08.
[55] Interview J. Robb Interview on 8/19/08.
[56] Response to Data Request BRCS-EM-03-016.
[57] Response to Data Request BRCS-EM-03-019.

Conclusions and Recommendations

Blue Ridge determined that the Company participates in a detailed and defined corporate planning process that is jointly executed with the corporate financial forecasting group. The process is appropriately structured to develop assumptions, issues, and challenges and explore their impact with the Board, senior management, and the Company's executives and managers.

Blue Ridge recommendations:

3.6.1 The Company should use the existing Company officer/employee meetings to develop employee input for the following year's round of strategic planning.

3.6.2 The verbal communication of the goals and objectives to employees should receive more scrutiny by corporate planning.

3.7 Corporate Communications

Background

Corporate communications is a vital element of the management of any organization. This function provides the flow of information from senior management to the internal and external customers. Ensuring that the overall direction of the company is communicated effectively as well as ensuring any communicated message is clear and unambiguous is important for all concerned—the company and its customers, regulators, and other interested stakeholders.

Blue Ridge examined the Company's corporate communication strategies, activities, and programs to evaluate the effectiveness and credibility of current communication vehicles. The review also examined the effectiveness of planning, information and control systems, and management reporting mechanisms to support objectives, communication decisions, and feedback down and up the chain of command.

Analysis

Blue Ridge evaluated NU's and CL&P's Corporate Communications plans and the vehicles NU and CL&P use to disseminate information throughout the organization. The quality of communications between functional activities and different levels of management was also assessed.

Findings

NU's Corporate Communication Department is responsible for conveying senior management's message and what is going on at the senior level of the Company throughout the organization.[58]

[58] Interview M. Luling 9/18/08.

The Company has a corporate communications plan which outlines the priority issues that need to be developed during the year to ensure employees are fully aware and to integrate the corporate vision into their day to day activities.[59]

Blue Ridge found that NU's management provides employees at all levels with information through reporting systems to enable them to evaluate effectively the extent to which corporate goals and objectives have been achieved. However, as noted in Section 3.2 Officers, the Company's application of its website information is not current and is not easily readable.

The management conducts both tactical and strategic meetings to discuss day to day operations as well as overall progress towards corporate goals and objectives.[60] Auditors did note that management had no problems with obtaining the information necessary to provide the strategic direction of the Company.

Blue Ridge observed that NU has effective communication tools, especially in regard to its computer-based intranet system, which allows employees to access important communications from the Company as well as all policies and procedures.

Through the interview process, Blue Ridge observed that individual managers appeared to have the appropriate authority and responsibility to perform their assignments effectively. Auditors also noted a culture in which, from senior management down, employees were encouraged, if not expected, to act in the best interests of the Company and its customers. Auditors also noted that through both the informal and formal communication processes, information was free-flowing in both directions. However, as noted in the corporate goals section, the Company could enhance its line of sight for its vision, mission, goals, and strategies throughout the organization.

Conclusions and Recommendations

Blue Ridge believes that the Company has adequate processes, such as the intranet, to communicate the corporation's strategies, goals, and objectives and their results as they are being achieved.

Recommendations: None

3.8 Administration

The administration of an organization centers primarily on the documenting of policies, procedures, and practices. An important administrative function is ensuring there are well-written, up-to-date policies and procedures manuals for which managers and employees alike are responsible throughout the organization. This function helps to ensure that the institutional knowledge of the Company remains with the Company long after key employees have left. Documented policies, procedures, and practice manuals

[59] Response to Data Request BRCS ER 10-003.
[60] Response to Data Request BRCS EM-03-027.

for critical functions in the organization help to mitigate the impact and disruption of the sudden loss of a key employee.

Analysis

Administrative procedures were reviewed to determine whether they provided management with the appropriate amount of control.

Findings

Blue Ridge found that the Company has policies and procedures online and available to its employees. As noted throughout other sections of this report, the adequacy of these policies and procedure manuals and adherence to individual functional area policies by employees varies.

Conclusions and Recommendations

See other sections of this report for specific conclusions and recommendations regarding functional area policies and procedure manuals.

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4. SYSTEM OPERATIONS

Objectives and Scope

System Operations included a review of CL&P's distribution assets, system design, system operation and maintenance, system reliability, system planning, construction projects, construction budget, and street lighting.

Blue Ridge reviewed the Company's design, construction, operation, and maintenance of the distribution system. Auditors examined the planning process and determined whether it is based upon proper criteria to meet customers' needs. Blue Ridge explored the operating budget to determine whether the Company has appropriately staffed the distribution system operations function. To ensure that major outages can be managed, the Company's restoration plan was reviewed. System maintenance was examined to determine whether it is predictive or reactive. The results of these processes were reviewed to ensure that appropriate systems are in place for cost monitoring and control. Blue Ridge also determined whether the processes were supported by appropriate levels of systems and technology for cost efficient operations. Auditors explored the effects of the Company's decisions to use outside resources rather than internal employees or systems.

Overall Assessment

Blue Ridge determined that CL&P has addressed its asset management responsibilities using the Maintenance and Inspection Program Manual and has a continuing program identifying system deficiencies and prioritizing necessary spending to repair and replace facilities in a timely fashion. The condition and age of the Company's distribution system magnify the challenges of managing a system in which component replacement of many devices and structures nearing the end of life is the only cost effective solution.

Blue Ridge determined that CL&P/NU substation design standards and procedures address safety, environmental concerns, capacity requirements, constructability, maintainability, esthetics, expansion planning, voltage variations, code requirements, flexibility, protection, security and operability. In addition, the Company maintains adequate command and control of the distribution system while complying with its published procedures.

Blue Ridge determined that the system planning process has planning/design criteria in place. Continued comparison with Best Practices will allow these criteria to continue to evolve, especially in the area of substation firming criteria.

Blue Ridge determined that the Company's documented radial and loop load flow analysis software does not have the needed flexibility relative to modern planning in the distribution arena. Modern algorithms with updated software are available to interface with the GIS in evaluating switching scenarios, fault analysis, reactive power management, and fault locating with SCADA interfaces.

Blue Ridge has determined that the STORMS system is an excellent tool for construction project development and tracking. The system contains a wealth of information from which productivity metrics are developed. Because it is integrated with other systems, detailed information, including project costs, can be easily reviewed.

A methodology is in place to provide proper documentation for projects which are being recommended for inclusion in the construction budget. However, equipment and material which have recently encountered significant price fluctuations should be identified.

Based on the $300 million capital expenditure level, replacement of the aging infrastructure will continue to be a slow process. However, the prioritization process does allocate the expenditures to the appropriate projects based on the criteria.

The Company has made significant effort to improve its street light program since the DPUC docket in 2003. While many accomplishments have been realized, many challenges still exist to improve service to customers.

Blue Ridge determined that the Emergency Restoration Program is very detailed and comprehensive. It covers all the pertinent aspects of emergency restoration but should include a methodology to restore very extensive damage situations.

Blue Ridge believes that the Company has an adequately managed vegetation management program with policies, procedures, and controls by which they effectively maintain the ROW acquired by the Company in the course of serving load. The Company has developed a methodology to attain a five-year trim cycle mandated and funded by the DPUC. However, Blue Ridge believes that the Company could benefit from the evaluation of GIS technology for identification of major species in forested areas, annual precipitation, and diseased/infested areas as a precursor to routine trim vs. hot spot trim. This evaluation will help to level reactionary spending.

4.1 Distribution Assets

Background

Some of the assets of an electric distribution company include employees, contract personnel, substations, power lines, office buildings, warehouses, operations facilities, vehicles, power-operated equipment, computers, office equipment, local area networks, materials, supplies, inventory items, consumer databases, corporate records, maps/GIS information, hard copy records/files, policies, procedures, practices, activities, and programs. Utilities classify their electric plant assets into production (generation) plant, transmission plant, distribution plant, and general plant.

Since CL&P has no production or transmission plant assets regulated by Connecticut, auditors evaluated its distribution and any associated general plant assets only. Distribution assets (e.g., substations, distribution feeders, transformers, meters, and services) are considered long-lived assets, some having a life expectancy of 30 to 50 years, although not many are actually depreciated over 30 years. In contrast, general plant assets (e.g., vehicles, computers, and office equipment), with the exception of administrative offices and operations centers, are short-lived assets, typically depreciated over a shorter time such as 5 to 7 years.

Blue Ridge's focus was on long-lived assets and how the Company continuously maintains, upgrades, and replaces its distribution assets. The concept of asset management has become a major issue for the electric industry. Many factors affect the life of distribution assets. Some of these many factors include normal wear and tear, equipment sized to meet previous but now outdated requirements, improperly installed equipment, poorly designed or manufactured equipment, and the environment in which the equipment is operated (e.g., climate, exposure to contamination, and other hazards).

Analysis

Blue Ridge's analysis included developing interview questions and data requests to gather information on how the Company manages its distribution assets. Auditors interviewed the Vice President of Energy Delivery Services, the Vice President of Field Maintenance, the Director of Engineering, and the Director of Maintenance.

The Company identifies the official asset inventory through its Plant Accounting Records system.[61] The Graphical Inventory System (GIS), the maintenance database system (CASCADE), and the Work Management System (STORMS) are the repositories in which major distribution components are registered and inspection records updated.

The Company defines its Asset Management Program as 42 major Capital and O&M Initiatives resulting from its enterprise business planning.[62] Blue Ridge examined the initiatives, the project descriptions, and the project justifications for assets to ensure critical utility elements have governing criteria for replacement or repair. The Company identified physical load serving or structural assets in its plan to manage its aging infrastructure. The basis for reviewing the assets was a review of CL&P's construction specifications for Overhead Construction, Underground Construction, Network Construction, Substation Construction, and Street Light systems.[63]

The Company uses the Asset Management Procedure Manual[64] as well as the CL&P Maintenance and Inspection Program Manual (M8-MAN-001)[65] to conduct inspections and document equipment conditions. This procedure combination provides the basis to select, inspect, repair, and document the physical assets of the Company. It provides a methodology that extends device integrity, reduces component failure impacts, and positively impacts system reliability and liability. The manuals are currently under revision by an NU committee and scheduled for release in 2009.[66]

[61] Response to Data Request BRCS-SO-09-018.
[62] Response to Data Request BRCS-SO-09-017.
[63] Response to Data Request BRCS-SO-09-006.
[64] Response to Data Request BRCS-SO-09-002.
[65] Response to Data Request BRCS-SO-09-014.
[66] Interview W. Quinlan on 10/09/08.

The Company's asset management program is put in motion by Circuit Owners (CO) each having responsibility for 25 to 35 circuits.[67] The CO evaluates the performance of individual circuits and is responsible for the projects initiated and engineered in his/her area. Construction implements large scale improvement projects. Circuit Owners report to Circuit Managers (CM), who report to the Director of Engineering. The Director of Engineering reports to the Vice President of Energy Delivery Services.[68]

Projects initiated by a CO undergo a peer review by a team of other COs and CMs to ensure completeness. An annually updated unit price methodology provides a cost, and the project is then submitted to the Operating Company Review Committee for evaluation and prioritization.[69]

The Field Maintenance group provides inspection and repair services for distribution automation devices, capacitor banks, and protection equipment in and outside the substation.[70] Electricians or contractors perform services inside the substation fence. Field Maintenance employs qualified contract electricians where available. The Company is concerned that a shortage exists of contractors capable of performing work on network protectors as well as with the inability to shift electricians between divisions for major maintenance activities.

The Company provides in-house training to its employees because the Company believes that the education system is not producing power engineers to satisfy the expected forecasted needs due to the retirement of experienced employees.[71] Training topics range from OSHA requirements and FERC code of conduct behaviors to specific needs identified in individual performance plans.[72] Individual training requirements for employees depend upon specific job responsibilities. Asset management engineers attend classes in circuit theory, basic distribution device operation, substations, design and design strategy, transmission supply variations, and fundamentals of power systems analysis.[73]

The key performance indicators (KPIs) for Field Maintenance and Energy Delivery Services indicate the organization is meeting or exceeding its goals using existing personnel and contractors to supplement the workforce. KPIs showing relative performance lagging the expectations may indicate issues surrounding the Company's tendency toward reactive rather than proactive project initiation.

The vice presidents and directors interviewed by Blue Ridge demonstrated thorough knowledge and understanding of the objectives of the 42 initiatives.[74] The strategy

[67] Interview B. Dobson on 10/08/08.
[68] Response to Data Request BRCS-GR-01-04, NU Organization Chart (07/10/2008).
[69] Interview B. Dobson on 10/08/08.
[70] KPI CL&P_YG Maintenance Detail Report Dated 09/2008 Page 31.
[71] Interview B. Dobson on 10/08/08.
[72] Response to Data Request BRCS-SO-62-001.
[73] Response to Data Request BRCS-SO-62-001.
[74] Response to Data Request BRCS-SO-09-017 #1-#42.

associated with the DPUC involvement in reliability improvements and cost control associated with projects involving asset replacement were key themes in their discussions. Employees and managers have access to the KPIs reporting from the Company website through the Performance Enhancement System (PES).[75] Scorecard reports located there contain a one-page recap for each area. Detail reports contain trend charts, data tables, commentary, and action plans for the available metrics in the scorecard.

Currently, notice of failure, number of operations, or expiration of a time interval (a cycle) initiates asset maintenance. The Company acknowledges the need to incorporate Condition Based Maintenance (CBM) inspections into the new maintenance manuals.[76] CBM provides action based on actual condition (objective evidence of need) obtained from in-situ, non-invasive tests, operating, and condition measurements.

Findings

Twenty five (25) of the 42 initiatives comprising asset management are programs identified by inspections from asset management activities. Some of the other initiatives are DPUC mandates for system improvements, while others are NESC changes or equipment malfunctions requiring funding for replacement.

Several initiatives are programs to account for cost increases in running the business, perform routine distribution analysis, or introduce new technology into the Company as an enhanced business process. While strategically important, these items should not be confused with managing assets. Initiatives that support business process are different from asset management activities. Identification of specific asset management initiatives in the business plan ensures focus on optimizing asset use and managing maintenance efforts, making assets as reliable and efficient as possible.

Pole attachments by foreign utilities to the Company's pole lines are not a managed asset.[77] Pole line joint ownership is through an agreement with AT&T-Connecticut. A routine comparison of records on pole attachments to ensure parity or to collect revenue due from third party attachments is desirable. This is accomplished using the GIS facilities databases.

Numerous databases (GIS, CASCADE, and STORMS) contain information relative to the physical plant condition, plant inspections, and plant device data. These databases are loosely linked. CASCADE, the maintenance/inspection data repository, is under review for replacement. Routine inspections and maintenance occur on a cyclical basis. A formal asset management program covering all load serving and structural devices does not exist in the modern sense. Movement to CBM under the next generation of maintenance manuals is desirable.

[75] CL&P Web Address https://webvpn.nu.com/business/clp/deptserv/,DanaInfo=nunet.nu.com+pes.asp.
[76] Interview D. Jennings on 09/05/08.
[77] Response to Data Request BRCS-SO-09-024.

Conclusions and Recommendations

Blue Ridge has determined that CL&P has addressed its asset management responsibilities using the Maintenance and Inspection Program Manual and has a continuing program identifying system deficiencies and prioritizing necessary spending to repair and replace facilities in a timely fashion. The condition and age of the Company's distribution system magnify the challenges of managing a system in which component replacement of many devices and structures nearing the end of life is the only cost effective solution.

Blue Ridge recommendations:

4.1.1 The Company should evaluate a program to review third party pole attachments.

4.1.2 The Company should evaluate the value of implementing Condition Based Maintenance within the asset management program.

4.2 System Design

Background

An electric distribution system is a compilation of many individual components assembled into a system to deliver power reliably, safely, and cost effectively from the transmission grid to the ultimate consumer at the appropriate voltage and capacity, while assuring flexibility to account for abnormal conditions. System designs accommodate growth in new consumers, relocations for roads and bridges, modifications for system upgrades and improvements, feeder additions for increased capacity, and other conditions. This constant change requires balance between the planning process, construction specifications, new business construction, asset management, service restoration, and vegetation management.

Analysis

Blue Ridge's analysis included developing interview questions and data requests to gather information on how the Company manages its system design. Auditors interviewed the Vice President of Energy Delivery Services, Director of Engineering, two Division Operations directors, the Director of Construction, the Interim Manager of Work Management, the President of Union Local 420, the President of Union Local 457, the Assistant Business Manager Union Local 420, and the Business Manager Union Local 457.

Engineering designs originate within the Company's division operations for new business projects,[78] from Circuit Owners for reliability or improvement projects,[79] from Construction[80] for major construction projects, from Distribution Engineering/System

[78] Interview B. Bernier on 10/08/08.
[79] Interview B. Dobson on 10/08/08.
[80] Interview M. Andruciewicz on 10/23/08.

Projects[81] for system level or substation construction projects, or from suppliers for outsourced turn-key substation projects.[82] This segmentation of design functions allows the Company to accomplish various strategies for engineered products. Division Operations seeks to respond efficiently and quickly to new business needs,[83] Engineering/System Projects implements the objectives of reliability initiatives and engineers' asset management programs and manages DOT projects.[84] Contract resources comprise 10% of the engineering resources for designing substation additions and green field construction designs.[85]

NU's Utility Services Group uses benchmarking studies against other utilities to incorporate best practices.[86]

Construction Engineering strives to provide a safe, quality product that is within costs and meets the required schedule.[87] A Work Management Dashboard, implemented at NU during 2008, measures four stages of the process: Initiate, Design, Construct, and Close. Detailed Engineering metrics[88] include the following:

- **WMS Utilization** - Target 97% - Measures the number construction work orders being initiated via WMS versus via MIB directly. *Formula: #STORMS Work Order's Initiated / #MIB WO's Total (Line Distribution Only)*
- **Construction Hour Report** - Target 500 Avg Hours - Measures the average number per Job Designer of estimated line crew construction hours being designed. *Formula: #Construction Hours Designed / #Job Designers*
- **Speed of Simple Service** - Target 5 Business Days - Measures the duration from customer ready date to service install date (699 completion) – Simple Designs. *Formula: Total # of Days from Last Customer Requirement to Line Completion / # of Requests (Simple Svc Only)*
- **Speed of Complex Design** - Target 15 Business Days - Measures the duration from customer ready date to service install date (699 completion) – Complex Designs. *Formula: Total # of Days from Last Customer Requirement to Line Completion / # of Requests (Complex Svc Only)*
- **Asbuilt/Rewrite Analysis -** No Target, this will be a monitoring metric for 2008 - Measures the volume of work orders needing an asbuilt re-design. *Formula: Total # WO's Completed - # Needing Asbuilt / Total # WO's Completed*
- **Schedule Adherence** - Target 75% - Continued from 2007 - Measures the ability to establish a weekly schedule and adhere to that schedule. *Formula: # Work Packets Scheduled to Finish T0 / # of those WP's Completed in T0*

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81 Response to Data Request BRCS-SO-09-006, Supplement, TD815 "Relocation of Highway Facilities for Highway Construction in Connecticut", Section 1.4, p 4.
82 Response to Data Request BRCS-SO-09-006.
83 Interview B. Bernier on 10/08/08.
84 Response to Data Request BRCS-SO-09-006, Supplement, TD815 "Relocation of Highway Facilities for Highway Construction in Connecticut", Section 1.4, p 4.
85 Interview M. Andruciewicz on 10/23/08.
86 Interview M. Andruciewicz on 10/23/08.
87 Interview M. Andruciewicz on 10/23/08.
88 Response to Data Request BRCS-SO-42-004 WMS Productivity Metrics HM103008.ppt.

- **Efficiency Ratio** - Target 0.70 - Measures the estimated hours vs. the hours booked to a job. *Formula: Emergent Asbuilt Hours + Scheduled Work Estimate Hours / Work Order Actuals*
- **Line Crew Utilization** - Target 85% - Continued from 2007 - Measures the percentage of available time being spent on productive activities. *Formula: Line Work Activity Time + Storm Work Activity Time / Line+Storms+Other Non-Productive Activity Time*
- **60 Days Closed**- Target 90% - Measures the percentage of work that successfully closed in STORMS compared to the # requests that went beyond 60 days and did not close. *Formula: Percentage of (1 - # of Work Requests Pending Auto-Close / # of Work Requests Closed)*
- **Error Suspense** - CL&P=500000 - Measures total dollar amount of work orders not in balance. *Formula: Amount (in $$$) of Work Order Transactions in MIB Error Suspense*

The 10 metrics above combine into a single published KPI named Overall Productivity. Each measure has a target and a weight that, when combined, produce an index score. Combining all the points from all the measures produces an Overall Productivity score[89] posted on the NU Website.

Personnel in Distribution Engineering receive training in circuit theory, basic distribution device operation, substations, design and design strategy, transmission supply variations, and eleven detailed sessions in fundamentals of power systems analysis.[90] Engineers in System Projects undergo mostly on-the-job training, targeting changes in standards or procedures, such as step transformer connections or use of the State Highway Estimating and Reporting system. New engineers participate in three-year job rotations within planning, field operations, and maintenance to ensure that they have adequate skills to be effective in the design aspect of the position.[91]

The Work Management group is considering mobile technology additions, CASCADE replacement, and improvement of the existing design tools.[92]

The Distribution System Engineering Manual (DSEM) provides the basis for NU's distribution design.[93] It establishes six governing criteria: Safety, Voltage Regulation, Reliability, Flexibility, Adequate Capacity, and Economics as principles for designers' consideration for new systems as well as major circuit modifications.[94]

[89] Response to Data Request BRCS-SO-42-004 WMS Productivity Metrics HM103008.ppt.
[90] Response to Data Request BRCS-SO-62-001.
[91] Response to Data Request BRCS-SO-62-001.
[92] Interview H. Matusak on 10/07/08.
[93] Response to Data Request BRCS-SO-09-006 Supplement, Distribution System Engineering Manual, Section 1.10, p 01.101.
[94] Response to Data Request BRCS-SO-09-006 Supplement, Distribution System Engineering Manual, Section 1.10.1-1.10.6, p 01.101.

Blue Ridge examined the overhead design standards for indications of National Electric Safety Code (NESC) Compliance. NU specifies NESC Grade C for most overhead construction and Grade B for conditions in which greater strength or higher safety factors are required.[95] Clearances defined in the standards met or exceeded the requirements of the NESC, ANSI C2-1997.[96]

NU engineering designs the ultimate circuit for 400 amp normal ratings and 600 amp contingency conditions,[97] specifying only two conductor sizes for its backbone feeder construction. The economic loading guide specifies use of 336AAC conductor for circuits with a design load range of 0 to 330 amps and 556AAC for circuits with a design load range greater than 330 amps.[98] NU standardized, on a recommended direct-buried cable, underground design in which the load mix and heat sources meet criteria based on customer count and new vs. rebuild construction.[99]

The Distribution Standards Department performs annual audits for System Projects and Division Operations engineered projects.[100] Audits check design and construction compliance with technical, construction, and mapping standards[101] by rating each construction location on a scale from one to five. The ratings normalize work orders of various sizes to apply consistent comparison to work order compliance.[102]

Findings

Blue Ridge examined seven current distribution designs and estimates selected by the Company.[103] Auditors compared the standards against the designs provided by the Company. Blue Ridge found consistent application of the overhead and direct-buried standards for the seven engineering jobs. The designs and standards were adequate to provide service, improve operation flexibility, and upgrade the distribution system.

KPIs for engineering design include “Time to Work Completion,” a measure of the time it takes to complete simple service installation.[104] A best practice “Workout” (an

[95] Response to Data Request BRCS-SO-09-010 Distribution System Engineering Manual, Section 06.22, p 06.221.
[96] Response to Data Request BRCS-SO-09-010 Distribution System Engineering Manual, Section 06.23, p 06.231.
[97] Response to Data Request BRCS-SO-09-010 Distribution System Engineering Manual, Section 1.10, p 01.101.
[98] Response to Data Request BRCS-SO-09-010 Distribution System Engineering Manual, Section 06.27, p 06.271.
[99] Response to Data Request BRCS-SO-09-010 Distribution System Engineering Manual, Section 07.22, p 07.221.
[100] Response to Data Request BRCS-SO-09-006 Supplement, TD 870 “Design and Construction Audits”, Section 1.4 p. 4.
[101] Response to Data Request BRCS-SO-09-006 Supplement, TD 870 “Design and Construction Audits”, Section 3.1 p. 11.
[102] Response to Data Request BRCS-SO-09-006 Supplement, TD 870 “Design and Construction Audits”, Section 3 p. 11.
[103] Response to Data Request BRCS-SO-42-005.
[104] Response to Data Request BRCS-SO-09-006 Supplement, TD Procedure 904, Rev 0, Electric Service Installation Process, Section 1.4 p 4.

employee-based, facilitated evaluation of a work process or system to improve the process and map services to the GIS) produced cost savings and improved completion times.

Product Teams of NU's Engineering group provide feedback to promote continuous process improvement in areas such as the design software (LDPro™) and Work Order development.[105]

NU engineering cross trains to transfer knowledge and provides subject matter experts or consultants to advise field level employees.[106]

NU has a best practice in the design phase environmental policy to notify and consult with local agencies in sensitive areas for significant activities even in cases in which no legal mandate requires such notification.[107]

KPIs for WMS Utilization, Construction Hours, Speed of Simple Service, Speed of Complex Design, Asbuilt-Rewrite Analysis, Schedule Adherence, Efficiency Ratio, Crew Utilization, 60 Days Closed, and Error Suspense are met or exceeded[108] for CL&P, indicating sufficient personnel available to provide engineering services. However, Energy Delivery Services KPIs for many of these same indicators were not being met at the division level.

Conclusions and Recommendations

Blue Ridge determined that CL&P/NU substation design standards and procedures address safety, environmental concerns, capacity requirements, constructability, maintainability, esthetics, expansion planning, voltage variations, code requirements, flexibility, protection, security, and operability. Although protection designs were not reviewed, the standard feeder breaker relays demonstrated device protection for the conductor and devices associated with backbone distribution systems.

Blue Ridge Recommendations: none

4.3 System Operation and Maintenance

Background

System operations and maintenance (O&M) includes, but is not limited to, the following tasks:

> **Operations** – consists of regular line patrols; circuits/line and substation inspections; monitoring and measuring voltages and currents; adjusting equipment settings;

[105] Interview H. Matusak on 10/07/08.
[106] Interview B. Dobson on 10/08/08.
[107] Response to Data Request BRCS-SO-09-006 Supplement, Distribution System Engineering Manual, Section 06.32, p 06.321.
[108] Response to Data Request BRCS-EM-40-002-RV-01 CL&P KPI Scorecard –YTD.pdf.

adjusting phase and circuit loading; mapping; troubleshooting; repairing and replacing services; metering; and dispatching

Maintenance – consists of repairing or replacing line clamps, grounds, and connectors; straightening and aligning poles; resagging conductors; cleaning, inspecting and replacing insulators; sampling, testing and replacing insulating oil in equipment; clearing and trimming trees on rights of way; repairing switches, breakers, etc.; refusing or reclosing sectionalizing devices

Analysis

Blue Ridge's analysis included developing interview questions and data requests to gather information on how the Company manages its distribution operations and maintenance. Auditors interviewed the Vice President of Energy Delivery Services, the Vice President of Field Maintenance, the Director of Maintenance, the Director of Engineering, two Division Operations directors, the Manager of System Operations, the Supervisor of System Operations, the President of Union Local 420, the President of Union Local 457, the Assistant Business Manager Union Local 420, and the Business Manager Union Local 457.

The Company's basis for O&M revolves around six Condition Based Maintenance (CBM) type program objectives that improve reliability. The objectives include interruption prevention, life extension, continuous device status appraisal, maintenance cost reduction, maintenance training, and equipment reliability improvement.[109]

The CL&P Maintenance and Inspection Program Manual is currently under revision by an NU committee but is expected to include CBM practices as the basis for maintenance of distribution and substation components.[110] Governance of Distribution Operations practices comes from the Distribution Protective Work Clearance procedure and the Conduct of Operations procedure.[111]

CL&P's procedures record compliance with operations procedures in switching,[112] clearances, system control,[113] outage documentation accuracy, and training[114] by documenting that compliance on appropriate forms.

Key indicators such as E911 Response Time, Restoration Projections, Street Light Repair, Yellow Tags Average Age To Clear, SERT Training Attendance Percentage, Large Outage Restoration, DB Outage Cable Restoration, Tree Restoration, and Outage Corrections provide lagging indications that operations personnel have manageable peak

[109] Response to Data Request BRCS-SO-09-036.
[110] Response to Data Request BRCS-SO-09-036.
[111] Response to Data Request BRCS-SO-09-007.
[112] Response to Data Request BRCS-SO-61-003.
[113] Response to Data Request BRCS-SO-61-004.
[114] Response to Data Request BRCS-SO-61-005.

and valley periods in work loads. The Performance Enhancement System reports the monthly KPIs related to O&M[115] to all employees.

A compliance training indicator is the Skills Enhancement Refresher Training (SERT) Attendance measure for completion of OSHA and refresher training in a single calendar year. The measure compares the available seats for a given class against the number of students that complete that class. It includes Line, Electrician, Splicer, and Meter personnel.[116]

Trained and certified individuals operate the CL&P system.[117] A list of qualified individuals is available for operator access. Refresher training for qualified persons is required every three years.[118] Twenty-eight fully trained operators with four in training and another four position vacancies all work from System Operations Center (SOC).[119] Blue Ridge observed that the SOC has a modern Distribution SCADA system and an Outage Management System displaying electronic models of the electrical system. The SOC controls switching, clearances and tagging procedures under normal conditions. Load Dispatch falls under CONVEX and ISO New England responsibility.[120]

Operators analyze events in the Electronic Dispatch System (EDS), dispatch crews, input restoration projections, create switching instructions, operate DSCADA, model device positions, communicate with customers, and document the causes of outages on the system.[121] They have five major categories that define an outage[122] per Order 1(b) of Docket 86-12-03. One category (distribution) has six cause categories, some with additional subcategories, to define the outage causes. Operators use a common set of outage cause definitions to classify interruptions in the EDS.[123] Operators document details provided by employees or customers on site, gathering outage information needed to predict restoration times. The operators have information provided by each work center in a handbook to capture unique knowledge that could benefit others working in an Area Work Center during an emergency.

The Outage Correction KPI is the raw number of corrected outage entries against the total number of outage entries.[124] Circuit Owners need accurate outage documentation since EDS data queries produce reports for evaluation and analysis.[125] Distribution has a

115 Response to Data Request BRCS-EM-40-002-RV-01.
116 Response to Data Request BRCS-EM-40-002-RV-01.
117 Response to Data Request BRCS-S0-09-007 TD-800 Section 2.8.
118 Response to Data Request BRCS-S0-09-007 TD-800 Section 2.9.
119 Interview D. Kane on 10/07/08.
120 Response to Data Request BRCS-S0-09-048.
121 Response to Data Request BRCS-S0-09-007 Conduct of Operations M4-SO-3001 Rev. 8 Section 3 pp9 - 10.
122 Response to Data Request BRCS-S0-09-033 CL&P TDRP 2008.pdf pp10-11.
123 Response to Data Request BRCS-S0-09-006 TD 004 Rev 1 Processing Distribution System Trouble Tickets and Outages, Attachment 2.
124 Response to Data Request BRCS-EM-40-002-RV-01 CL&P CO Detail. pdf pp 147-151.
125 Interview B. Dobson on 10/08/08.

strategy to reduce multiple interruptions by 5% per year that depends on the data derived from EDS outage data.[126]

Findings

The Distribution Protective Work Clearance procedure and the Conduct of Operations procedure were found to be detailed, thorough, and broad ranging. The scopes of operations procedures varied by task but were specific and unambiguous to a trained utility worker. These operating procedures contained many elements common with those of other utilities due to OSHA 1910.147 "The Control of Hazardous Energy (Lockout/Tagout)" and OSHA 1910.269 "Electric Power Generation, Transmission, and Distribution" requirements.[127]

Blue Ridge found that the Company complied with the operations procedures in switching,[128] clearances, system control,[129] outage documentation accuracy, and training[130] by reviewing the completion of selected completed forms referenced in the procedures.

Blue Ridge found CL&P is meeting the SERT goal related to OSHA and refresher training for line, electrician, splicer, and meter personnel.[131]

The number and frequency of outage corrections has improved since January 2008. However, many divisions are not meeting this goal. Additional training for operators and troubleshooters to improve the outage device identification, number of customers interrupted, step switching implemented, number of phases interrupted, and the devices involved in the outage may improve this indicator.

A review of the Company's KPIs with respect to O&M activities indicates sufficient resources are available to accomplish the mission.[132]

At the close of storms, numerous single call single outage events generated by the EDS remain in the work queue, clouding the estimate of customers needing restoration. When it is not practical to call customers, an inspection of the predicted outage location using customer's street addresses to expeditiously route assessors, predict route completion times, and reduce the time to clear events from the EDS Work Agenda is necessary.

The operations center has access to Workers Knowledge Handbooks[133] by work center. This is a best practice tool protecting those working in unfamiliar areas.

[126] Response to Data Request BRCS-SO-09-010 TD Procedure 848, "SAIFI Improvement: Multiple Interruptions" Rev. 0, Section 1.4 p 4.
[127] Response to Data Request BRCS-S0-09-007 TD-800 Section 1.3 p. 3.
[128] Response to Data Request BRCS-SO-61-003.
[129] Response to Data Request BRCS-SO-61-004.
[130] Response to Data Request BRCS-SO-61-005.
[131] Response to Data Request BRCS-EM-40-002-RV-01.
[132] Response to Data Request BRCS-EM-40-002-RV-01.
[133] CL&P Website:
https://webvpn.nu.com/business/clp/organization/,DanaInfo=nunet.nu.com+awc_handbooks.asp.

Conclusions and Recommendations

The Company's basis for operations and maintenance revolves around six Condition Based Maintenance (CBM) type program objectives to improve reliability. The Company has provided evidence that it maintains adequate command and control of the distribution system while complying with its published procedures.

Blue Ridge recommendations:

4.3.1 The Company should increase the emphasis on operator training in outage modeling and documentation.

4.4 System Reliability

Background

The reliability of an electric distribution system is often viewed by its customers in terms of how often and for how long the power goes off. Therefore, it is not coincidental that most electric utilities use those two criteria to measure reliability.

Although there are several ways to measure reliability, the DPUC requires the Company to use SAIDI (the average outage duration for each customer served) and SAIFI (average number of interruptions that a customer would experience) to measure the reliability of its distribution system. The DPUC considers a four-year rolling average to be the appropriate timeframe over which these criteria should be evaluated. The DPUC has set a goal for the Company to achieve a non-storm SAIDI of 130.[134]

To account for the adverse impact that major storms have on SAIDI and SAIFI calculations, utilities typically factor them out of their averages to get a normalized (or a non-storm) value for SAIDI and SAIFI. In the case of Connecticut utilities, the DPUC has defined the term "major storm" using statistical criteria, and therefore the term is not necessarily related to a weather event. The criteria for an outage to be classified as a major storm is the number of trouble locations (that result in outages) exceeding the 98.5 percentile of the trouble location frequency over the preceding four years. After an event meets the definition of major storm, all interruptions during that event or that begin in that event are excluded from the non-storm SAIDI and SAIFI calculations.[135]

In addition to the DPUC definition, the Company has also begun to use the IEEE 1366 standard to calculate SAIDI, SAIFI, etc. The IEEE method excludes large-scale outages that exceed a certain threshold value for SAIDI (i.e., T_{MED}). The SAIDI calculated using the IEEE method is typically 10 points (minutes per customer) higher than the same value calculated with the DPUC formula.[136]

[134] "Long Term Reliability Plan (2007-2011)," page 16.
[135] DPUC Docket No. 08-04-27, "2008 Annual Report to the General Assembly on Electric Distribution Company System Reliability" (June 11, 2008), Section II.A..
[136] IEEE Standard 1366-2003 ™.

- **SAIDI – System Average Interruption Duration Index**

  SAIDI = Sum of All Customer Interruption Duration / Total Number of Customers

SAIDI is a measure of how many interruption hours an average customer will experience over the course of a year. For a fixed number of customers, SAIDI can be improved by reducing the number of interruptions or by reducing the duration of these interruptions. Since both of these reflect reliability improvements, a reduction in SAIDI indicates an improvement in reliability. SAIDI is measured in units of time, often minutes or hours of outage time per year. According to IEEE Standard 1366-1998, the median value for North American utilities is approximately 110 minutes.[137] Other sources put the value at 118.4 minutes.[138]

- **SAIFI - System Average Interruption Frequency Index**

  SAIFI = Total Number of Customer Interruptions / Total Number of Customers

SAIFI is a measure of how many sustained interruptions (over 5 minutes per IEEE Standard 1366-2003) an average customer will experience over the course of a year. SAIFI is measured in units of interruptions per customer per year. According to IEEE Standard 1366-1998, the median value for North American utilities is approximately 1.10 interruptions per customer.[139] Other sources put the value at 1.19 interruptions.[140]

- **CAIDI – Customer Average Interruption Duration Index**

CAIDI = Total Number of Customer Interruptions / Total Number of Customer Interruptions

CAIDI is a measure of how long an average interruption lasts, and it is used as a measure of utility response time to system contingencies. CAIDI can be improved by reducing the length of interruptions but can also be reduced by increasing the number of short interruptions. Consequently, a reduction in CAIDI does not necessarily reflect an improvement in reliability. CAIDI is measured in units of time, often in minutes or hours per customer per year. According to the IEEE Standard 1366-1998, the median value for North American utilities is approximately 82 minutes.[141] Other sources put the value at 108 minutes.[142]

Note: CAIDI is equal to SAIDI divided by SAIFI.

[137] IEEE Standard 1366-1998 ™.
[138] Electric Power Distribution Reliability – Second Edition by Richard E. Brown (2009), page 70.
[139] IEEE Standard 1366-1998 ™.
[140] Electric Power Distribution Reliability – Second Edition by Richard E. Brown (2009), page 70.
[141] IEEE Standard 1366-1998 ™.
[142] Electric Power Distribution Reliability – Second Edition by Richard E. Brown (2009), page 70.

Analysis

Blue Ridge's analysis included developing interview questions and data requests to gather information on how the Company manages its reliability of the distribution system. Auditors interviewed the Director of Engineering and the Interim Manager of Work Management and Business Process Improvement.

Blue Ridge analyzed 10 years of the Company's SAIDI, SAIFI, and CAIFI (with and without major storms) data, focusing more on the last 5 years, to determine whether trends existed within the data. The Company and the DPUC have focused attention on system reliability due to a number of major weather related outages and equipment failures in the past 5 years. The DPUC has, over the past several years, required the Company to implement a number of capital improvement programs to improve reliability. Auditors also reviewed summaries of the outage events[143] and the programs required by the DPUC to correct their underlying causes.[144] In addition, Blue Ridge reviewed the reliability data from the Company's benchmarking studies.

Blue Ridge reviewed the Company's business plans, operating budgets, and key performance indicators to determine the extent to which improving reliability was a priority.[145]

Auditors reviewed numerous reliability reports and studies submitted in response to audit requests. Among those found to be more beneficial were the Transmission and Distribution Reliability Performance (TDRP) reports, which are submitted annually to the DPUC. Blue Ridge reviewed the TDRP from 2000 through 2008.[146] Auditors also reviewed the Long Term Reliability Plan (2007-2011),[147] which supports various reliability programs and projects. Blue Ridge found that particular report to be most helpful in understanding the current status of reliability for the Company.

Findings

The Company reported in the Long Term Reliability Plan (2007-2011) that the current status of their reliability can be summarized by the following points:[148]

- Reliability performance has been generally declining since 2002 and is worse than comparable companies
- Tree related performance (SAIFI/SAIDI) is also poor and getting worse due primarily to their trimming cycle increasing from 4 to 7 years
- A high percentage of improvement program dollars are spent on non-SAIDI categories (e.g., to reduce hazards, meet regulatory commitments, reduce multiple interruptions and mitigate the risk of high profile events)

143 Response to Data Request BRCS-SS-06-078-BULK.
144 Response to Data Request BRCS-SO-09-038.
145 CL&P Business Plan (2009-2013) received in response to EM-03-026, CL&P Capital Spending 2008 Trustee Budget received in response to Data Request BRCS-SO-09-009.
146 Response to Data Request BRCS-SO-09-033.
147 Response to Data Request BRCS-SO-09-030.
148 "Long Term Reliability Plan (2007-2011)", page 12.

- Most of the “low hanging fruit” related to circuit backbone improvements have been realized. The Company is now faced with the challenge of many poor performing areas, some of which feed small numbers of consumers. These areas require high cost investments to improve their reliability

The Company has determined that SAIDI is but one of several drivers that affect reliability. The others include the following:

- SAIFI and CAIDI
- Interruptions per 100 miles
- Number of customers experiencing 5 minute or more interruptions per year
- Safety
- Management of acute reliability problems
- Management of risk associated with major high profile outage events[149]

Blue Ridge found that the Company has a dedicated focus on improving reliability. That fact is evidenced by the high priority that reliability takes in their strategic plan,[150] balanced scorecards,[151] and capital budget.[152] The System Operations Review Committee monitors outages on a daily basis making adjustments as needed to ensure that reliable service is a priority.[153]

The Company budgeted $59 million of its capital budget in 2008 for reliability projects and $39 million for DPUC mandated reliability projects. Some of the major programs to improve reliability include enhanced tree trimming and replacing or upgrading aging distribution infrastructure such as substations, high over low voltage lines, certain line splices, cutouts, bare wire with insulated (tree) wire, and old underground networks.

There have been numerous major storms over the past 5 years that have affected reliability of service.[154] The following SAIDI, SAIFI, and CAIDI graphs indicate major storm affects.

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149 “Long Term Reliability Plan (2007-2011)”, page 12-13.
150 Response to Data Request BRCS-GR-01-001 BULK (Strategic Planning Documents).
151 Response to Data Request BRCS-GR-01-001 BULK (Scorecards and KPI Goals).
152 Response to Data Request BRCS-SO-09-009 (page 2 of 2).
153 Interviews B. Bernier and R. Coates on 10/08/08..
154 Response to Data Request BRCS- SO-09-033, Transmission and Distribution Reliability Reports and Response to Data Request BRCS-SS-06-078-BULK, Outage Events Summaries.

Figure 4: CL&P SAIDI (1998-2007)

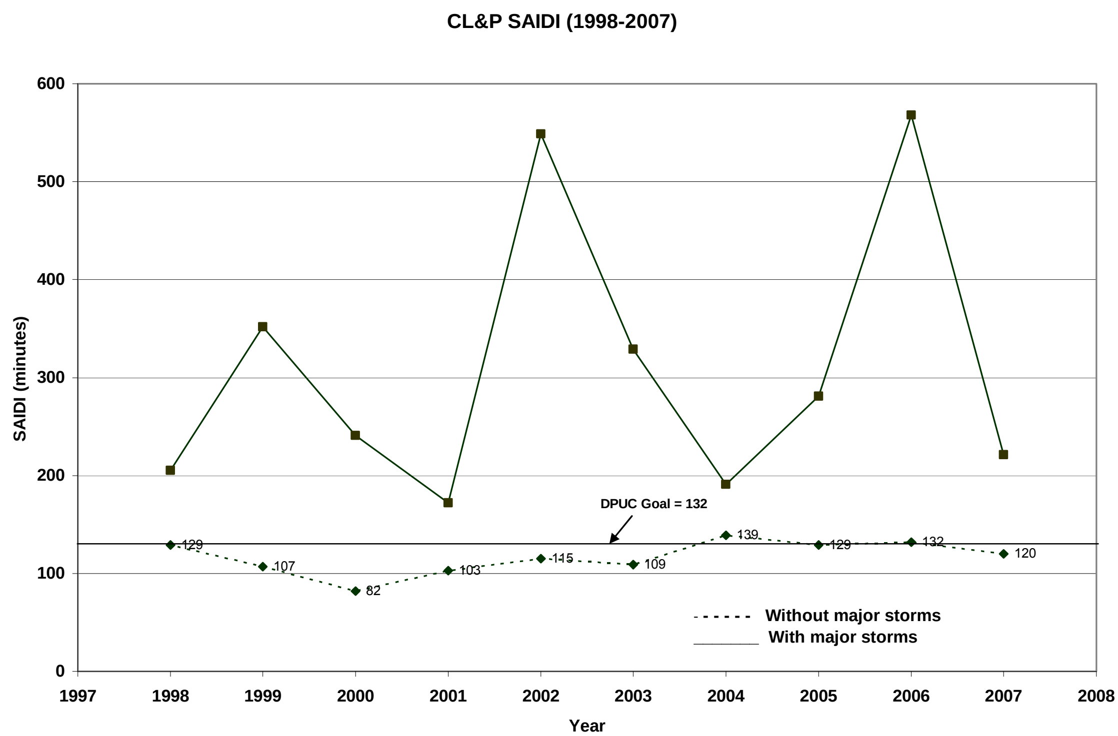


Figure 5: CL&P SAIFI (1998-2007)

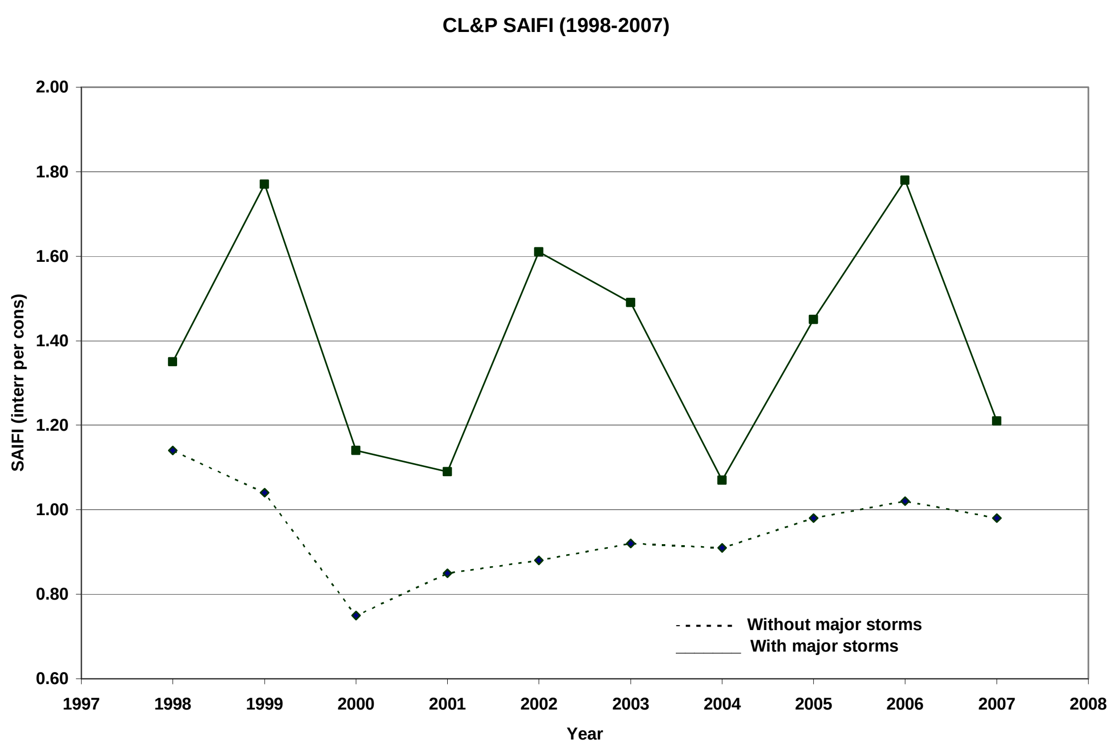
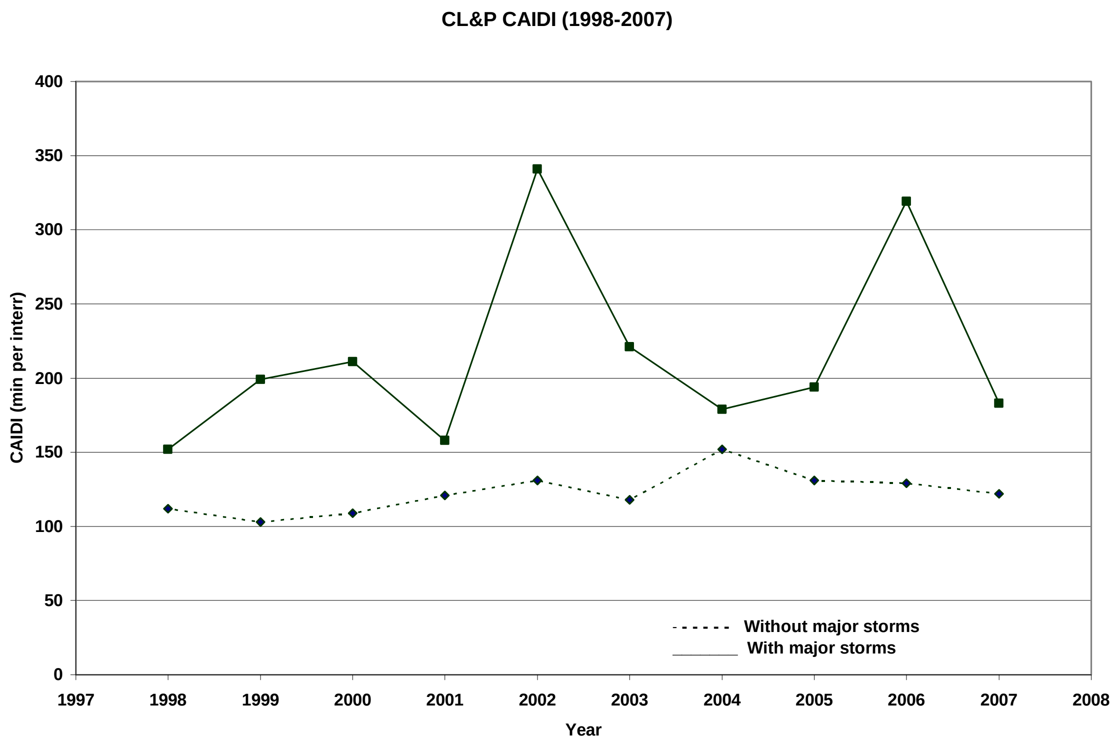


Figure 6: CL&P CAIDI (1998-2007)



The two primary trouble areas causing the Company to have continuing reliability issues are:

- Aging infrastructure. Over half of the Company's distribution equipment has been in service for more than 40 years, considerably beyond its expected service life. The Company estimates that it would take a $5 billion capital expenditures budget over a 10 year period for equipment replacement. Since that level of expenditure is not practicable, it proposes to spend 11% of its $1.5 billion budget, or about $165 million, to improve aging infrastructure.[155]

- Reductions in the tree trimming cycle. Because of decreases in tree trimming budgets over the past ten years, the trimming cycle is now nearly 7 years up from 4 years. The Company and DPUC would like this cycle time to return to between 4 and 5 years. The Company needs an additional $10 million in tree trimming expense over the next four years to get back to a 4 year cycle. Additional budget funds may come from other programs.[156]

[155] Response to Data Request BRCS-SO-09-030, "Long Term Reliability Plan (2007-2011).
[156] Response to Data Request BRCS-SO-09-030, "Long Term Reliability Plan (2007-2011).

Overall, the Company proposes to spend $264 million of its $1.3 billion capital budget over the 2007-2011 time period to improve reliability, including over $98 million in projects just to improve SAIDI.

Conclusions and Recommendations

The Company continues to be dedicated to meeting its reliability goals and is proposing to spend considerable budget dollars to do so. However, it is very likely that they will not meet their reliability goals in the future due to having limited capital available (currently there is a $300 million cap on distribution capital and major O&M expenses) to replace aging equipment and limited funding to "catch up" the tree trimming cycle.[157]

Blue Ridge recommendations:

4.4.1 The Company should continue to aggressively pursue all of the programs proposed in their Long Term Reliability Plan and to work with the DPUC to secure funding. Failure to make aggressive efforts in this area will lead to significant reliability problems in the future.

4.5 System Planning

Background

System planning is an essential element of a utility's day to day operations. Proper planning ensures that the infrastructure will be in place to meet its future requirements on both a short-term and a long-term basis. System planning must incorporate known or projected new loads with normal system growth to initiate projects that add capacity in existing substations, add new substations, add new distribution feeders, and/or upgrade existing substations and line facilities.

Short-term planning is typically done for a 1 to 5 year span. These plans are based more on current trends and actual data. They result in near-term construction projects that must go through the budgeting process. Short-term plans are also developed that result in establishing system operations and maintenance guidelines. Long-term plans are typically for 5 to 10 years into the future and are used to coordinate distribution plans with transmission providers and to establish a framework for maintaining consistency in short-term plans.

System planners must be highly skilled and trained personnel. They must have access to comprehensive and reliable field data, accurate cost information, state-of-the-art technology in computers, and modeling software.

Analysis

Blue Ridge's analysis included developing interview questions and data requests to gather information on how the Company manages its system planning. Auditors

[157] Response to Data Request BRCS-SO-09-030, "Long Term Reliability Plan (2007-2011).

interviewed the Director of Engineering, the Director of Distribution Engineering, and the Interim Manager of Work Management and Business Process Improvement.

Blue Ridge reviewed the system planning process, including who provides input, how input is evaluated, how project costs are developed for the construction budget, and how projects are initially prioritized. Associated closely with the system planning process is the organizational structure for collecting information. This is the data source for the documentation and justification for the projects included in the construction budget. A committee known as the Operating Company Review Committee (OCRC) provides management oversight and budgetary approval for justifiable projects.[158]

Circuit Owners (CO) within the Asset Management organization have the principal responsibility for developing the planning projects within the Company.[159] The CO monitors load, performs load flow studies under the Cyclical Feeder Management Program,[160] identifies constraints and contingencies, and provides solutions/initial cost estimates for OCRC oversight.[161] Project drivers originate with load growth, contingency concerns related to reliability, or general system improvement planning driven through transmission related projects.[162]

Circuit Owners also monitor the performance of circuits (25-35 circuits per CO), make load projections, handle power quality issues, maintain “Auto Loops,” identify zones for “Auto Loops,” and are responsible for the reliability issues identified by outage management system reports.[163] The CO has responsibility from the substation power transformer in the substation to the end of circuit.[164]

COs use an in-house developed spreadsheet for load projections.[165] Engineers and COs have access to the NU on-line Engineering Calculator tools platform for voltage drop, fault current, design calculators, transformer lookup, and relay/recloser settings information.[166] CL&P provided two procedures describing capabilities for load flow programs used in loop[167] and radial[168] calculations. Both programs for load flow programs described in the procedures were out of date (early 1980s vintage software) for modern load flow analysis, which now uses geographic methodology and modern display and output techniques.

[158] Response to Data Request BRCS-FO-114-System Projects & Asset Management – Design and Construction Process.
[159] Interview B. Dobson on 10/08/08.
[160] Response to BRCS-SO-09-017 #25 – Cyclical Feeder Management.doc.
[161] Response to Data Request BRCS-SO-09-015.
[162] Interview B. Dobson on 10/08/08.
[163] Interview B. Dobson on 10/08/08.
[164] Interview B. Dobson on 10/08/08.
[165] Interview B. Dobson on 10/08/08.
[166] Response to Data Request BRCS-SO-09-006 Supplement, Distribution System Engineering Manual, Section 4.90 On-Line Tools p 04.901.
[167] Response to Data Request BRCS-SO-09-006 Supplement, Distribution System Engineering Manual, DER -03-02 T&DE&O Group Procedure Network Load Flow Studies.
[168] Response to Data Request BRCS-SO-09-006 Supplement, Distribution System Engineering Manual, 81-9 Distribution Load Flow Program and Load Study Techniques.

Circuit Owners attend classes in circuit theory, basic distribution device operation, substations, design and design strategy, transmission supply variations, and fundamentals of power systems analysis.[169]

The Company provides in-house training to its employees because the Company believes that the education system is not producing power engineers to satisfy the expected forecasted needs due to the retirement of experienced employees.[170] Training topics range from OSHA requirements and FERC code of conduct behaviors to specific needs identified in individual performance plans.[171]

The Distribution System Engineering Manual (DSEM) provides the basis for NU's distribution design and basic planning criteria.[172] It establishes six governing criteria—Safety, Voltage Regulation, Reliability, Flexibility, Adequate Capacity, and Economics—as principles for designers' consideration for new systems as well as major circuit modifications.[173] NU engineering designs the ultimate circuit for 400 amp normal ratings and 600 amp contingency conditions,[174] specifying only two conductor sizes for its backbone feeder construction. The economic loading guide specifies use of 336AAC conductor for circuits with a design load range of 0 to 330 amps and 556AAC for circuits with a design load range greater than 330 amps.[175]

Voltage limits are based on ANSI C84.1 voltage range B (+3%, -5% of nominal under normal conditions) with an upper limit established at 123.6V.[176] Planning criteria limit analysis to single contingency failures and examine the expected excess loss-of-life loading on system components.[177] Voltages at the source are based on CONVEX's operation of transmission system to the criteria defined by "Acceptable Contingency Voltages for Transmission Supply."[178]

As with most utility organizations, the system planning process, the construction budget process, the construction projects, and system reliability are intertwined, and at times it is difficult to determine where one ends and another begins. For the analysis of the system

169 Response to Data Request BRCS-SO-62-001.
170 Interview B. Dobson on 10/08/08.
171 Response to Data Request BRCS-SO-62-001.
172 Response to Data Request BRCS-SO-09-006 Supplement, Distribution System Engineering Manual, Section 1.10, p 01.101.
173 Response to Data Request BRCS-SO-09-006 Supplement, Distribution System Engineering Manual, Section 1.10.1-1.10.6, p 01.101.
174 Response to Data Request BRCS-SO-09-010 Distribution System Engineering Manual, Section 1.10, p 01.101.
175 Response to Data Request BRCS-SO-09-010 Distribution System Engineering Manual, Section 06.27, p 06.271.
176 Response to Data Request BRCS-SO-09-010 Distribution System Engineering Manual, Design General Section 05.13, p 05.
177 Response to Data Request BRCS-SO-09-010 Distribution System Engineering Manual, Design General Section 05.30, p 03.301.
178 Response to Data Request BRCS-SO-09-010 Distribution System Engineering Manual, Design General Section 05.15, p 05.151.

planning process, system reliability is an input, and the construction budget process is an output. The Company has a procedure that governs the inter-departmental responsibilities between the Asset Management group and System Projects to define project scope and need, create process definition, develop detailed plans and cost estimates, encourage communication, and manage and approve the implementation of planned projects.[179]

Findings

The system planning process is responsible for projects associated with the 42 initiatives, overloaded equipment, and reliability concerns.[180] The 42 initiatives will be discussed in more detail in Section 4.7 Construction Budget.[181]

Planning criteria is applied to the projects being developed for the construction budget. The planning criteria continue to evolve as best practices are reviewed. Some of the planning/design criteria used include the following:[182]

- Under normal operation, no equipment will be overloaded.
- Contingency overloads are reviewed for reliability issues.
- For capacity projects, three years of actual history is used for forecast. Also, any known additional load over 300 kW is added to forecast. This load forecast is used to determine equipment loading.
- Loading criteria on two transformer substations increased if two adjacent substations have feeder ties. Most substations are self-firming, but substation firming using feeder ties is increasing the capacity of existing substations.
- Substations are designed for 1, 2, or 3 power transformers.
- The KPI for adding capacity is Cost/MVA added. Usually, the least expensive way to add capacity to the distribution system is to add capacity in an existing substation rather than building a new substation.
- A standard feeder design criterion is to divide the feeder into zones of 500 customers. Using computer modeling that evaluates voltage drop and motor starting information, a voltage variance not exceeding a +3 / -5 volts from normal meets the design criteria.
- Overhead circuits are designed for 600 amps on main feeders.

The system planners work closely with the operations personnel. The Circuit Owners have goals which include patrolling of lines, equipment cost of service, equipment exceeding normal ratings, etc.[183] Alternate solutions are identified and examined. Cost estimates are prepared using unit pricing at a high level. These unit prices are updated annually. The justification for the projects is developed using a cost/benefit ratio. A complete scope of work is then created to define the project. This information is

[179] Response to Data Request BRCS-FO-114-System Projects & Asset Management – Design and Construction Process.
[180] Interview B. Dobson on 10/08/08.
[181] Response to Data Request BRCS-SO-09-017, Asset Management Plan.
[182] Interview B. Dobson on 10/08/08.
[183] Interview B. Dobson on 10/08/08.

documented using the standard package for construction budget projects.[184] The standard package requires input of the following information if applicable:

- Project number, name, type, location, circuit owner
- Project description – Justification / Need
- Customer impact
- Environmental aspects
- Load information
- Alternatives considered
- Estimated costs, including a contingency cost defaulted to 20%
- Project segments (description and costs associated with each phase)
- Reliability data
- Cost Justification

The project is then sent to the Operating Company Review Committee for review and recommendation. From a planning perspective, facilities installed are expected to have a forty (40) year life.[185]

Conclusions and Recommendations

Blue Ridge determined that the system planning process has planning/design criteria in place. Continued comparison with Best Practices will allow these criteria to continue to evolve, especially in the area of substation firming criteria. The documentation of projects uses consistent methodology utilizing the standard package for construction budget projects. This allows for consistent justification, review, and comparison of projects.

The estimated cost is created using unit prices at a high level. A 20% contingency is then added, creating the total estimated cost to be justified in the construction budget process. The 20% default contingency appears high and should be reviewed. With this magnitude of contingency, a change in project scope or cost could occur during detailed engineering.

Blue Ridge determined that the Company documented radial and loop load flow analysis software does not have the needed flexibility relative to modern planning in the distribution arena. Modern algorithms with updated software are available to interface with the GIS in evaluating switching scenarios, fault analysis, reactive power management, and fault locating with SCADA interfaces.

Blue Ridge recommendations:

4.5.1 The Company should evaluate additional software to enhance the planning process and explore additional savings possibilities not presently provided by the existing load flow analysis packages.

[184] Response to Data Request BRCS-SO-42-006, Standard Package for Budget Projects.
[185] Interview B. Dobson on 10/08/08.

4.6 Construction Projects

Background

Construction projects provide the necessary upgrades to the distribution system to meet the operational objectives of the utility. Projects are developed with requests from various internal and external entities. System planning provides requirements for major system upgrades. Developers provide requests to provide service to residential subdivisions, commercial building, industrial facilities, etc.

Providing consistency in design, material, and labor is essential in developing project scopes that are cost effective. Incorporating the company's construction standards provides consistency in design and material requirements.

Using material identified in the construction standards allows the material to be purchased in quantities and kept in inventory, reducing the material costs. Identifying the construction forces, whether in-house crews or contractors, that will build the facilities impacts the costs. The timing of the projects is also a key element.

Once these items have been identified, the responsibility for the approval of the technical, detailed design and expense must be identified.

During the detail design phase, depending on the scope of the project, multiple designers may be involved. Coordination among these individuals is important. During construction, communication between the crew and the designers is important to resolve any discrepancies in the project. Construction staging areas for the material on large projects is a critical step.

Analysis

Blue Ridge's analysis included developing interview questions and data requests to gather information on how the Company manages its construction projects. Auditors interviewed the Director of Distribution Engineering, the Director of Division Operations, and the Interim Manager of Work Management and Business Process Improvement. The Director of Engineering also provided insight into the development of the construction projects.

As with most utility organizations, the construction projects, the construction budget process, the system planning process, and system reliability are intertwined, and at times it is difficult to determine where one ends and another begins. For the analysis of the construction projects, the construction budget process, the system planning process, and system reliability are inputs to the process.

Blue Ridge reviewed construction projects to determine whether a consistent process was available and uniformly applied. The process includes development of project scopes, project approval, utilization of design standards/guides, cost estimating, and construction practices. Auditors reviewed seven (7) specific construction projects selected at random to determine whether the Company's construction project processes and procedures were followed.

All requests for New, Upgrade, Removal, and Development services go into the Work Management application STORMS.[186] Each request is sequentially given its own tracking number and is tied to a MIB work order for time/material financial mapping through plant accounting closure. STORMS provides a method to track all projects and is maintained by the Work Management and Business Process Improvement Department. STORMS is used for tracking and documenting all projects ranging from Meter Only to Vegetation Management to Major Projects.[187] These major projects or construction projects can have multiple work requests associated with each project. Also, a construction project can be defined as a Super Project which contains multiple projects. An example of a Super Project could be adding additional capacity to a substation and the associated overhead and underground distribution feeders. The Super Project would have three projects associated with it. One project would be for the work at the substation. A second project would be for the overhead feeder work. Finally, a third project would be for underground feeder work. Each project could have multiple work requests associated with it.

The seven (7) specific construction projects[188] reviewed had been entered in STORMS. Each packet contained the following information if applicable:

- Detailed estimated cost (installation, removal and O&M)
- Estimated hours (CL&P, Contractor and travel)
- Approvals
- Job sketch
- Project specifics (name, town, address, location, description, work order number, etc.)
- Safety analysis sheet
- Material summary (material number, description, quantity, etc.)
- Location Instruction (work to be completed at each location including equipment to be installed and removed)
- Pole data sheet
- Cable data sheet

The initial cost estimates prepared by system planning include a contingency, usually 20%, because high level unit pricing was used to develop the cost estimate.[189] The variance is discussed in 4.7 Construction Budget.

For construction projects, a standard package is created.[190] Projects are entered into a database with standard questions to develop the project name. This naming convention

[186] Response to Data Request BRCS-SO-60-007, STORMS Procedure. This data response is specific to vegetation management, but STORMS is applicable to all project types.
[187] Response to Data Request BRCS-SO-09-028, Work Request Processing Controls.
[188] Response to Data Request BRCS-SO-42-005, Sketches, Estimate and Job Package.
[189] Interview B. Dobson on 10/08/08.

allows similar projects to be identified quickly. Included in the package for reviews are the scope of the project, the initial estimated cost, and alternates considered in lieu of this project.[191] The discussion of the alternates describes why the proposed project was selected. The alternates are other projects which would provide a solution but, due to cost/benefit, total cost or other planning/design criteria were not selected.

System planning and Circuit Owners (COs) identify construction projects. Also, projects are identified using the criteria in the 42 initiatives, which have been identified as necessary to achieve CL&P's key business strategies. Some examples are #28 - Overhead Obsolescence, #29 Pole Replacement and Restoration, #30 Substation Oil Circuit Breaker Upgrade Program, #31 Substation Switchgear Obsolescence, and #32 Substation Cap and Pin Insulator Replacement.[192]

System planning creates a project description and cost estimate. This information is provided to Asset Management. A Scope of Work and a Decision Making Estimate is then developed by Asset Management. If the decision is to continue, the project proceeds to the construction budget process.[193]

COs identify the need for a project and then assist system planning in the creation of the project. The project is reviewed by a Team (there are 16 teams made up of COs and Managers) to ensure project completeness. The project is then brought to the Operating Company Review Committee (OCRC) for review and recommendation.

After a construction project is approved to be included in the construction budget, the detailed design and detailed cost estimate are completed. The project is reviewed to determine whether it is within the original project parameters. If detailed cost is 10% or greater than budget cost, a full review with OCRC is required prior to continuing. If the increased cost is approved, other projects must be adjusted to offset the increase.[194]

Detailed distribution designs use the Company's construction standards. Based on these detailed designs, a detailed cost estimate is created, which includes a material list and construction units.

Detailed designs of substations are mainly special designs. This is because most substation projects are modifying existing, older substations to add capacity or replace obsolete equipment. The current design standards for new construction are not applicable to many of these older substations, resulting in each project being a special design. Substation expenditures have increased from $18 million to $60 million over the last few years.[195]

[190] Interview B. Dobson on 10/08/08.
[190] Response to Data Request BRCS-SO-42-006, Standard Package for Budget Projects.
[191] Interview B. Dobson on 10/08/08.
[192] Response to Data Request BRCS-SO-09-017, Asset Management Plan.
[193] Interview R. Litwin on 10/21/08.
[194] Interview B. Dobson on 10/08/08, and Response to Data Request BRCS-SO-09-015, Asset Management Workflow.
[195] Interview R. Litwin on 10/21/08.

Findings

Blue Ridge found that the Company does not compare its substation designs to other utility companies.[196] Designers and drafters do the detailed design. Substation design is primarily electrical and civil with protection and control being considered as electrical. All designers and drafters are located in the same area; therefore, coordination of designs is not an issue. Based on these detailed designs, a detailed cost estimate is created which includes material list and construction units.

Conclusions and Recommendations

Blue Ridge determined that the STORMS system is an excellent tool for construction project development and tracking. The system contains a wealth of information from which productivity metrics are developed.[197] Because it is integrated with other systems, detailed information, including project costs, can be easily reviewed.

A methodology is in place to provide proper documentation for projects which are being recommended for inclusion in the construction budget. The initial cost for budget projects usually includes a contingency of approximately 20%. While this is intended to cover the cost of inflation and the currently volatile material and equipment markets, project scope creep needs to be carefully monitored. System planners should carefully examine the units used for building blocks to determine the initial cost estimate. Equipment and material which have recently encountered significant price fluctuations should be identified. These items include products with significant amounts of steel and copper, such as power transformers, substation structures, steel poles, etc. For example, power transformers for substations have seen 50% to 75% increases in cost over the last two years. The remaining items in the initial estimate should not be included in the large contingency.

The detailed design of distribution lines and facilities follow the Company's construction standards.

Blue Ridge recommendations:

4.6.1 The Company should study standardizing substation design, including upgrading or rehabbing existing substations. Standard substation designs reduce engineering costs, due to repetition of design work, and operational costs, as equipment and facility orientation is similar from substation to substation. Due to the wide diversity of existing substation, two or three standards might need to be developed. This would reduce the need for special designs on each substation project.

[196] Interview R. Litwin on 10/21/08.
[197] Response to Data Request BRCS-SO-42-004, WMS Productivity Metrics.

4.7 Construction Budget

Background

The utility's construction budget identifies the funds allocated for new plant construction and system upgrades and improvements. Although the process for developing a construction budget can be a tedious and labor intensive process, it is an essential element for managing the utility's resources. Since the utility's overall financial condition normally places a constraint on the size of the construction budget, it is critical that the construction budget be developed using processes that are comprehensive and integrated with other areas of the operations and maintenance functions.

The construction budget process consists of identifying projects needed to serve new customers and for system improvements. These projects are generally identified by the system planning process.

Analysis

Blue Ridge's analysis included developing interview questions and data requests to gather information on how the Company manages its construction budget. Auditors interviewed the Director of Engineering, the Director of Distribution Engineering, the Director Division Operations, and the Interim Manager of Work Management and Business Process Improvement.

As with most utility organizations, the construction budget process, the system planning process, the construction projects, and system reliability are intertwined, and at times it is difficult to determine where one ends and another begins. For the analysis of the construction budget process, system planning and system reliability are inputs to the process, and construction projects is an output. Blue Ridge reviewed the entire construction budget process, including reviews of the various procedures the Company uses to integrate the construction budget into overall Company policy, corporate goals, and other operational goals (e.g., reliability improvement goals). Also reviewed were the priority of projects to be included in the construction budget, the approval process of the construction budget, and the procedure for changing or amending the construction budget after approval.

The construction budget process is coordinated by the Director – Engineering and his staff. The construction budget process at CL&P can be summarized as follows:[198]

- Long-term system needs are identified in Company's Five Year Business Plan
    - Costs allocated to reliability
    - Costs allocated to infrastructure rebuild
- Targets set based on rate case targets
- Based on these targets, component spending is recommended and presented to CL&P officers
    - Currently 42 different initiatives have been identified

[198] Interview B. Dobson on 10/08/08.

- Reliability projects are included in discretionary funds
  - Over 300 projects are currently identified
  - These projects are prioritized using cost/benefit ratios

The budget process begins with the planning process. Information regarding reliability concerns, load growth, equipment, and facility conditions is shared between the system planners and operation personnel, generally the Circuit Owners. Internal budgets are prepared and must be supported by the rates of CL&P.[199] The capital construction budget has been set at $300 million.[200]

In the interviews, the long-term system needs were identified as the aging infrastructure and reliability.[201] A list of 42 initiatives[202] has been identified to address these areas of concern. Some of the initiatives are at the mandate of the DPUC, and others were initiated by CL&P. Other concerns are related to the age of the substations. Very few new substations have been built until recently, but substation expenditures have increased from $18 million to $60 million over last few years. This is because most substation projects are modifying existing, older substations to add capacity or replace obsolete equipment.[203]

The total capital expenditures are shown in the following table.

[199] Interview R. Litwin on 10/21/08.
[200] Interview B. Dobson on 10/08/08.
[201] Interview B. Dobson on 10/08/08, Interview R. Litwin on 10/21/08.
[202] Response to Data Request BRCS-SO-09-017, Asset Management Plan.
[203] Interview R. Litwin on 10/21/08.

Table 8: Total Capital Expenditures[204]
(Expenditures in $000)

CL&P DISTRIBUTION CAPITAL EXPEDITURES PROGRAM 2007 TO 2012 Forecast							
AREAS OF FOCUS	**MAJOR PROGRAMS**	**2007**	**2208**	**2009**	**2010**	**2011**	**2012**
New Business & Growth	New Business - Customer Driven & Lighting Reqs	$52	$52	$54	$56	$59	$60
	Background Load Growth	62	54	55	60	62	58
Run the Business	Plant Relocations	11	10	11	11	12	12
	Equipment Failures & Major Storms	34	31	32	34	35	35
	Other Capital - Transformers, Operational Exposures, Meters, Tools & Equipment and Other	36	44	42	37	40	39
Improve the Business	Regulatory Commitments	19	22	23	24	24	18
	Achieve SAIDI Targets	16	14	12	8	9	10
	Manage Acute Reliability Problems (5 or more)	8	9	9	10	10	11
	Obsolete Plant Overhead	2	3	5	7	7	8
	Obsolete Plant Substations	9	23	19	18	19	20
	Obsolete Plant Underground	14	9	12	10	9	15
	Facilitites	3	6	6	5	3	3
Information Technology	Information Tech	7	6	8	8	8	8
Major Projects	Customer Systems Integration	14	10				
TOTAL CL&P DISTRIBUTION CAPITAL EXPENDITURES (In millions)		**$288**	**$294**	**$288**	**$289**	**$297**	**$297**

The 42 initiatives are listed in the following table. Fifteen (15) of the initiatives are O&M initiatives while twenty-seven (27) require capital expenditures. Expenditures in the later years are trended based on current information and will be verified and validated as the projects are specifically identified for inclusion in the construction budget.

[204] Response to Data Request BRCS-SO-09-017, Asset Management Plan.

Table 9: Budget Initiatives[205]

(Expenditures in $000)

	Incentive Number and Name	Type	2007	2008	2009	2010	2011	2012
1	Incremental Expense Component of the Capital Program	FTEs	-	-	-	-	-	-
		O&M	1,573	1,531	2,094	2,406	1,815	2,050
2	Overhead Plant Inspection - Circuit Patrols	FTEs	-	-	-	-	-	-
		O&M	-	343	357	381	386	402
3	Incremental Expenses for a Shortened Tree Trimming Cycle	FTEs	-	1	1	1	1	1
		O&M	453	12,924	14,194	16,907	16,217	13,844
4	Pole Inspection and Treatment	FTEs	-	-	-	-	-	-
		O&M	500	970	1,009	1,049	1,091	1,135
5	New Hires Trained in Advance to Replace Experienced	FTEs	-	24	24	24	24	24
		O&M	-	2,318	2,411	2,508	2,608	2,712
6	Maintenance of IT Programs	FTEs	-1.7	0.8	0.8	0.8	0.8	0.8
		O&M	1.2	1.3	2.9	2.5	3.0	3.5
7	Customer Services Integration (CSI) Project	FTEs	-	-	-	-	-	-
		O&M	2,001	1,226	-	-	-	-
8	Direct Buried Facilities Inspection	FTEs	-	-	-	-	-	-
		O&M	-	237	247	257	267	277
9	Underground Structure Inspections and Repairs	FTEs	-	-	-	-	-	-
		O&M	-	809	841	875	910	946
10	Recloser Inspections and Maintenance	FTEs	-	6.1	6.1	6.1	6.1	6.1
		O&M	-	1,301	1,353	1,407	1,463	1,522
11	Network Transformer Inspections and Maintenance	FTEs	-	3.9	3.9	3.9	3.9	3.9
		O&M	-	962	1,000	1,040	1,082	1,125
12	Metalclad Switchgear Major Maintenance	FTEs	-	-	-	-	-	-
		O&M	-	750	780	811	-	-
13	Oil and Vacuum Circuit Breaker Major Maintenance	FTEs	-	2.5	2.5	2.5	2.5	2.5
		O&M	-	466	485	504	524	545
14	Substation Disconnect Switches Major Maintenance	FTEs	-	1	1	1	1	1
		O&M	-	100	104	108	112	116
15	Substation Relay Testing	FTEs	-	1.5	1.5	1.5	1.5	1.5
		O&M	-	141	147	153	159	165
16	Capacity Additions for Overloads for Substations	Capital	20,005	22,600	24,700	26,600	25,890	24,850
17	Capacity Additions for Overloads for Line Distribution	Capital	21,110	19,175	19,387	22,570	23,992	20,933
18	Line Distribution / PCB Remediation	Capital	510	620	640	670	700	730
19	Operational Exposures - Job Hazard Reduction	Capital	3,984	5,016	550	570	590	610
20	Transmission/Distribution Reliability Performance (TDRP)	Capital	4,900	7,750	8,050	8,350	8,700	9,050
21	Distribution Automation (DSCADA) Program	Capital	1,000	5,400	5,600	5,800	6,050	6,300
22	High-Over-Low-Voltage	Capital	600	5,270	5,480	5,700	5,925	5,400
23	Group Re-lamping – Full Cutoff Floodlight Conversion	Capital	1,289	1,005	1,037	1,060	-	-
24	Lateral Enhanced Tree Trimming	Capital	6,000	6,240	6,490	3,375	3,510	3,650
25	Cyclical Feeder Management	Capital	5,260	7,350	5,425	4,945	5,840	6,045
26	Direct Buried HMP/XLP Cable Replacement/Rejuvenate-	Capital	2,500	3,380	3,510	3,650	3,810	3,970
27	Routine Distribution Reliability Improvements - (DR)	Capital	5,500	5,700	5,950	6,200	6,450	6,700
28	Overhead Obsolescence	Capital	2,400	2,230	2,639	4,960	4,745	6,080
29	Pole Replacement and Restoration	Capital	-	1,025	2,060	2,142	2,228	2,317
30	Substation Oil Circuit Breaker Upgrade Program	Capital	500	3,120	3,240	3,460	3,580	3,700
31	Substation Switchgear Obsolescence	Capital	2,450	9,450	9,850	10,250	10,660	11,100
32	Substation Cap and Pin Insulator Replacement	Capital	800	3,000	3,115	3,240	3,355	3,525
33	Substation General Modernization	Capital	4,005	5,750	4,500	2,800	2,900	3,020
34	Underground/Structural Issues	Capital	700	1,030	1,070	1,110	1,150	1,200
35	Underground – Network Transf. and Protection Replacement	Capital						
	Transformer Costs	Capital	6,781	3,767	3,557	-	-	-
	Installation Costs	Capital	6,089	3,383	3,193	-	-	-
36	Underground-Primary Network Cable Repl. For Leaking	Capital	-	2,250	2,340	2,434	2,531	-
37	Underground - Network 500 kcmil to #4/0 Cable	Capital	4,680	5,635	5,860	6,095	6,340	-
38	Upgrade)	Capital	4,844	4,391	4,987	5,015	5,170	8,260
39	Radio System Upgrade	Capital	1,756	1,601	3,260	2,600	2,730	-
40	Customer Services Integration (CSI) Project	Capital	14,283	9,913	-	-	-	-
41	Advanced Metering Infrastructure Project *	Capital	-	40,100	27,800	400	400	-
	(* These dollars are expected to be recovered under Federally Mandated Congestion Costs (FMCC) charges).	Capital						
42	NEC Code Changes – 480 Volt Network Protectors *	Capital	-	15,000	-	-	-	-
	(* Indefinite schedule based on final regulation.)	Capital						
	2007 - 2012 Summary		**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
	Total FTEs		**(2)**	**41**	**41**	**41**	**41**	**41**
	Total O&M		**$4,527**	**$24,078**	**$25,022**	**$28,406**	**$26,634**	**$24,839**
	Total Capital Dollars		**$121,946**	**$201,151**	**$164,290**	**$133,996**	**$137,246**	**$127,440**

As shown in the Total Capital Expenditures table, monies are also allocated to new business and to discretionary funds. The system planning process identifies the projects associated with normal overloads and contingency overloads based on planning criteria.

205 Response to Data Request BRCS-SO-09-017, Asset Management Plan.

The control of the discretionary funding, which is primarily for reliability projects, is accomplished by prioritizing these projects using a cost/benefit ratio. Reliability cost/benefit takes two different approaches. First, impacts on SAIDI are prioritized using cost/minute improvements, which includes customers impacted, costs of improvements, and largest minute reduction at least cost. Second, impacts on SAIFI are prioritized, analyzing interruption reduction at lowest cost. The money allocated for new business is considered mandatory spending. However, at the end of the budget year, the budget must be within the $300 million. If the New Business allocation is exceeded, other discretionary funded projects must be reduced to stay within the $300 million budget. If New Business allocation is less than its allocation, approval by the officers must be received to spend it on additional discretionary funded projects.[206]

For a project to be considered for the construction budget, a standard package is developed for review and identification of alternatives.[207] This is described in Section 4.6 Construction Projects. The Operating Company Review Committee (OCRC) reviews each project.[208]

Projects included in the construction budget are to be in-service by June 1 to meet KPI or by the end of the year based on the nature of the project. Projects which are not complete as scheduled by year-end are carried over into the following year's budget. Expenditures to complete the project are included in the next year's $300 million capital expenditures, thus removing some discretionary projects.[209]

Project managers are assigned when the project is approved for the construction budget and given to system projects. The project managers are Company employees who are responsible for detailed engineering, construction coordination, and material delivery to job site.

Changes in scope or cost are handled project by project. After the detailed design and a detailed cost estimate are complete, the project is reviewed. If the detailed cost is 10% or greater than budget cost, a full review with the OCRC is required prior to continuing. If the increased cost is approved, other projects must be adjusted to offset the increase.[210] If during construction, a piece of equipment is de-energized, maintenance is performed on that piece of equipment. Occasionally, the equipment must be replaced or maintenance takes longer than expected. Either scenario results in a scope change. The Company would like to see surprises mitigated.[211]

Findings

The construction budget process obtains input from the system planning process and from the front-line personnel who operate the system. The projects are documented and

[206] Interview B. Dobson on 10/08/08.
[207] Response to Data Request BRCS-SO-42-006, Standard Package for Budget Projects.
[208] Interview B. Dobson on 10/08/08.
[209] Interview B. Dobson on 10/08/08.
[210] Interview B. Dobson on 10/08/08.
[211] Interview R. Litwin on 10/21/08.

alternatives are analyzed. Expenditures are monitored by project managers and reviewed by the OCRC.

The 42 initiatives require a large portion of the $300 million construction budget. Based on the finding of system reliability, the discretionary funding for reliability should be increased, but with the new business and the overload projects, this is difficult. Efforts should be made to increase the $300 million capital expenditure level. An alternative discussed in Section 4.6 Construction Projects is to review design standards to eliminate costs.

Conclusions and Recommendations

Based on the $300 million capital expenditure level, replacement of the aging infrastructure will continue to be slow process. The prioritization process allocates the expenditures to the appropriate projects based on the criteria.

Blue Ridge recommendations:

4.7.1 Annual allocations for the 42 initiatives should be reviewed and prioritized.

4.7.2 Expenditures should be allocated to obtain the largest benefit to the Company and its customers.

4.7.3 Timing of the expenditures in each category should be reviewed.

4.7.4 Contingency plans should be developed for obsolete equipment failures which will reduce the outage time to customers.

4.8 Street Lighting

Background

Street lighting was one of the first uses of electricity, with the first street light being placed in service in 1879. Since those early years, street lighting has expanded dramatically adding to an electric utility's sales and manpower usage. In 2007, CL&P sold 106 MWh and collected revenues in excess of $16 million for street lights, a total of about 0.5% of the Company's revenues.[212] Street lighting is also an area that is rapidly changing because of growing interest in energy conservation and efficiency in the area of new lamping technologies.

Analysis

Blue Ridge's analysis included developing interview questions and data requests to gather information on how the Company manages its street lighting. Auditors interviewed the Manager of Operational Planning and Performance Analysis.

[212] CL&P FERC Form 1, December 31, 2007, page 301.

Blue Ridge reviewed several reports prepared for its Street Light Group. The 2004 Self Assessment[213] was undertaken shortly after a 2003 DPUC investigation into the lack of accuracy in the Company's accounting and billing of lights within the 142 municipals served by the Company.

In February 2007, the Company issued its "Streetlighting Change Management Plan and Six Sigma Project Report."[214] The report enumerated a substantial number of problems that continue to plague the street light department. As a result of that effort, more focused attention has been placed on improvements in updating data collection and reduction in billing errors.[215]

The Self Assessment Final Report (Street Light Group Relamping),[216] which was issued in draft form in November 2008, outlined a number of problems of which many have been addressed.

The Group Relamping Project has been in place for several years and was set up to accomplish the following goals:[217]

- Inventory all Rate 116 street and security lights.
- Replace every lamp and photocell that has been installed for 5 years or more, as well as any defective or damaged equipment, or whenever a town's failure rate exceeds 10%.
- Verify the size, type, and location of every fixture in each municipal on a 6 year cycle.
- Replace all mercury vapor (MV) and incandescent lights with high pressure sodium (HPS).
- Replace all floodlights with restricted use equivalents, according to Public Act 06-86, the "Dark Skies Law."

Findings

Overall, the re-lamping effort has resulted in significant improvements to customer service. The Company found that it was cheaper just to relamp its entire system than to upgrade its asset database and replace bad lamps piecemeal. In late 2008, the Company was scheduled to changeover from its existing SUMMA software to the new C2 platform. The C2 system, which is integrated with the STORMS application, will provide an efficient asset registry for all unmetered loads and can focus on individual customer attributes. Much effort has gone into ensuring the data transfer goes well. In addition, the Company anticipates relamping all lights within the 142 municipalities by 2010.[218]

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213 Response to Data Request BRCS-SO-09-060.
214 Response to Data Request BRCS-SO-09-060.
215 Interview R. Tardiff on 10/06/08.
216 Response to Data Request BRCS-GR-63-001.
217 Response to Data Request BRCS-SO-09-060.
218 Interview R. Tardiff on 10/06/08.

Is spite of all the progress made, the Company is still not meeting all of its goals in the street lighting area. For example, the most recently available KPI report (October 27, 2008) reveals that the DPUC requirement to repair 90% of street lights within 3 days is not being met. Of 9,892 lights repaired this year, only 8,424 were repaired within the 3 day period, an 85.2% repair rate.[219] However, the repair rate has been better in the past few months due to centralization and permeable service area boundaries.[220] In addition to the current KPIs, new, more focused KPIs are under consideration in the street light and unmetered loads group.[221]

Also, as reported in its draft report "Self-Assessment Final Report – Street Light Group Relamping" dated November 14, 2008,[222] the following problems were identified:

- The failure rate for lamps replaced are 6% more likely to fail than the manufacturer's claimed failure rate for the first 4 years and includes a failure rate of 4% within 6 months of installation.
- The goal of having billing and property records updated within 30 days is not being fully met.

The study recommends that the Company continue its relamping program until they reach an age mix of between 5 and 6 years. At that time, the ratio of failure rates and anticipated repairs attainable with 6 street light mechanics will be optimized.

<u>Conclusions and Recommendations</u>

The Company has made significant efforts to improve its street light program since the DPUC docket in 2003. However, while many accomplishments have been made, many challenges still exist to improve service to customers.

Blue Ridge recommendations:

4.8.1 The Company should take additional steps to continue to improve its street light program, including the following:

- Be vigilant in the transfer of asset registry information and billing to the C2 project to ensure that any gains made in the past few years are not compromised by the move.
- Continue to fund the relamping project as recommended in the final assessment, i.e., maintain a 5-6 year cycle on lamp replacements unless failures in areas exceed 10%.
- Establish more rigorous KPIs to make sure that all the goals of the street lighting program are met.

[219] Response to Data Request BRCS-EM-40-001, Key Performance Indicator Summary with Locations (YTD).
[220] Interview R. Tardiff on 10/06/08.
[221] Interview R. Tardiff on 10/06/08.
[222] Response to Data Request BRCS-GR-63-001.

4.9 Emergency Restoration of Power

Background

Prompt restoration of power after significant manmade or natural events, such as ice storms, major wind storms, or occasional hurricanes, has become an expectation of utility customers. Pre-planning for the worst case is prudent and will be evident in an organization that is properly prepared. Pre-planning should include several basic elements, including, but not limited to, the following: (1) contact lists for workers, contractors, and vendors/suppliers; (2) emergency operations procedures; (3) emergency planning procedures, including system operations planning, effective use of current resources, determination of the need for additional resources, and restoration priorities; (4) emergency call handling and other customer services; (5) logistics planning that includes sources for lodging, meals, fuel supplies, supplies, and security; (6) event documentation; (7) accounting and administrative procedures; (8) customer and public relations and information procedures; (9) environmental, safety, and health procedures and compliance guidelines; and (10) mutual aid agreements with adjoining utilities, particularly utilities that are geographically distant so as not to be affected by the same event.

It is also important that an organization have intelligence sources for near-term planning, including information sharing from adjacent utility territories, weather services, and outage tracking systems. It is also prudent to have the ability to determine an appropriate level of response to an event and the ability to analyze and classify that event to achieve the most effective restoration and response effort.

Analysis

Blue Ridge's analysis included developing interview questions and data requests to gather information on how the Company manages its system restoration. Auditors interviewed the Manager – System Restoration and Emergency Preparedness.

The evaluation included several aspects of emergency restoration. Blue Ridge reviewed a number of documents related to emergency restoration:

- CL&P/Northeast Utilities Emergency Response Plan (dated June 2006)
- System Operations Center Abnormal and Emergency Response Guidelines (dated March 9, 2007)
- Emergency Operations Center - Enterprise Business Recovery – Emergency Operations - Business Continuity Plan (dated August 11, 2008)
- A compendium of storm reports for the years 2005 – 2008 that were filed with DPUC pursuant to Docket No. 86-11-18

Blue Ridge reviewed each of these documents to determine whether they contained the necessary elements of a well-designed emergency restoration program (ERP). In addition, auditors reviewed whether the Company utilizes a best practices approach to improve their plan.[223]

The Manager of System Restoration and Emergency Preparedness is responsible for the development, training, exercising, coordination and implementation of the emergency plans of all the Northeast Utilities (NU) family of companies, including Connecticut Light & Power, Yankee Gas Services, Public Service of New Hampshire, Western Massachusetts Electric Company, and NU Transmission. A part of that responsibility is to ensure the coordination of restoration activities for each of these companies, including the provision of mutual aid. One of the goals of CL&P is to prioritize the use of crews from its other sister companies before calling for aid outside the NU system or from contractors.[224]

The Company has three full-time equivalent employees and a $500,000 annual budget to accomplish their mission. They are charged with continuously improving the emergency plans of the NU companies, conducting training, and semi-annual exercises of the plan. On December 12, 2008, NU's service territory was hit by a major ice storm. More than 322,000 of NU's New Hampshire customers (served by Public Service of New Hampshire) were impacted by the storm and were out power. Customers in NU's Connecticut service territory were less severely impacted by the storm and experienced significantly fewer outages. Since the storm occurred after Blue Ridge had conducted its discovery and analysis, auditors were unable to evaluate CL&P's performance in this latest storm.

Findings

The Company has detailed, comprehensive, and coordinated emergency plans. In addition to its storm plan, the Company has detailed emergency operations and business continuity plans for its emergency operations center (EOC).

The Northeast Utilities Emergency Response Plan (NUERP) consists of 504 pages in three sections. It was initially developed in 2002.[225] The current version is dated June 2006.

> **Section 1 - Basic Plan**
> This section contains administrative issues, concepts of operations, authorities, preparedness activities, response activities, and post-incident activities.
>
> **Section 2 - Divisional Plan**
> This section contains concepts of operations, instructions, demobilization and recentralization, and post storm activities from the divisional perspective.
>
> **Section 3 - Emergency Response Organizations**

[223] Interview M. Fanelli on 10/07/08.
[224] Interview M. Fanelli on 10/07/08.
[225] Responses to BRCS-SS-06-078-BULK and BRCS-SO-09-063.

> This section contains the emergency operating procedures and the duties and responsibilities of each of the 24 organizations that have a role in the restoration effort, e.g., operations, safety, environmental, communications and media, damage assessment, vegetation management, staging area support, logistics, transportation, stores, etc.

The Company seeks out the best practices of other utilities by benchmarking against regional utilities and by attending workshops and conferences where a variety of utilities in all geographical areas share concepts and case studies in an effort to improve emergency restoration efforts. [226]

The Company believes that it has responded well to storm related and major equipment related outages over the past few years.[227] As an indication of this, the Company's response to outages caused by Hurricane Hanna went according to plan in spite of the absence of the group manager.

However, as of October 27, 2008, the KPI report showed that the restoration group was not meeting its goals for restoration projections (3 yellow and 1 red). In addition, the year-to-date SAIDI and CAIDI were both slightly over their target values.[228]

Conclusions and Recommendations

Blue Ridge determined that the ERP is detailed and comprehensive, covering all of the pertinent aspects of emergency restoration.

Blue Ridge recommendations:

4.9.1 The Company should develop a more user-friendly version of its 504 page ERP, using flowcharts and/or an electronic version that is bookmarked and color-coded for ease of reference.

4.9.2 The Company should continue its efforts to participate in best practices workshops and studies to improve its plans.

4.9.3 The Company should explore a concept that is used by larger regional utilities in the southeastern U.S.—when appropriate, decentralize the restoration effort to the smallest element of the system to improve productivity. That smallest element may be at the substation level or at the feeder level.

[226] Interview M. Fanelli on 10/07/08.
[227] Interview M. Fanelli on 10/07/08.
[228] Response to Data Request BRCS-EM-40-001, Key Performance Indicator Summary with Locations (YTD) as of October 28, 2008.

4.10 Line Clearance

Background

Vegetation management (VM) for an electric utility consists of the routine systematic and occasional emergency maintenance of existing rights of way (ROW) by clearing, trimming, and spraying (in some cases); clearing new ROW; selective (spot) trimming; and clearing in areas in which vegetation growth rates exceed the average growth rate or in areas in which trimming permissions have limiting specifications due to aesthetic requirements. ROW is the area defined by law or regulation and/or otherwise legally available to the Company as a result of an easement or other agreement.

Significant effort and investment is required for the maintenance of existing ROW. The utility should have an inspection program in which the condition of its ROW is regularly monitored and evaluated. Adequate funding allocated in the operating budget is essential for maintenance activities as well as capital construction programs. An effective VM program ensures those funds are closely managed. A well managed vegetation management program pays huge dividends in the form of improved reliability, effective system operations, and public goodwill.

The implementation of a good vegetation management program must contain an element of sensitivity to customer interactions since by its very nature the utility is dealing with private property. The State of Connecticut requires the utility to notify and obtain permission from property owners to trim trees and vines. Blue Ridge's review consisted of an evaluation of the Company's VM specifications[229] for appropriate line to growth spacing, trimming technique identification, inspection processes to address corrective trim, and management of waste trim products.

Analysis

Blue Ridge's analysis included developing interview questions and data requests to gather information on how the Company manages its vegetation management. Auditors interviewed the NU Vice President of Utility Services, Director of Distribution Engineering, and the Supervisor of Vegetation Management.

The vegetation management process starts with close review of the specifications for trimming to ensure it identifies the various species of trees and shrubs growing in an area. The CL&P service territory vegetation generally consist of the following:

- Varieties of trees with root structures susceptible to high wind /unbalanced loading
- Varieties with woody fibrous structures unable to withstand snow / ice buildup
- Areas where disease or infestation have killed tree growth
- Varieties of trees considered ornamental or decorative
- Vines and shrubbery

[229] Response to Data Request BRCS-SO-09-046 and BRCS-SS-06-081.

Utility Services has weekly staff meetings for information updates. They have employed cost reduction ideas, including standardization, vegetation management police flagging cost reductions, and participation in benchmarking forums with utilities such as Southern Company.[230]

The VM organization creates the annual tree trim schedule identifying specific resources, locations and projects. VM is responsible for the budget established by the DPUC.[231] Circuit Owners review the schedules and provide feedback for incorporation into the final plan.[232] The tree trim schedule is an incorporation of the construction schedule for major projects related to feeder expansion, voltage conversion, reliability improvements, and distribution upgrades. The schedule maintains activities for obtaining customer permissions and performance of the trim work as well as clean-up.

Beyond scheduled trimming activities, the coordinators manage a VM request system that prints and places work orders in specific trimming queues. There are 4 major VM zones corresponding to division boundaries.[233] The requests include hot spot evaluation and customer requests. The Tree Call Service Crew work guidelines provide the basis for contractor evaluation of trim requests and a matrix[234] of the maximum amount of work approved (see the table below). The guideline also employs methods to update the STORMS requests.[235]

Table 10: Tree Call Service Crew Guideline Matrix[236]

	HEALTHY TREE	POTENTIAL FUTURE THREAT	OBVIOUS HAZARD	IMMEDIATE DANGER
SERVICE	Trim No clean-up	Trim No clean-up	Trim/Remove No clean-up	Trim/Remove No clean-up
SECONDARY	Trim No clean-up	Trim No clean-up	Trim/Remove No clean-up	Trim/Remove Clean-up brush
PRIMARY 0-10 CUSTOMERS	Trim No clean-up	Trim/Remove No clean-up	Trim/Remove Clean-up brush	Trim/Remove Clean-up brush and wood
PRIMARY 10-100 CUSTOMERS	Trim/Remove No clean-up	Trim/Remove Clean-up brush	Trim/Remove Clean-up brush and wood	Trim/Remove Clean-up brush and wood
PRIMARY > 100 CUSTOMERS	Trim/Remove No clean-up	Trim/Remove Clean-up brush and wood	Trim/Remove Clean-up brush and wood	Trim/Remove Clean-up brush and wood

230 Interview M. Ahern on 10/10/08.
231 Interview A. Carey on 10/06/08.
232 Interview A. Carey on 10/06/08.
233 Response to Data Request BRCS-SO-60-007.
234 Response to Data Request BRCS-SO-60-007 Tree Ticket Specifications.doc, p.10.
235 Response to Data Request BRCS-SO-60-007 Tree Ticket Specifications.doc.
236 Response to Data Request BRCS-SO-60-007 Tree Ticket Specifications.doc, p.10.

There are eight VM coordinators reporting to the Supervisor of Vegetation Management. Seven coordinators work from the division offices, while one coordinator is responsible for R/Ws.[237] The coordinators presence in the divisions offers savings in decreased windshield time as well as closer relationships to local authorities providing traffic control for tree crews. Coordinators review weekly performance metrics with the contractors using a scorecard measuring safety, miles trimmed, cost/mile, and quality. Coordinators also have a scorecard that reports the monthly roll-up from the contractor scorecards.

In January 2008, the DPUC provided additional funding to reduce the trim cycle time to approach five years and ordered the Company to report the following annually:[238]

- The non-storm costs by town for police and the miles of lines trimmed for line clearance projects
- "[N]ew contracting strategies to maintain the 2008 approved budget level and reduce the trim cycle through 2011"
- Newly developed tree trimming efficiency measures

The Company indicated that it will comply with the reporting requirements ordered by the DPUC in 2008 by the following:

- Provide a detail report of maintenance miles trimmed by town and police costs by town[239]
- In collaboration with Lewis Tree, developed a vacuum system to clean up and dispose of mulch material more effectively[240]
- Implemented a hybrid method of contracting work using both lump sum and competitive bid contracts, creating alliances while remaining competitive on short term pricing[241]
- Developed Percent Cost per Mile Maintenance comparing actual costs to targeted maintenance costs[242]
- Developed ETT Scope Costs comparing Enhanced Tree Trimming costs and number of miles trimmed to target costs and miles[243]

NU has contracted with three trimming suppliers throughout CL&P's service territory serving only its distribution facilities. Davey Tree Experts, Lewis Tree, and ABC Tree combined provide approximately 290 employees performing trimming related services

237 Interview A. Carey on 10/06/08.
238 DPUC "DECISION" DOCKET NO. 07-07-01.
239 Response to Data Request BRCS-SO-60-002.
240 Response to Data Request BRCS-SO-60-003.
241 Response to Data Request BRCS-SO-60-003.
242 Response to Data Request BRCS-SO-60-003.
243 Response to Data Request BRCS-SO-60-003.

for the Company.[244] These contractors are responsible for the routine trim work as well as work generated from customer requests.[245]

The CL&P VM Program Coordinators check contractor performance, perform hot spot inspections, evaluate tree conditions, review circuit trim history, and recommend additional tree work to Circuit Owners for reliability improvements.[246] Hot Spot trimming is a function of the Circuit Owner, while hazard tree work is the function of the Vegetation Management Program Coordinator.[247]

The DPUC ordered a cycle length of not more than 5.4 years in 2008 and an O&M budget of not less than $19.6 million.[248] Based on the $19.6 million O&M budget and an approved Capital budget of $6.2 million, both maintenance and ETT (Enhanced Tree Trimming) miles were scheduled to meet the 5.4 year cycle target. Budgetary allocations for items, including police flagging, hazard tree removal, emergency, and others factored into the final budget.[249]

The process to determine the ramp up spending in 2008 and resources to comply with the DPUC order to increase trimming efforts to reduce the trim cycle length to 5.4 years were as follows:[250]

- Ramp up spending was the difference between the 2007 and the 2008 budgets for maintenance miles.
- Ramp up resources were calculated by first dividing ramp up spending by estimated cost per mile and then by 50 miles per crew to yield ramp up crew resources.

The table below is a summary of historic line clearance costs, trim miles, and reliability indices between 1999 and 2006. The historic values are compared to current 2007 values and the Company's rate year proposal. Also shown are the projections of trim cycle and tree related SAIDI, resulting from the $19.6 million line clearance expense for 2008 that meets the Department's requirements."[251]

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[244] Response to Data Request BRCS-SO-60-004.
[245] Response to Data Request BRCS-SO-60-007.
[246] Response to Data Request BRCS-SO-60-008.
[247] Response to Data Request BRCS-SO-60-009.
[248] DPUC "DECISION" DOCKET NO. 07-07-01 PAGE 37.
[249] Response to Data Request BRCS-SO-60-005.
[250] Response to Data Request BRCS-SO-60-005.
[251]DPUC "DECISION" DOCKET NO. 07-07-01 PAGE 37.

Table 11: Annual Line Clearance Data & Reliability Indices[252]

		Line Clearance Data						Reliability Indices		
	Year	Total Expenditures O&M Outside Services (millions)	O&M Contractor Labor & Equip (millions)	Police Costs (millions)	O&M Roadside Miles Cleared	Cost per mile	Approx cycle length (Years)	SAIDI w/o Storms (minutes)	Tree SAIDI w/o Storms (minutes)	SAIFI w/o Storms
	1999	$7.87			2,521	$2,268	5.1	107	25	1.24
	2000	$9.27	$9.27		2,967	$2,342	4.5	82	22	1.14
	2001	$9.58	$9.58		2,877	$2,424	4.6	103	17	1.04
	2002	$6.18	$6.18		1,843	$2,498	6.2	115	26	0.75
	2003	$7.81	$7.69	$0.12	1,939	$2,852	5.3	109	24	0.88
	2004	$10.46	$9.99	$0.47	2,157	$3,573	6.6	139	30	0.92
	2005	$10.15	$9.34	$0.80	2,131	$2,984	6.7	129	39	0.91
Test Year	**2006**	**$12.547**	**$11.45**	**$1.02**	**2,277**	**$4,225**	**6.4**	**132**	**43**	**0.96**
	2007	$14.20	$13.05	$1.10	2,091	$5,104	6.0	79	24	1.02
Rate Year	**2008**	**$25.471**	**$23.20**	**$2.27**	**3,667**	**$5,308**	**4.0**		**44**	
	2009	**$26.74**								
	2011						4	115	30	
Dept Order	**2008**	**$19.822**					**5.4**		**45.4**	
	2009	**$20.813**					**5.1**		**43.2**	
	2010	Dept Expectation:					5.0		39.8	
	2011	**Dept Expectation & Order:**					**<5.0**		36.8	
	2012	**Return $9.4 million to Customers if trim cycle is not < 5.0 years by end of 2011.**								
Data Source:										
	1997-2007 from EL-191-RV01									
	2008 from CIEC-1									
	2011 from Louth PFT, p. 42									

The DPUC ordered an increase in the vegetation management budget to attain a 5.4 year trim cycle based on the analysis referenced in the table above. The Company has determined that they will be able to meet the 5 year cycle expectations and commensurate SAIDI reductions by the year 2011.[253]

Findings

The Company specifications adequately address line clearance under road side and off road conditions. Specifications additionally address selective mowing and herbicide applications.[254]

Oversight of the production process is a service managed by NU containing checks and contractual metrics, ensuring compliance with specifications.

Blue Ridge found the Company's Internal Auditing group had evaluated performance of the contractor (Asplundh Tree Experts) doing the work (Audit Report #04-32) and found compliance with regulatory requirements in 2004 after significant contract renegotiations completed during August of 2003.[255]

252 DPUC "DECISION" DOCKET NO. 07-07-01 PAGE 38 TABLE 1.
253 Response to Data Request BRCS-SO-60-006.
254 Response to Data Request BRCS-SO-09-046.
255 Response to Data Request BRCS-SO-60-001.

Hot Spot and Hazard trimming is reactionary with varying budget requirements as shown in the following table.

Table 12: Hot Spot and Hazard Tree Budgets[256]
$ in Thousands

	2003	2004	2005	2006	2007	2008
Hot Spot	$200	$200	$84	$65	$6	$226
Hazard Tree	$450	$500	$1,316	$320	$675	$875

Conclusions and Recommendations

Blue Ridge determined that the Company has an adequately managed vegetation management program with policies, procedures, and controls to effectively maintain the ROW acquired by the Company in the course of serving load. The Company has developed a methodology to attain a five year trim cycle mandated by the DPUC and according to the DPUC-established budget.

Because the average species growth in an area traditionally dictates trim cycle creation, Blue Ridge believes that the Company could benefit from the evaluation of GIS technology for identification of major species in forested areas, annual precipitation, and diseased/infested areas as a precursor to routine trim vs. hot spot trim. This evaluation will help to level reactionary spending.

Blue Ridge recommendations:

4.10.1 The Company should evaluate the use of GIS technology for identification of major species in forested areas, annual precipitation, and diseased/infested areas as a precursor to routine trim vs. hot spot trim.

[256] Response to Data Request BRCS-SO-60-010.

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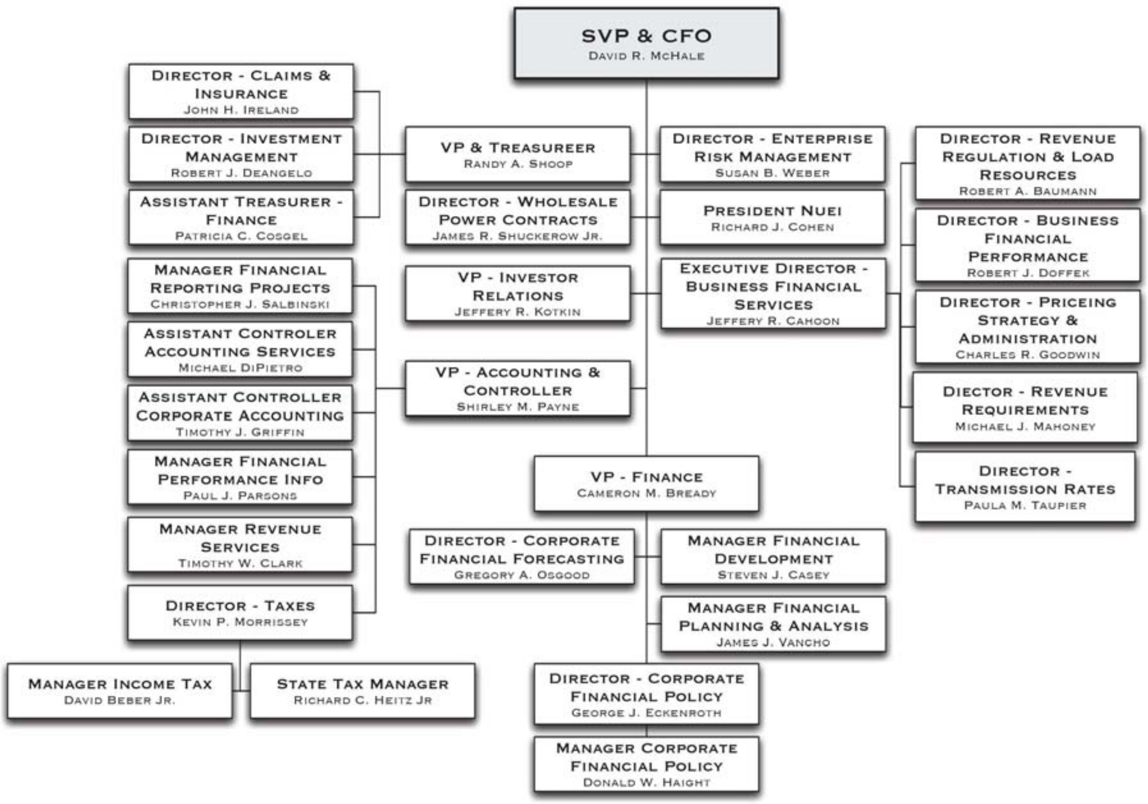
5. FINANCIAL OPERATIONS

Objectives and Scope

Financial Operations included a review of the Company's capital structure, financial performance, ratings, cash management, accounting and controls, taxes, internal auditing, corporate finance, financial planning, capital budgeting, cost control, stranded costs, rates, and affiliate transactions.

The Financial Operations are structured under the control of the Senior Vice President and CFO (with the exception of Internal Audit) as shown in the following organization chart:

Figure 7: Financial Operations Organization



The Director of Internal Audit reports functionally to the Audit Committee of the Board and administratively to the CEO of NU.

Financial operations were reviewed relative to policies, procedures, controls, and best practices. The financial planning process should establish controls in the management of the business, establish metrics for performance evaluation on both company and personnel levels, facilitate decision-making, facilitate investor relations, establish priorities for the treasury function, and provide a tool for management to organize and implement key initiatives. Blue Ridge reviewed the budget process and evaluated the

Company's focus on budget variance. Accounting functions should include proper use of internal controls, performance metrics, process and systems, procedures, and resulting financial statements to support the capital structure, ensure proper capital/expense split, adequately protect cash management, and ensure proper taxes and cost control. The internal audit function must be well-organized, properly staffed, employing reasonable processes, and leveraging information technology based tools to improve productivity, measure its performance, and track the organizations' progress. Additionally, the treasury function must focus on maintaining corporate liquidity, managing capital structure, and certain aspects of risk management to maintain a satisfactory debt rating.

Overall Assessment

Blue Ridge's review of Financial Operations involved a number of departments including Treasury, Investor Relations, Accounting, Tax, Financial Services, Rates, and Internal Audit.

In summary, the Company has an adequate financing system in place that meets the needs of the Company while obtaining financing in a cost effective manner. The Company's debt to equity ratio has varied over the past several years and was inconsistent with the stated target. It was unclear how the Company measures performance in the issuance of financial instruments and Blue Ridge recommends that performance measures be implemented to minimize the cost of capital to CL&P's ratepayers.

The Company provides substantial and timely financial information through its filings with the Department, the SEC, and the FERC. Further, the Company's interest coverage ratios, liquidity, and Money Pool investments are reasonable. CL&P's ratings are appropriate for minimizing the cost of capital. However, the Company should monitor its debt and interest ratios and take the necessary steps to keep them within the S&P guidelines.

Blue Ridge concludes that NUSCO's cash management function has the policies and procedures in place along with trained personnel to effectively manage the cash resources of CL&P and all other NU operating companies. NUSCO regularly forecasts its cash requirements and balances keeping sufficient cash on hand while maximizing its return through short-term investments. NUSCO evaluates its banking relationships to ensure it is current with industry banking practices and that it benefits from the most advantageous fee structures. NUSCO is taking the steps necessary to increase its savings from vendor discounts and the efficiencies it can gain by automating receipt and payment of invoices.

NUSCO has an effective system of accounting process and controls to manage its business. Through various benchmarking studies and internal assessments, NUSCO management has identified numerous opportunities for improvement in the areas of data simplification, technology upgrades, and acceleration of the month-end closing cycle. NUSCO has either taken the action necessary to accomplish its objectives in these three areas or it has plans to do so in the near future. NUSCO's systems appear to adequately protect the safety of its assets and the integrity of its financial data. NUSCO's accounting personnel are trained and perform at a high level. Organizational changes implemented by the Vice President – Accounting & Controller since her hiring at NU are improving the efficiency and effectiveness of her staff while reducing the need for overtime to meet their deadlines.

The Tax Department personnel are experienced professionals that maintain their skills through regular continuing education. The mid-term challenge will be to find qualified replacements for turnovers and/or retiring staff. The group's tax processes ensure timely submittal and there have been recent changes to accelerate tax filings. The group does not have any specific performance metrics beyond meeting filing deadlines. The group must regularly support audits from various taxing authorities and is making a concentrated effort to close out the open audits. Several recent audits resulted in significant refunds.

The Internal Audit (IA) reporting lines are appropriate with the Director reporting functionally to the Audit Committee of the Board and administratively to the CEO of NU. These reporting lines help ensure IA has the authority and support it needs to accomplish its assignments throughout the organization. The group is well organized and adequately staffed. Individuals are qualified and participate in continuing professional education. The audit planning process is appropriately risk based and audits are identified and prioritized based upon input from across the organization. Open audit recommendations are tracked. The group participates in non-audit consulting assignments, but these assignments are not formally tracked nor included within the audit plan.

NU's financial planning process is well established and provides corporate and operating company management with timely forecasts sufficient for effective decision-making. Major budget components consisting of revenue, capital, and operating expenses are synthesized into a uniform budget by NU's Corporate Financial Model providing management a complete picture of the company's cash and capital needs as well as its expected results. Monthly reports analyzing variances between budget and actual results are prepared with explanations for all significant variances.

Blue Ridge concludes that NU and its Operating Companies have an adequate capital budget system in place which is closely linked to the overall financial planning process. The capital program contains extensive policies and procedures for each Operating Company to follow in development of their Capital Plans and Capital Budgets. Proposed capital expenditures are subjected to extensive review. Actual expenditures are tracked versus budgeted expenditures in sufficient detail to allow management to control spending and allocate its resources wisely. NU's capital program has undergone recent reviews and changes to ensure it is still in alignment with key corporate objectives and best practices.

NUSCO's financial planning process utilizes tools and procedures that are necessary for controlling costs at its operating companies. Monthly budget vs. actual variance analyses are prepared in sufficient detail to enable management to project its financial results for the year against original plan and to make changes in the Company's operations as warranted.

The method the Company uses to monitor deferrals and review its asset base for potential stranded investments is reasonable.

The TRACS system provides an excellent method of managing all aspects of the rate case filing and subsequent implementation of Department-ordered rates, terms, and conditions. In addition, the Company is effectively coordinating the filing efforts with the other financial, accounting, and operational organizations within the Company. While the TRACS system is excellent in terms of providing a set of tools to monitor the various aspects of the rate case and implementation of approved rates, terms, and conditions, various management personnel have indicated that, as expected, resources become an issue during a rate case. Some departments use temporary personnel while others use resources from within the Company and others do not add resources, but work considerable overtime.

Blue Ridge concludes that service function charges allocated by NUSCO to CL&P are reasonably and appropriately established, documented, and controlled. The specific allocators and allocation methods provide proper assignment of costs on a fair and fitting basis. The documentation outlining the process provides sufficient guidance for consistent practice. Instructional provision in both the NUSCO and CL&P organizations is suitable and comprehensive. The application of the charged services through the time-reporting and billing processes allocates charges appropriately. Sufficient management control is applied in ensuring reasonable as well as correct charges. Adequate functional review as well as the internal audit program ensures compliance with program goals and procedures.

NU's corporate strategy to exit its unregulated energy business ventures, has significantly reduced the potential impact of these types of affiliate transactions. However, the issue of compliance with affiliate transactions rules should remain a priority with the Company and should be encouraged through continued training and awareness programs.

Additional information including Blue Ridge's findings and recommendations are included within the individual sections of the Finance Operations review.

5.1 Corporate Finance

Background

Electric utilities are capital-intensive businesses. As such, there is a constant need for capital both to replace existing plant and to add to existing plant. Since Transmission and Distribution (T&D) utilities are generally regulated, it is important that the corporate finance function provides capital to the utility in a cost-effective manner. This involves a proper balance of debt to equity. There is a trade-off in the usage of debt capital. A properly balanced debt/equity ratio considers that underlying trade-off so as to minimize the overall cost of capital.

Another consideration in a utility's corporate finance function is the proper deployment of short-term debt. Short term debt is used to fund projects until a reasonable level of debt is incurred that can be economically converted to long-term debt. Short-term debt may not be included in cost of capital calculations, but it is included in Allowance for Funds Used during Construction (AFUDC). AFUDC amounts are then included in the utility's rate base balances when the plant is included in service.

A further consideration in corporate finance is the appropriate use of dividends which is measured through a payout ratio. In order to appropriately attract investor capital, a utility must pay some dividend from its earnings. Further, that payout ratio should be as stable as possible to attract investor capital. However, a countervailing factor is the utility's need to retain some earnings for re-investment in the company, so as to avoid the need for constantly issuing new common stock. An appropriate dividend payout ratio balances those competing objectives.

Analysis

To evaluate the Company's corporate finance functions, Blue Ridge submitted data requests and conducted interviews with the Senior VP/CFO,[257] VP Finance,[258] VP/Treasurer,[259] VP Investor Relations,[260] Director Corporate Financial Policy,[261] and the Assistant Treasurer Finance.[262] All of the interviewees are NUSCO employees.

CL&P's corporate finance is provided as part of the shared services of its parent, Northeast Utilities.

To ensure that the Company is performing in accord with industry best practices, the Company holds discussions with several investment banks to review capital market conditions and peer financing transactions.[263] In addition CL&P, maintains dialog with its underwriters in advance of and during the marketing of all capital market financing transactions to ensure that such transactions are executed at the then-current market price.[264] The Company also maintains relations with Wall Street and investors.[265]

The Company's debt to equity ratios for the last three years are as follows:[266]

[257] Interview D. McHale 10/7/08.
[258] Interview C. Bready 10/7/08.
[259] Inteview R. Shoop 10/7/08.
[260] Interview J. Kotkin 9/18/08.
[261] Interview G. Eckenroth 9/17/08.
[262] Interview P. Cosgel 9/18/08.
[263] Response to Data Requests BRCS FO-39-012 and BRCS FO-39-014.
[264] Response to Data Request BRCS FO-39-012.
[265] Interview J. Kotkin 9/17/2008 and Interview D. McHale 10/6/2008.
[266] Response to Data Request BRCS FO-04-021.

Table 13: Debt to Equity Ratios (2005-2007)

Year	Debt	Equity
2005	48%	52%
2006	53%	47%
2007	48%	52%

The Company compared its capital structure to that of its peers.[267] The appropriate debt/equity ratio is determined to be 55% debt to 45% equity.[268] This debt/equity ratio is also set by the Department.[269]Using information calculated and published by S&P and information filed with the SEC [collected by SNL Financial], the Company showed that CL&P is slightly more leveraged than its peers.[270]

The Company does not anticipate issuing any new preferred stock.[271] Preferred stock is relatively expensive and is treated like debt by rating agencies, but does not have the tax advantages of debt.[272]

CL&P uses short-term debt for working capital and as a bridge until long-term debt is issued.[273] Short-term debt amounts vary throughout a typical year.[274] The Company primarily relies upon credit lines for short-term financing. The consolidated NU utilities companies have a $900 million credit line, with $400 million of that available for the Operating Companies.[275] CL&P also relies upon the Northeast Utilities Money Pool for short-term financing.[276] The interest cost on this is relatively low at the Federal Funds Rate.[277] The Company does not use commercial paper since it is relatively expensive.[278]

267 Interview D. McHale 10/6/2008; Interview B. Eckenroth 9/16/2008; Interview C. Bready 10/6/2008.
268 Interview R. Shoop 10/6/2008; Interview B. Eckenroth 9/16/2008; Interview D. McHale 10/6/2008; Response to Data Request BRCS FO-04-021.
269 Interview D. McHale 10/6/2008.
270 Response to Data Request BRCS FO-39-014.
271 Response to Data Request BRCS FO-04-021.
272 Interview D. McHale 10/6/2008; Response to Data Request BRCS FO-043-002.
273 Interview C. Bready 10/6/2008.
274 Responses to Data Requests BRCS FO-04-102 and BRCS FO 04-103.
275 Interview R. Shoop 10/6/ 2008; Interview D. McHale 10/6/2008.
276 Interview R. Shoop 10/6/2008; Interview D. McHale 10/6/2008; Response to Data Request BRCS FO-04-107.
277 Interview R. Shoop 10/6/2008.
278 Interview B. Eckenroth 9/16/2008; Interview P. Cosgel 9/17/2008; Response to Data Request BRCS FO-43-003.

The Company's dividend payout ratios for the last three years are as follows:[279]

Table 14: CL&P's Dividend Payout Ratio (2005-2007)

Year	Earnings ($,000)	Dividends ($,000)	Payout Ratio
2005	89,287	53,834	60.3%
2006	120,448	63,732	52.9%
2007	128,006	79,182	61.9%

The Company goal is to maintain a 60 % dividend payout ratio. This is in line with utility industry and peer group averages. Further, this payout ratio allows the Company and NU to meet the debt/ equity ratio of 55% Debt to 45% Equity.[280]

The Company uses the shared services of the treasury group at Northeast Utilities. The performance of the Treasury in issuances of common stock or debt is dependent upon market conditions. Underwriting costs are the same for all underwriters.[281]

The Company has minimal non-utility investments.[282] The consolidated holding company, Northeast Utilities, has an investment in Rocky River. This is a real estate investment held by Shared Services.[283]

Findings

Over the past three years, the Company's debt to equity ratio has varied between 48%/52% to 53%/47%. This is inconsistent with the stated target of 55%/45%.

The manner in which the Company minimizes preferred stock and utilizes the credit facility and the Northeast Utilities Money Pool is appropriate.

The Company's actual dividend payout ratio is close to the Company's target of 60%.

It is unclear how the Company measures performance in the handling of issuances of financial instruments.

Conclusions and Recommendations

The Company has an adequate financing system in place that meets the needs of the Company while obtaining financing in a cost effective manner. The Company's debt to equity ratio has varied over the past several years and was inconsistent with the stated

[279] Response to Data Request BRCS FO-04-019.
[280] Responses to Data Request BRCS FO 04-019 and FO 04-101; Interview C. Bready 10/6/2008; Interview D. McHale 10/6/2008.
[281] Interview P. Cosgel 9/17/2008.
[282] Response to BRCS FO-04-016.
[283] Interview C. Bready 10/6/2008; Interview D. McHale 10/6/2008; Interview B. Eckenroth 9/16/2008; Interview P. Cosgel 9/17/2008.

target. It was unclear how the Company measures performance in the issuance of financial instruments.

Blue Ridge recommendations:

5.1.1 The Company should move toward meeting its target debt/equity ratio of 55%/45%.

5.1.2 The Company should develop a performance measurement system to assess the performance of the Treasury in the issuance of financial instruments so as to minimize the cost of capital to CL&P ratepayers.

5.2 Financial Performance

Background

It is important that a utility's financial performance be reported accurately and timely. Investors need the transparency in order to properly gauge the inherent operating and financial risk of the company. Furthermore, the transparency in financial information may be valuable to interested ratepayers.

It is critical that a utility's bond ratings be maintained at a reasonable level. Lower bond ratings mean higher capital costs when bonds are issued, which are ultimately flowed through to ratepayers in the form of higher rates.

Analysis

To evaluate the Company's corporate finance functions, Blue Ridge submitted data requests and conducted interviews with the Senior VP/CFO,[284] VP Finance,[285] VP/Treasurer,[286] VP Investor Relations,[287] Director Corporate Financial Policy,[288] and the Assistant Treasurer Finance.[289] All of the interviewees are NUSCO employees.

The Company is required by a number of regulators to provide accurate and timely information: the Department, the Securities and Exchange Commission (10-Qs and 10-Ks), and the Federal Energy Regulatory Commission (FERC Form 1). The Company participates in a process for new issues called Well Known Seasoned Issuer.[290]

CL&P's interest coverage ratios for 2005, 2006, and 2007 with and without AFUDC are as follows:[291]

[284] Interview D. McHale 10/7/08.
[285] Interview C. Bready 10/7/08.
[286] Inteview R. Shoop 10/7/08.
[287] Interview J. Kotkin 9/18/08.
[288] Interview G. Eckenroth 9/17/08.
[289] Interview P. Cosgel 9/18/08.
[290]Interview B. Eckenroth 9/16/2008; Interview P. Cosgel 9/17/2008; Interview C. Bready 10/6/2008; Interview R. Shoop 10/6/2008.
[291] Response to Data Request FO-04-020.

Table 15: Interest Coverage Ratios with and without AFUDC (2005-2007)

Year	Excluding AFUDC	Including AFUDC
2005	1.77	1.95
2006	1.94	2.18
2007	2.35	1.93

These ratios are below S&P's indicative interest coverage ratio for BBB-rated long-term debt (CL&P is rated BBB). For the period 2002-2004, S&P's median interest coverage ratio is 2.5.[292]

AFUDC will likely increase over the next few years as the Company engages in an active construction program. From 2005 to 2007, AFUDC increased from $11,235,000 to $22,717,000. CL&P capital expenditures are projected to be approximately $1.5 billion during the period 2008-2012, which may lead to significant AFUDC.[293]

The Company reviewed its capital structure and has determined that it is consistent with peer companies.[294] The Company indicates that the capital structure of 55% debt to 45% equity is appropriate for maintaining CL&P's bond ratings.[295] The Company is of the opinion that an appropriate credit rating for a healthy and stable transmission and distribution utility company is in the range of BBB+ or A-. The Company's credit ratings are given below: [296]

Table 16: Credit Ratings

	S&P	Moody's	Fitch
Corporate Credit	BBB	Baa1	BBB
Senior Secured Debt	BBB+	A3	A-
Senior Unsecured Debt	BBB-	Baa1	BBB+

Key factors for ratings are the ratios Funds From Operations (FFO)/Total Debt and FFO/Interest. The Company stated that its FFO ratios have been weakening due to the combination of inadequate rate relief for the distribution portion of the Company and a large construction program. CL&P's ratios for the last three years and the category medians are given as follows:[297]

[292] S&P Corporate Ratings Criteria 2006, p. 43
[293] CL&P Form 10-K, dated 2/29/08, p. 13.
[294] Interview B. Eckenroth 9/16/2008.
[295] Interview R. Shoop 10/6/2008.
[296] Response to BRCS FO-04-024.
[297] Response to BRCS FO 43-004.

Table 17: Key Financial Ratios (2005-2007)

	2005	2006	2007
CL&P FFO/Debt	13.6	11.3	7.4
Median FFO/Debt	17.1	19.1	19.7
CL&P FFO/Interest	3.32	3.05	2.14
Median FFO/Interest	3.6	3.5	3.5

Findings

The Company provides substantial and timely financial information through its filings with the Department, the SEC, and the FERC. Further, the Company's interest coverage ratios, liquidity, and Money Pool investments are reasonable.[298] AFUDC will likely increase over the next few years as the Company engages in an active construction program.[299] Increased AFUDC can increase the perceived risk of the Company's financial instruments.

CL&P's ratings are appropriate for minimizing the cost of capital. However, its FFO/Debt and FFO/Interest ratios are worrisome. The lower the ratios the greater the financial risk. Both of those ratios have decreased during the past three years and are less than the medians for the Aggressive Category.[300] S&P's Financial Risk Guidelines for that Category are 10X – 20X for FFO/Debt and 2X – 2.5X for FFO/Interest.[301] The Company recognizes that these ratios are at the bottoms of these ranges.[302] If CL&P's ratios were to fall below these ranges, it is possible that CL&P's bonds would be downgraded.

Conclusions and Recommendations

The Company provides substantial and timely financial information through its filings with the Department, the SEC, and the FERC. Further, the Company's interest coverage ratios, liquidity, and Money Pool investments are reasonable.

CL&P's ratings are appropriate for minimizing the cost of capital. However, its FFO/Debt and FFO/Interest ratios are worrisome.

Blue Ridge recommendations:

5.2.1 With the anticipated capital investments in infrastructure during the next few years, the Company needs to monitor AFUDC so that it does not become a factor in the investment community's risk assessment.

298 Responses to BRCS FO-04-020 and BRCS FO-04-107.
299 Response to BRCS FO -04-020.
300 Aggressive refers to a company with a Total Debt/Capital ratio of 45% - 60%.
301 S&P Ratings Direct: U.S. Utilities Ratings Analysis Now Portrayed in the S&P Corporate Ratings Matrix, November 30, 2007.
302 Interview B. Eckenroth 9/16/2008.

5.2.2 CL&P should monitor its Interest Coverage, FFO/Debt and FFO/Interest Ratios in the future. If it appears that those ratios will fall below the S&P Guidelines, the Company should aggressively decrease costs and seek rate increases to maintain those ratios.

5.3 Cash Management

Background

A utility's cash management practices are an integral component to the overall financial health of the company. A utility must balance having adequate cash on hand to pay its bills with having sufficient cash reserves to maximize investment earnings. This requires ensuring cash receipts from customers are timely while taking full advantage of discounts offered by vendors through the accounts payable process.

Blue Ridge's evaluation of the cash management function focused on management's policies and procedures, NUSCO's organizational structure and the tools it employs to effectively manage CL&P's cash resources.

Analysis

To evaluate the Company's cash management function, Blue Ridge issued data requests to obtain the Company's policies and procedures, flowcharts of the cash management Process, identification of all managers with responsibility for cash management, the systems and reports used by cash management personnel.[303] Blue Ridge interviewed four members of management with either hands-on responsibility or oversight responsibility of the cash management function. The interviewees were the CFO,[304] Treasurer,[305] Assistant Treasurer,[306] and Manager of Treasury Operations.[307] Additionally, cash management related activities of the accounts payable function were also discussed with the Manager – Accounts Payable & Inventory Accounting[308] and the Assistant Controller – Accounting Services.[309] All of the interviewees are NUSCO employees.

According the Company, its cash management process is as follows:

> The Connecticut Light and Power Company has a centralized cash management function that is managed by Northeast Utilities Service Company (NUSCO), Treasury Operations area. All customer utility payments are processed through the Windsor Remittance Services area and systems are deposited into the company's bank accounts at Bank of America, N.A. and J.P. Morgan Chase. Cash is concentrated daily and used to fund disbursements, repay short-term borrowings or invested in

[303] Response to Data Requests BRCS-FO-04-025 through BRCS-FO-04-034.
[304] Interview D. McHale 10/6/2008.
[305] Interview R. Shoop 10/6/2008.
[306] Interview P. Cosgel 9/17/2008.
[307] Interview R. McCollum 9/17/2008.
[308] Interview C. Lewis 9/16/2008.
[309] Interview M. DiPietro 9/17/2008.

> the Northeast Utilities money pool. All disburs[e]ments are processed through the Management Information Material System (MIMs) accounts payable system. The Treasury Operations area utilizes Thomson's Treasury Manager workstation to plan, report and reconcile the cash activities of the company.[310]

NUSCO's policies and procedures include numerous controls over cash disbursements, long-term and short-term financing, and cash management / treasury functions.[311] The cash disbursements function has no fewer than 14 functioning controls in place governing the safeguarding of cash and procedures to correctly record payment transactions.[312] The long-term and short-term financing functions have at least seven controls that govern debt issuance and accounting for debt-related transactions.[313] The Treasury Operations function has at least six controls that address the oversight required to ensure the accurate exchange of information between NUSCO's Treasury Manager system, NUSCO's banks and the cash disbursement and cash receipts accounting functions within Corporate Accounting.[314]

Maximization of cash resources is achieved by centralization of the cash management function for all NUSCO entities.[315] This allows NUSCO to utilize the Northeast Utilities System Money Pool (Money Pool) to invest all surplus funds contributed by NU System Companies.[316] The strategy of the Money Pool is as follows:

> The Treasury Department seeks to actively invest the short-term cash of NU System Companies, subject to this Short-term Investment Policy, using knowledge, prudence and diligence in a manner that will provide safety of principle while maximizing returns and ensuring proper liquidity to achieve operating cash flow requirements.[317]

Pool participants such as CL&P are permitted to borrow funds from the NU Money Pool to meet their short-term financing needs at an interest rate equal to the Federal Funds Effective Rate quoted by the Federal Reserve Bank of New York.[318]

NUSCO compares its cash management practices to Best Practices through benchmarking studies and informal surveys.[319] NUSCO Treasury personnel work with its banks to ensure that NUSCO is on the leading edge of cash management services

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310 Response to Data Request BRCS-FO-04-025.
311 Response to Data Request BRCS-FO-04-027, Business Process Controls.
312 Response to Data Request BRCS-FO-04-027, Business Process Controls.
313 Response to Data Request BRCS-FO-04-027, Business Process Controls.
314 Response to Data Request BRCS-FO-04-027, Business Process Controls.
315 Response to Data Request BRCS-FO-04-025.
316 Response to Data Request BRCS-FO-04-027, Terms of the NU System Money Pool, ¶¶ 4-6.
317 Response to Data Request BRCS-FO-04-027, Northeast Utilities System Treasury Operation's Short-term Investment Policy, §1.2 Strategy.
318 Response to Data Request BRCS-FO-04-027, Terms of the NU System Money Pool, ¶¶ 7-15.
319 Interview R. Shoop 10/6/2008.

available to industry.[320] NUSCO performed a benchmarking study in 2007 on the tradeoff of banking service costs versus compensating balances required to pay for bank fees.[321] NUSCO's pension investment management group reaches out to their industry contacts informally to keep abreast of current industry trends. NUSCO's efforts to lower costs, improve processes, and work more effectively in Cash Management include:[322]

1. Maintaining a very strong balance sheet and credit ratings so that debt can be issued at an attractive rate.
2. Employing hedging strategies when appropriate.
3. Reduce the manual handling of transactions.
4. Movement to Controlled Disbursements.
5. Movement to Positive Pay where the bank is notified ahead of time of the payee and the purpose of the disbursement. This reduces potential fraudulent payments.
6. Tight control over management fees paid to money managers for pension funds.

NUSCO's Manager of Treasury Operations stated that the Treasury function is in the top tier of automation based on discussions with his peers during industry meetings that he attends.[323]

NUSCO employs at least 10 different systems to manage the cash management function.[324] The primary system used by the Treasury group is the Thompson Treasury Work Station. This system has been in place for five years but it will be replaced through the RFP process.[325] The Thompson Treasury Work Station is a system that communicates with the banks to get starting balances for the day and helps ascertain check disbursements and cash receipts that will hit the bank to forecast cash needs.[326] It is an integrated cash management system that helps manage debt needs and projects bank fees. A more detailed description of its general functions are: "…bank polling/reporting, cash reconciliation, cash planning, G/L interface, in-house banking, management of short-term debt and investments, management of long-term debt payments, and daily reporting of short-term debt, investments and related information."[327]

Specific functions performed by NUSCO Treasury personnel with the Thompson Treasury Work Station include:

> The treasury work station has two bank interfaces, one for each of the primary cash management service banks. The system is used daily to review/reconcile cash, bank transactions and for daily cash positioning/planning. The system creates bank transaction reports to distribute information to various departments in the company. In-house

[320] Interview R. Shoop 10/6/2008.
[321] Interview R. Shoop 10/6/2008 and Response to Data Request BRCS-FO-04-035.
[322] Interview R. Shoop 10/6/2008.
[323] Interview R. McCollum 9/17/2008.
[324] Response to Data Request BRCS-FO-04-030.
[325] Interview R. Shoop 10/6/2008.
[326] Interview R. Shoop 10/6/2008.
[327] Response to Data Request BRCS-FO-29-001.

> banking is used to manage the daily investment and borrowings for the NUSCO money pool agent. The system is used to manage short-term investment and short-debt transactions, and daily reporting of these activities. The system has a general ledger interface to complete the cash accounting of bank transactions which is fed daily to the general ledger, an interface with accounts payable system to report disbursement activity used for daily cash planning and reconciliation, and an interface with the billing system to report customer payment and receivable accounting information.[328]

NUSCO's cash needs are quantified each day but forecasts are performed weekly unless there is a need for more frequent forecasts.[329] The Manager of Treasury Operations is responsible for managing cash liquidity of the NU Money Pool.[330] He reports details of NUSCO's cash position and requirements to management on a daily basis.[331]

Organizationally, the Treasurer is focused on succession planning and developing the skills of his staff to ensure that his team is prepared to compensate for attrition and other contingencies.[332] He stated that staffing is currently adequate, but a little tight.[333] The Treasurer wants his organization to be current with technology. Consequently, NUSCO is moving to a new treasury system in 2009.[334]

Findings

The cash management functions performed by NUSCO's Treasury Operations on behalf of the NU operating companies are well managed and create efficiencies that benefit all of NU, including CL&P.

Blue Ridge noted that NUSCO currently pays approximately 70% of its vendor payments by manual check instead of utilizing electronic data interchange (EDI) or automated clearing house (ACH) methods.[335] However, NUSCO currently saves approximately $500,000 per year by taking advantage of vendor discounts.[336] The Manager – Accounts Payable & Inventory Accounting discussed NUSCO's plans to fully digitize the accounts payable process so that receipt of invoices and payments are made electronically.[337] This will allow a more aggressive approach to taking purchase discounts by paying within the allowed discount period. He estimates that this could save the Company an additional $1 million to $1.5 million. The Assistant Controller – Accounting Services noted that his organization's goals include shortening the turnaround time to enter invoices and have them ready for approval and payment in 10 days in 2008 down from 12 days in 2007 and

[328] Response to Data Request BRCS-FO-29-001.
[329] Interview P. Cosgel 9/17/2008.
[330] Interview R. McCollum 9/17/2008.
[331] Interview R. McCollum 9/17/2008.
[332] Interview R. Shoop 10/6/2008.
[333] Interview R. Shoop 10/6/2008.
[334] Interview R. Shoop 10/6/2008.
[335] Interview C. Lewis 9/16/2008.
[336] Interview C. Lewis 9/16/2008.
[337] Interview C. Lewis 9/16/2008.

25 days in years past.[338] Additionally, he stated that NUSCO is planning to expedite invoices with discount payment terms and to develop an in-house discount tool for e-pay. This will allow vendors to offer discounts on a sliding scale outside of the standard discount terms to improve their cash flow.

Conclusions and Recommendations

Blue Ridge concludes that NUSCO's cash management function has the policies and procedures in place along with trained personnel to effectively manage the cash resources of CL&P and all other NU operating companies. NUSCO regularly forecasts its cash requirements and balances keeping sufficient cash on hand while maximizing its return through short-term investments. NUSCO evaluates its banking relationships to ensure it is current with industry banking practices and that it benefits from the most advantageous fee structures. NUSCO is taking the steps necessary to increase its savings from vendor discounts and the efficiencies it can gain by automating receipt and payment of invoices.

Blue Ridge recommendations:

5.3.1 NUSCO should implement its plans to fully digitize the accounts payable process so that receipt of invoices and payments are made electronically. This will allow a more aggressive approach to taking purchase discounts by paying within the allowed discount period.

5.4 Accounting and Controls

Background

In any accounting system it is imperative that the financial statements are accurate and complete and reflect the results of operations for any given period. To provide that requires adherence to policies and procedures, as well as a system of effective internal controls over the collection, validation, processing, and reporting of financial and managerial accounting data. In addition, an effective accounting system requires safeguarding assets, preserving records, and continually evaluating its performance against best practices. An accounting system must allow for the data to be presented in a timely and usable manner for internal use and for external reporting. Proper staffing is essential for an accounting system to be effective. To the extent that accounting personnel are trained and perform at a high level, they enhance the overall process. In order to do that requires a continual commitment to professional development and training.

Accounting functions such as payroll, accounts payable, accounts receivable, plant accounting and financial statement preparation are done by NUSCO rather than at the operating company level.

[338] Interview M. DiPietro 9/17/2008.

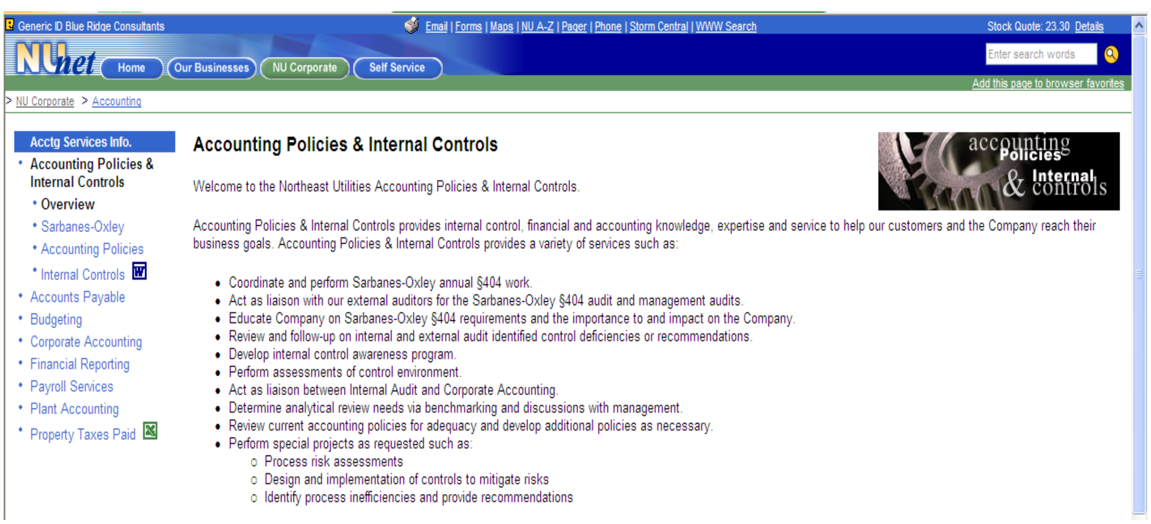
Blue Ridge's evaluation of NUSCO's accounting and controls focused on management's policies and procedures, NUSCO's organizational structure and the tools it employs to manage its day-to-day accounting processes.

Analysis

To evaluate the NUSCO's accounting systems and controls, Blue Ridge issued data requests to obtain the Company's policies and procedures, flowcharts of the various accounting processes, identification of all managers with responsibility for these functional areas, the systems and reports used by accounting personnel, and the reconciliations prepared to monitor activity in each functional area. Blue Ridge also interviewed six members of management with either hands-on responsibility or oversight responsibility of the accounting functions noted above. The interviewees were the Vice President. – Accounting & Controller,[339] the Assistant Controller – Accounting Services,[340] Manager – Accounts Payable & Inventory Accounting,[341] the Supervisor – Payroll Services,[342] the Manager – Plant Accounting,[343] and the Director of Information Technology Strategy.[344] All interviewees are NUSCO personnel.

NUSCO maintains an extensive array of policies and procedures on its corporate intranet site for its employees to reference in the performance of their jobs. The following print screen from the NU intranet illustrates the information that is maintained to assist employees:

Figure 8: NUnet Accounting Policies and Internal Controls[345]



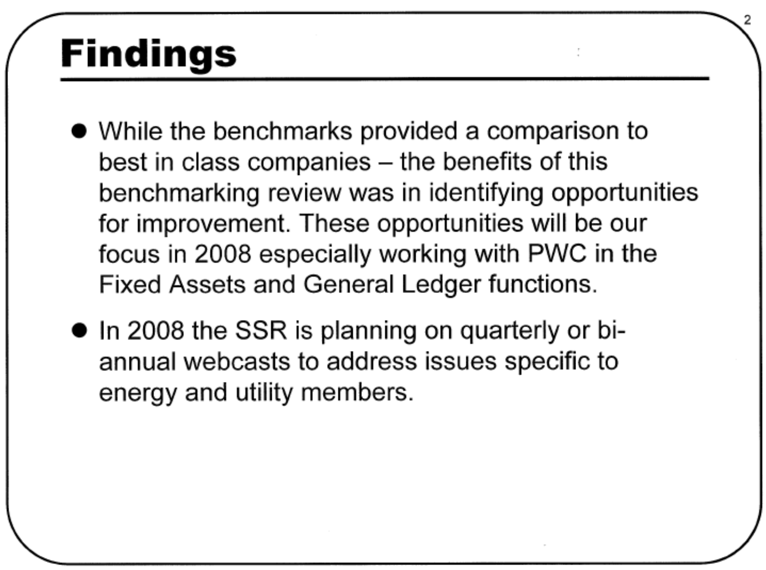
[339] Interview S. Payne 9/17/08.
[340] Interview M. DiPietro 9/17/08.
[341] Interview C. Lewis 9/16/08.
[342] Interview S. Hussey 9/17/08.
[343] Interview J. Deegan 10/6/08.
[344] Interview E. Pecynzski 10/27/08.
[345] Response to Data Request BRCS GR 63-001. Note: this particular screen shot is now outdated.

Other specific policies and procedures, systems, reports, and monthly reconciliations used to collect and validate financial and managerial accounting data were provided in response to a Blue Ridge data request.[346]

Blue Ridge noted that NUSCO's Internal Control policies and procedures are reviewed and updated on a periodic basis. They are subject to review and testing by the external and internal auditors in accordance with the requirements of the Sarbanes-Oxley Act. Responsible management personnel are required on a quarterly basis to attest to the veracity of those controls.[347]

NUSCO participates in various benchmarking studies to determine how its accounting/finance departments rate against other utilities and other companies. Some of those studies are more formal than others. NUSCO provided Blue Ridge a copy of its Accounting 2007 Shared Services Roundtable (SSR) Benchmarking Review prepared in January 2008.[348] This review covered the Accounts Payable, Financial Reporting, Fixed Assets, General Ledger, and Payroll functions. The presentation summarizing the results of this benchmarking review documents where NUSCO's accounting functions were in-line with best-in-class companies or where there was opportunity for improvement. NUSCO noted that the primary benefit of this review was in the identification of opportunities for improvement.[349]

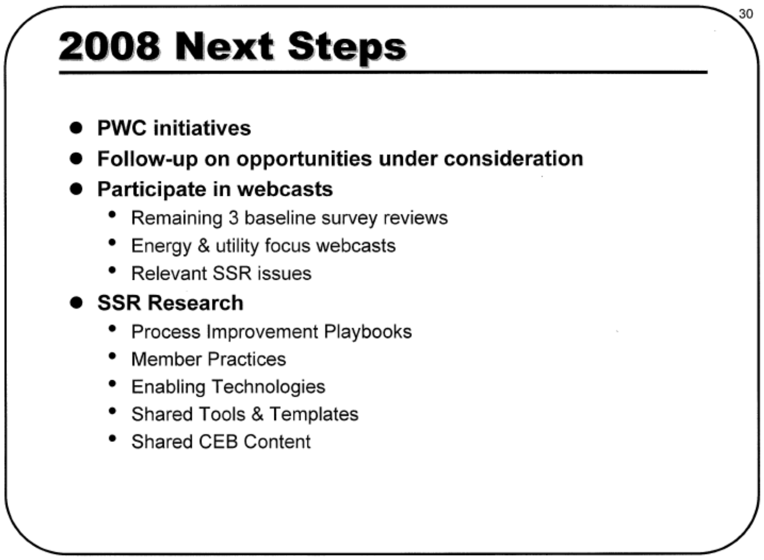
Figure 9: 2007 Shared Services Roundtable Benchmarking Review Findings



[346] Responses to Data Requests BRCS-FO-04-037, 041, 043, 052, 063, 072, 074, 075, and 080; Data Request BRCS-FO-14-015.
[347] Interview M. Mahoney 10/17/08
[348] Response to Data Request BRCS-FO-04-038.
[349] Response to Data Request BRCS-FO-04-038, page 2.

Action taken on opportunities for improvement was then classified as implemented, under consideration, or not applicable. The remaining action items for 2008 were summarized as follows.[350]

Figure 10: 2007 Roundtable Benchmarking Review 2008 Next Steps

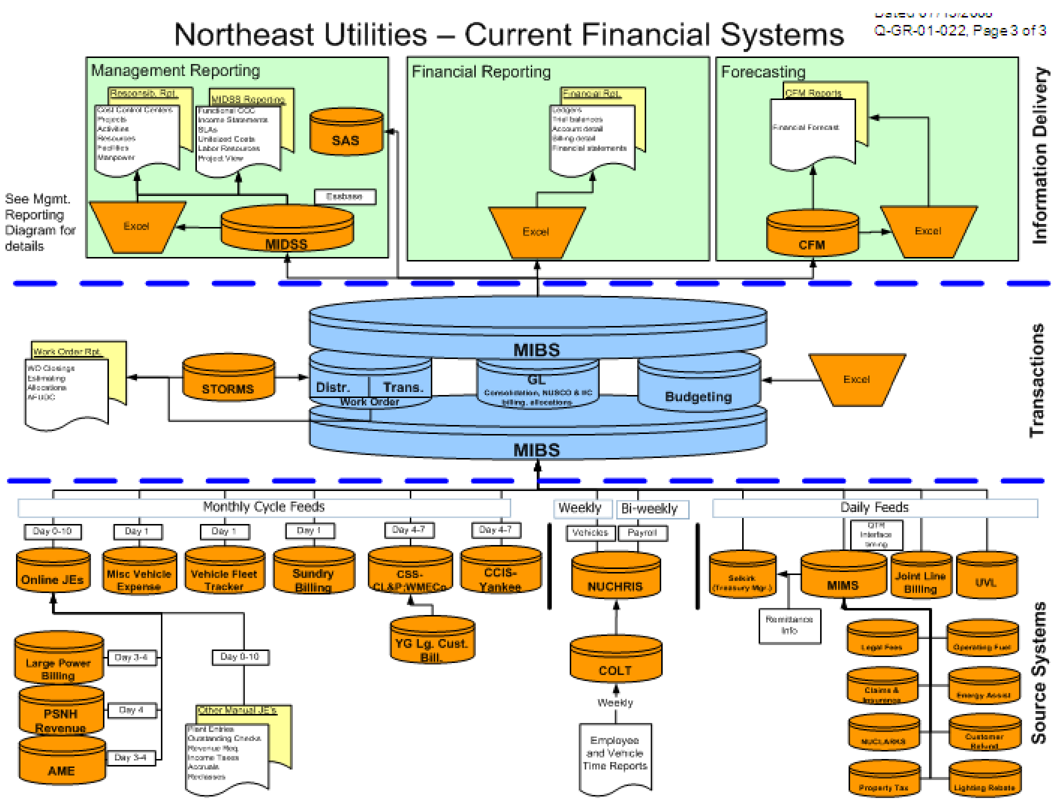


NUSCO's Corporate Accounting group has initiated a series of initiatives to simplify its data gathering, lower its costs, improve its processes, and enable its personnel to work more effectively. It has implemented uniform activity codes among its operating units to streamline the excessive number of accounting codes that made comparison of financial results among business units difficult.[351] The uniform activities will help streamline the financial reporting and budgeting process and permit better measurement against best practices benchmarks as well. The Vice President – Accounting & Controller stated that activity codes have already been significantly reduced to 2,200 from 6,000.[352] Her organization will continue with additional activity code reduction iterations until they total between 500 and 1,000.[353] Cost center codes are also being reviewed and reduced. Key performance indicators (KPIs) across business units are also being evaluated. The Vice President – Accounting & Controller has set a goal to shorten the month-end closing cycle from 11 days to 9 or 10 days.[354] In a best case scenario, the Company thinks the closing cycle could be truncated to 5-7 days.[355]

NU's current financial systems are summarized in the flowchart below.[356]

Figure 11: NU Financial System Flow Chart

[350] Response to Data Request BRCS-FO-04-038, page 30.
[351] Interview S. Payne 9/17/08.
[352] Interview S. Payne 9/17/08.
[353] Interview S. Payne 9/17/08.
[354] Interview S. Payne 9/17/08.
[355] Interview S. Payne 9/17/08.
[356] Response to Data Request BRCS-GR-01-022.



The adequacy of NUSCO's current financial systems was addressed with each of the interviewees identified above who were asked to describe the function of each of the primary applications used in their functional area and whether each application was sufficient to meet the needs of the business or if an upgraded system is required.[357] The vast majority of the systems were rated as sufficient to meet NUSCO's current business needs for the foreseeable future. However, the Vice President – Accounting & Controller stated that technology improvements are the biggest challenges for her organization.[358] To address short comings in the current legacy financial reporting, forecasting, budgeting, and projection systems, NUSCO plans to install a Corporate Performance Management (CPM) system. The new system will serve as the primary interface to its existing systems such as MIBS (Management Information and Budget Services).[359] The CPM will provide a more user friendly interface and updated environment.

MIBS is the primary financial system at NU, and it requires a significant amount of institutional knowledge to use it. It is a batch system which does not allow real time processing. The CPM will allow certain real-time processing intended to enable NU to close its books in less time. Additionally, the tool is intended to promote standardized, accelerated reporting. The CPM requires an investment of approximately $12 million.[360]

[357] Interview S. Payne 9/17/08, Interview M. DiPietro 9/17/08, Interview C. Lewis 9/16/08, Interview S. Hussey 9/17/08,
[358] Interview S. Payne 9/17/08.
[359] Interview S. Payne 9/17/08.
[360] Response to Data Request BRCS-FO29-003.

A Capital Proposal for this project was submitted to NU's Risk and Capital Committee (RaCC) for review and approval.[361] The RaCC recommended approval of the project for consideration by NU executive management on October 22, 2008.[362] One long-term solution to NU's technology issues is an enterprise resource planning (ERP) system that integrates all financial functions. However, this is a $150 million to $200 million investment which the Company's CFO indicated cannot be justified at this time.[363] A more viable and less expensive alternative to reduce NU's dependence on its existing legacy system is to replace the MIB system with a "backbone" or with the general ledger package of a vendor-based ERP program.[364] Under this option, NU would not have to change all interfacing systems as a full ERP system would require.[365]

In terms of resource adequacy, the Vice President – Accounting & Controller stated that her organization has sufficient resources because its reporting deadlines are being met without increases in overtime.[366] In fact, there is a concerted effort to reduce overtime through better workload balancing among existing employees.

Access to NUSCO's financial systems is safeguarded by the IT group.[367] Owners of each system are notified of access requests so that they are aware of all users with access to their information.[368] IT uses outside resources to supply additional expertise and assistance, specifically for firewall and device monitoring, and resources through the Gartner consulting group.

Data retention of accounting information is managed in accordance with the Records and Information Management Program (RIM). The program was established to scope, develop and implement a sustainable enterprise-wide RIM program that takes into account, among other things the management of electronic and manual records.[369] The revised RIM program is currently being implemented throughout the Company. Please see Blue Ridge's discussion of RIM in Section 10.7 (Records Management).

CL&P currently has four capital leases. The remaining leases are classified as operating leases. Based on the detail supplied by the Company, it appears that the accounting classifications are correct.[370] The Company has detail policies and procedures in place in a Leasing manual.[371] Selected contracts are reviewed by Plant Accounting[372] for capital/expense determination in accordance with GAAP (SFAS 13).

[361] Response to Data Request BRCS-FO-29-003.
[362] Response to Data Request BRCS-FO-51-001.
[363] Interview S. Payne 9/17/08.
[364] Response to Data Request BRCS-FO-29-004.
[365] Response to Data Request BRCS-FO-29-004.
[366] Interview S. Payne 9/17/08.
[367] Interview M. DiPietro 9/17/08.
[368] Interview E. Peczynski 10/27/08.
[369] Response to Data Request BRCS-FO-04-014, BRCS-FO-04-013.
[370] Response to Data Request BRCS-FO-15-010.
[371] Response to Data Request BRCS-FO-04-086.
[372] Interview Deegan 10/6/08.

The Company utilizes two systems to initiate capital work orders. The Severn Trent Operational Resource Management System (STORMS) is a standards based system used to initiate and track work order costs for distribution line work orders for facilities such as new service installations and the installation of poles and wires. [373] The Management Information and Budgeting (MIB) Work Order System is an activity based / non standards based system used to initiate and track work order costs for substation, general plant and software work. [374] The types of activities include installing power transformers and developing customer service systems. These types of activities do not lend themselves to a standards based system.

All work orders are unitized in their source system and closed in the MIBS Work Order System.[375] Unitizations are interfaced with the Asset Management System (AMS). The AMS is a module of the Power Plant System. The Company utilizes Power Plant version 9 which is a modern asset management system designed and supported by Power Plan Inc. Many utilities across the country use the same system to varying degrees. The AMS keeps track of the CPR records for the Company. AMS interfaces with the MIB General Ledger. [376]

Findings

NU relies extensively on a legacy general ledger, budgeting and reporting package (MIBS) that was developed in-house. It has worked effectively for NU for a number of years. However, it requires a significant amount of institutional knowledge to use making it difficult for new users to work with it. Also, MIBS is a batch system which does not allow real time processing. The CPM NU intends to install as a shell on top of its legacy MIBS system will provide users a more intuitive interface and will allow for real time processing of financial results. NU has the necessary internal IT resources to support maintenance of the system over the short-term. Long-term, until MIBS is replaced by a vendor-based ERP program, NU anticipates supporting MIBS through its internal IT personnel and/or contract labor as needed. In the plant accounting area, using two different systems to establish work orders works effectively for the Company. IT resources are still available to support the MIBS Work Order System for non standard work orders.

Conclusions and Recommendations

NU has an effective system of accounting process and controls to manage its business. Through various benchmarking studies and internal assessments, NUSCO management has identified numerous opportunities for improvement in the areas of data simplification, technology upgrades, and acceleration of the month-end closing cycle. NU has either taken the action necessary to accomplish its objectives in these three areas or it has plans to do so in the near future. NU's systems appear to adequately protect the safety of its assets and the integrity of its financial data. NU's accounting personnel are trained and

[373] Response to Data Request BRCS-04-075.
[374] Response to Data Request BRCS-04-075.
[375] Response to Data Request BRCS-04-075.
[376] Response to Data Request BRCS-04-075.

perform at a high level. Organizational changes implemented by the Vice President – Accounting & Controller since her hiring at NU are improving the efficiency and effectiveness of her staff while reducing the need for overtime to meet their deadlines.

Blue Ridge recommendations:

5.4.1 The Company should consider, on a cost effective basis, using more of the modules available through the Power Plant System. Specifically they should consider using the work order module that interfaces with the AMS and other modules already utilized by the company. This change can lower the cost to close and unitize a work order and make the entire process more efficient.

5.5 Taxes

Background

Most public utilities are corporations and are taxed in much the same way as other businesses that operate as corporations. This means that utilities pay income taxes at the rate assigned to corporations and pay other types of state and local taxes that are levied against corporations.

Blue Ridge's evaluation of the Company's tax department focused on management's policies and procedures, the department's organizational structure and personnel, and the tools it employs to manage its day-to-day tax reporting processes.

Analysis

To evaluate the Company's tax reporting, Blue Ridge issued data requests to understand the Company's tax reporting systems, qualifications, training of personnel, and the extent of audits of taxing authorities. Blue Ridge also interviewed three members of management with either hands-on responsibility or oversight responsibility of the tax reporting functions noted above. The interviewees were the Vice President. – Accounting & Controller,[377] the Assistant Controller – Accounting Services,[378] and the Director of Tax.[379] All interviewees are NUSCO personnel.

The Tax Department is a shared service that is responsible for the following processes: (1) tax provisions for financial reporting of tax accruals for each quarterly close; (2) supporting the regulatory reporting functions; and (3) preparing the various income, sales, and franchise tax returns. Property taxes are handled in a separate group that also handles Plant Accounting under the responsibility of the Assistant Controller.[380]

The Tax Department is divided into Income Taxes and State Taxes, although the Director of Tax stated that since joining NU he has concentrated on developing a team approach

[377] Interview S. Payne 9/17/08.
[378] Interview M. DiPietro 9/17/08.
[379] Interview K. Morrissey 9/16/08.
[380] Interview K. Morrissey 9/16/08.

with knowledge base sharing instead of the traditional hierarchy. An additional person and streamlined processes have resulted in a significant reduction in overtime while still meeting filing deadlines.[381]

The qualifications, experience and training of the personnel is adequate for the positions held by the Department's personnel. More than half of the individuals preparing taxes are Certified Public Accountants and/or hold a Masters degree in Taxation. More than 80% of the group has 20+ years of professional experience.[382] In addition, to the training required to maintain certification as CPAs, specific tax accounting training was provided to the Tax Department personnel.[383]

The Director of Tax stated that his mid-term challenge will be to find qualified replacements for turnovers and/or retiring staff. He has four individuals with more than 30 years experience. The Company is participating in an intern program with local colleges which will provide a good resource for new hires.[384]

There is no formal method or metrics used to measure the group's performance. Meeting filing deadlines is an indicator of success. The group has accelerated tax return filings and has a continual effort to stay on top of all filings.[385]

When the Vice President-Accounting & Controller was asked how CL&P would rate the tax group, she stated that CL&P gets frustrated with her tax group because of unexpected net income surprises associated with plant retirements. The DPUC requires flow through of tax timing differences in the period incurred instead of normalizing such differences and accounting for the impact ratably over a number of years. Flow through can result in effective tax rates that are significantly different than expected tax rates. Flow through also creates more deferred tax accounting. If she had the resources, she would spend it on tax transformation work to persuade the DPUC to allow deferred tax normalization instead of requiring flow through.[386]

The Director of Tax monitors Best in Class performance through training, seminars, and his industry contacts.

The Company used Corptax U.S. Compliance, Corptax E-file 2008 and SuperFroms Tax 2007 to prepare federal, state, and local income tax returns. The software is supported through a help line and email assistance which has historically provided good support. Many transaction tax returns are completed on-line using the web-based software provided by the taxing jurisdiction. The Company uses the PowerPlant-Property Tax Module for preparing the local Declarations of Personal Property.

[381] Interview K. Morrissey 9/16/08.
[382] Response to Data Request BRCS-GR 63-001.
[383] Response to Data Request BRCS-FO-04-004.
[384] Interview K. Morrissey 9/16/08.
[385] Interview K. Morrissey 9/16/08.
[386] Interview S. Payne 9/17/08.

During the last two years, the Company has had a number of audits conducted by various taxing authorities as shown in the following table.[387]

Table 18: List of Taxing Authority Audits in the Last Two Years

Start Date	Type	Tax Year	Status
12/2000	CT Gross Earnings	1998-2000	In progress
07/2003	CT Income	1997-2000	In progress
01/2004	CT Sales/Use	2002-2006	Closed
10/2004	CT Gross Earnings	2001-2004	In progress
03/2005	Federal Income	2002-2004	Closed
07/2007	CT Income	2001-2004	In progress
01/2007	Property-Bethel	2006	Closed
01/2007	Property-Redding	2006	Closed
11/2007	Property-Darien	2007	Closed
11/2007	Property-Lyme	2007	Closed
04/2008	CT Gross Earnings	2005-2007	In progress
09/2008	Property-Waterbury	2008	In progress
10/2008	Property-Hartford	2008	In progress
10/2008	Property-Hamden	2008	In progress
10/2008	Property-West Haven	2008	In progress
10/2008	Property-Wethersfield	2008	In progress
2008	Federal Income	2005-2006	In progress
2008	Federal Income	2008	In progress

The Director of Tax explained that Northeast Utilities is audited by most taxing authorities on a regular basis due to the size of the utility. He further stated that they are currently doing catch-up on the open audits and have made good progress to close out the audits.[388] Of the audits closed out during this two year period, the Connecticut Sales and Use Tax audit for 2002-2006 resulted in a $7.9 million refund to the utility.[389] The MCA rate was modified as a result of the audit.[390] The Federal Income tax audit for 2002-2004 resolved an amended return claim filed by the company that had accelerated a deduction of mixed service costs, which resulted in an overpayment.[391]

Findings

The tax functions performed by NUSCO's tax group on behalf of the NU operating companies create efficiencies that benefit all of NU. Like many of the groups within NU, the tax group is faced with the challenge of succession planning. The group is participating in an intern program, but this will not provide an immediate replacement of the tremendous experience contained within the tax group.

[387] Response to data request FO-39-016.
[388] Interview K. Morrissey on 9/16/08.
[389] Response to Data Request BRCS-GR 63-001.
[390] Response to Data Request BRCS FO-39-016.
[391] Response to Data Request BRCS-GR-63-001.

The group does not have any specific performance metrics beyond meeting filing deadlines. The group is making a concentrated effort to close out the various taxing authority audits.

Although better than having penalties and interest for underpayment, there have been several tax audits that resulted in substantial refunds due to the overpayment of taxes. Overpayment of taxes can disrupt cash flow.

Conclusions and Recommendations

The Tax Department personnel are experienced professionals that maintain their skills through regular continuing education. The mid-term challenge will be to find qualified replacements for turnovers and/or retiring staff. The group has four individuals with more than 30 years experience. The group's tax processes ensure timely submittal, and there have been recent changes to accelerate tax filings. The group does not have any specific performance metrics beyond meeting filing deadlines. Due to the size of NU, the group must regularly support audits from various taxing authorities. The group is making a concentrated effort to close out the open audits. Several recent audits resulted in significant refunds.

Blue Ridge recommendations:

5.5.1 The Tax Department, like other groups within NU, should work closely with HR to address the challenges of succession planning.

5.5.2 The Tax Department should consider implementing performance measures to monitor its performance with the ultimate goal of improving the quality of its performance beyond just meeting tax filing deadlines.

5.5.3 The reasons for the various tax refunds should be understood and the tax process adjusted to avoid future overpayment.

5.6 Internal Auditing

Background

The Institute of Internal Auditors defines internal auditing as "an independent, objective assurance and consulting activity designed to add value and improve an organization's operations." It helps an organization accomplish its objectives by bringing a systematic, disciplined approach to evaluate and improve the effectiveness of risk management, control, and governance processes.

Blue Ridge's evaluation of the internal audit function focused on the Internal Audit Department's mission, responsibilities, reporting lines, experience, training, audit planning, audit execution and follow-up.

Analysis

Overview

CL&P does not have a separate internal audit group. Internal audit is provided through NUSCO. The Internal Audit Department is responsible for:

1. Planned Audits
2. Sarbanes Oxley 404 Audit Coverage
3. Investigations/Special Projects
4. Consult on existing or proposed systems, projects, plans, policies and procedures of the Company.[392]

Periodic consulting requests from management may not be formally tracked and do not always necessitate a report to summarize the work performed since the amount of time devoted may be limited. IAD consultations are not known at the start of the year and, therefore, are not specifically listed in the annual audit.[393]

Reporting Lines

The Director reports functionally to the Audit Committee of the Board of Trustees.[394] He attends the Audit Committee meetings which has face-to-face meetings four times per year at the end of the quarter and conference calls three times per year prior to release of earnings statements. At least once per year and generally at each of the four face-to-face meetings, the Director meets with the Audit Committee privately without management.[395]

The Director of Internal Audit reports administratively to the Chairman, President, and CEO of NU. They meet formally at least monthly at the monthly Staff meeting. The Director has open access to top management as needed.

Experience and Training

There are 14 individuals within IAD. In addition to their undergraduate degrees, most have advanced degrees or professional certifications. The average work experience is 22 years, with an average of nine years of experience in internal audit.[396]

Each member of the audit staff, including managers, has a goal associated with their personal and professional development. Quarterly, each staff member and manager updates progress on their individual goals, including training. Professional certifications require minimum training hours. For example, CIAs (Certified Internal Auditor) must complete and report 80 hours of Continuing Professional Education credits every two years.[397]

IAD personnel attend seminars and conferences that cover a variety of subject matter related to the internal audit profession. The seminars and conferences attended are generally sponsored by professional associations such as the Institute of Internal Auditors

[392] Response to Data Requests BRCS FO-04-098 and BRCS FO-04-099.
[393] Response to Data Request BRCS FO-04-098.
[394] NUNet Internal Audit Departmental Charter.
[395] Interview R. Smith 9/16/08
[396] Response to Data Request BRCS FO-04-090 (CONFIDENTIAL). Specifics withheld to maintain confidentiality.
[397] Response to Data Request BRCS FO-04-094.

(IIA), the Information Systems Audit and Control Associations (ISACA), the Edison Electric Institute (EEI), or the MIS Training Institute. The EEI provides utility specific training on various topics (i.e., accounting) while the remaining organizations provide training related to internal audit or information security audit.[398]

Contractors are retained to assist with technically complex audits like transmission construction, SCADA, and IT audits, on an as needed basis.[399]

Audit Planning

The development of the annual Audit Plan is among the most critical activities that Internal Audit (IA) performs. The Audit Plan is developed to provide a thorough and effective planning process to ensure that a meaningful and challenging plan is designed to provide Company management with timely and useful feedback on the Company's operations and control environment. The following includes excerpts from the 2008 Internal Audit Department Audit Plan:[400]

Each fall, the Director of Internal Audit solicits IA's and management's input in the annual audit planning process. A memo is issued to IA staff and Company management requesting input into the audit plan, and a schedule is developed outlining the audit planning process. Based on this input, IA Management updates the audit universe, which is used as a tool for identifying high risk areas of the Company and potential audits. In determining the completeness of the Audit Universe, IA management considers the following factors:

- Sarbanes Oxley (SOX) key controls for business and entity level processes
- SOX key critical IT applications
- Key business processes (as organized to NU's Director level)
- Regulatory requirements affecting NU business
- Business Operating Plans
- Industry changes, pronouncements, laws and regulations (i.e., FERC orders)
- Identification of large capital projects
- Responses to surveys such as the Internal Control Questionnaire and Internal Audit Customer Satisfaction Surveys
- Observations from previously completed audits
- Enterprise Risk Management (ERM) Information
- Audit Committee Comments
- Industry Audit and Risk Issues

Once the Audit Universe is established, each audit is rated using the Risk Analysis Model. IA Management annually updates the various risk components for each audit in the universe by using the following risk components:

398 Response to Data Request BRCS FO-04-093.
399 Interview R. Smith 9/16/08.
400 Response to Data Request BRCS FO-04-097.

- Financial – annual budget, projected cash flow, fraud potential, etc.
- Operational – issues, complexity, management changes, authorization levels, etc.
- External – public relations, changes to laws and regulations, etc.
- Technical – changes in technology, programming processes, etc.
- Strategic – annual business and operating plans.
- Historical – prior audit results, date an audit was last performed in the area, etc.

In addition to the risk rating resulting from the Risk Analysis Model, audits are selected for the current year's plan based on a combination of the following:

- Previous year's planned audits that were not performed
- Follow-up audits for prior year Improvement Needed or Unsatisfactory rated audits
- Cycle-based audits which are designed to ensure periodic coverage of major business processes
- Requests from management
- Commitments to external parties (such as regulators or external auditors)

Audits are scheduled based on IA's judgment and resources available at the start of the calendar year. An estimate for resources required to support investigations and special projects is also considered. Audits are reported on the plan according to scheduling priority. An "A" rated audit is an audit that is planned to be completed during the current year. "B" rated audits are audits that will be scheduled when all "A" rated audits have been completed. Audits not completed on the Audit Plan are considered for the following year.

After the Audit Plan has been finalized, IA will document the steps and decisions made to progress from the Audit Universe's highest ranked audit areas to the final Audit Plan. This documentation will fully support the annual audit planning process.[401]

The final Audit Plan is reviewed by the CEO, other senior management, and the outside auditor. The Plan is presented to the Audit Committee and finalized/approved at the February Audit Committee meeting. In July, the Director of Internal Audit presents a mid-year status report regarding the department's progress against the plan to the Audit Committee.[402]

Historically 35-40 audits are performed on an annual basis and approximately ¾ of them are risk based.[403] The 2008 Audit Plan includes 10 "A" scheduled audits for CL&P and 13 for NUSCO.[404]

[401] Response to Data Request BRCS FO-04-097.
[402] Interview R. Smith 9/16/08.
[403] Interview R. Smith 9/16/08.

Changes or deletions to the plan must be approved by the Director and the CEO is made aware of the change. Changes occur due to Beacon Line (the ethics hotline) issues taking a priority, delays in other audits, or requested delays due to other changes. Delayed audits would be considered for rescheduling during the next audit plan.[405]

SOX compliance program is the responsibility of Corporate Accounting. However, approximately 20% of the SOX processes are tested each year by Internal Audit. In 2008, this represented approximately 7 percent of IAD's productive time.

Audit Executive and Follow-Up

Upon completion of field work, a closing meeting is held with the manager or director of the audited area and the auditors to review the closing package (which is a near final draft of the audit report). Conclusions, ratings, and opportunities for improvement are discussed. The audited area management can provide clarifications as needed to try and reach a consensus on the audit. Most issues are resolved during this meeting. Five days after the closing meeting a draft report is sent to the responsible management for their final review and, as required, for their responses to recommendations. Management responses must be action based with a date for completion. The response is incorporated within the report. Approximately, two weeks after the issuance of the draft report, a final report with management responses distributed. The report is sent to the management of the chain of business, most senior managers, CEO, CFO, and General Counsel.[406]

Each planned audit has an overall rating assigned that is classified as:

C-Controlled
CWO-Controlled With Opportunities
IN-Improvement Needed
U-Unsatisfactory

Each year, there are generally 1 to 4 audits with a rating of IN-Improvement Needed or U-Unsatisfactory. Areas with these ratings are re-audited within 12 to 18 months.[407] The 2008 Internal Audit Plan included a follow-up audit related to Generator Interconnection in CL&P Distribution.[408]

The 2008 audits for CL&P and NUSCO from the mid-year status report are summarized below:

[404] Response to Data Request BRCS FO-04-097.
[405] Interview R. Smith 9/16/08.
[406] Interview R. Smith 9/16/08.
[407] Interview R. Smith 9/16/08.
[408] Response to Data Request BRCS FO-04-097.

Table 19: 2008 Audits for CL&P and NUSCO from Mid-Year Status Report

Operations Plan	Area of Focus*	Scheduling Priority	Status of "A" Audits
Follow-up IN/U rated audits:			
Generator Interconnection Follow-up	CL&P (D)	A	Completed
Major Projects (>$50 M):			
C2 Project (2 audits: pre-YG; pre-CL&P)	UO (D)	A	Pre-YG (Completed) Pre-CL&P Planned 2008
Operations:			
Work Orders (MIB)	UO (D)	A	In-process (Fieldwork)
Time Reporting	UO (D)	A	Planned (4th Quarter)
Distribution Substation Maintenance	CL&P (D)	A	Completed
Vehicle Maintenance	CL&P (D)	A	In-process (Fieldwork)
Document Control of Engineering Drawings	UO (D)	A	In-process (Fieldwork)
Customer Experience:			
Call Center Business Process	CEXP	A	Planned 2008 (3rd/4th Quarter)
CL&P C&I Metering	CEXP	A	Planned (3rd Quarter)
Other:			
Penetration Test/Vulnerability Assessment	IT (D)	A	In-process (Fieldwork)

NUSCO Plan	Area of Focus*	Scheduling Priority	Status of "A" Audits
Accounting Controls – UVL Audit	F	A	Completed
NU Foundation	F	A	Completed
Financial Forecasting	F	A	In-process (Planning)
Sundry Billing	F	A	Planned (4th Quarter)
Disclosure Controls	F	A	Planned (4th Quarter)
Employee Benefits (Follow-up Audit)	SS	A	In-process (Fieldwork)
Labor Relations & Union Contracts	SS	A	Planned (3rd Quarter)
Board of Directors – Documentation	SS	A	Planned (3rd Quarter)
Accounts Payable/Cash Disbursements (including officer delegated MIMS approval authority)	F	A	Planned (4th Quarter)
Purchasing – Purchase Orders/Contracts	SS	A	Planned (3rd Quarter)
Expenses (Officers and Employees)	SS	A	In-process (Fieldwork)
Information Technology			
IT Security (Electronic Correspondence)	IT	A	In-process (Fieldwork)
Metering System – General Controls Review	IT	A	Completed (1st Quarter controls/risk assessment)

*Area of Focus indicates the following: (CEXP) Customer Experience, (D) Distribution, (F) Financial, (G) Generation, (IT) Information Technology, (SS) Shared Services, (T) Transmission, and (UO) Utility Operations.

A review of the internal audits performed from 2004 through June 2008,[409] demonstrated that the Company's internal audit program ensures independent verification of the accuracy of accounting information and provide objective evaluation (and improvement) of the accounting and operational practices of the Company.

[409] Response to Data Request BRCS FO-04-020.

The Company tracks open audit recommendations and provided Blue Ridge a copy of the open audit recommendations status report for the last two years. The status report included a summary and for each recommendation the following was included: date issued, audit, audit finding, description, due date for management completion. The following table summarizes the status of open items.[410]

Table 20: Audit Recommendations Status 1/1/06 through 7/2/08

Period	Open Start of Period	Added	Closed	Open End of Period
1/1/06-12/31/06	29	81	(88)	22
1/1/07-12/31/07	22	62	(74)	10
1/1/08-7/2/08	10	50	(43)	17

IA assessed the open audit recommendations at the end of each period as not posing a material internal controls risk.[411]

Best Practices

The IAD participates in an annual survey conducted by the Institute of Internal Auditors (IIA). The report is a largely statistical benchmarking of the Department against industry.[412] The Director uses the survey results to determine if the department is functioning at the level of industry peers. In July, the Director of IAD provided the following summary to the Audit Committee:

> Annually, Internal Audit participates in the Institute of Internal Auditors (IIA) annual benchmarking survey. The comprehensive survey is completed by over 750 companies; including 28 EEI (Edison Electric Institute) classified companies and 57 gas and electric classified utilities. The benchmarking survey compares internal audit costs, staffing, oversight, risk assessment and reporting, professional development and performance measures. The results of the survey published in June 2008 reported that NU's Internal Audit Department is considered a low cost provider when compared to the 57 classified utilities and 28 EEI classified companies based on revenue per auditor, assets per auditor, expenses per auditor and employees per auditor.[413]

The IIA also performed a Quality Assessment in 2005 with two utility Internal Audit executives and two IIA representatives (one being the project manager).[414] The assessment is performed to provide assurance that IAD conforms to IIA Standards and

[410] Response to Data Request BRCS FO-25-002 (CONFIDENTIAL). Specifics withheld to maintain confidentiality.
[411] Response to Data Request BRCS FO-25-002 (CONFIDENTIAL). Specifics withheld to maintain confidentiality.
[412] Interview R. Smith 9/16/08.
[413] Response to Data Request BRCS FO-04-096.
[414] Interview R. Smith 9/16/08.

the Code of Ethics.[415] The Department achieved the highest rating with a few recommendations that have since been closed. These Quality Assessments are required every five years to be in compliance with IIA audit standards. The next Quality Assessment will be in 2010. A self audit will be performed in 2009 using the IIA workplan.[416]

Other best practices are identified through industry conferences, training seminars, and participating on various committees with EEI, AGA, and the Corporate Executive Board.[417]

Findings

The Director reports functionally to the Audit Committee of the Board and administratively to the CEO of NU. He has free access to both the Board and the CEO. These reporting lines help ensure IA has the authority and support it needs to accomplish its assignments throughout the organization.

The group is well organized and adequately staffed. Individuals are qualified and participate in continuing professional education.

The audit planning process is appropriately risk based and audits are identified and prioritized based upon input from across the organization.

IAD helps ensure independent verification of the accuracy of accounting information and provide objective evaluation of the accounting and operational practices of the Company through the selection and performance of its audits. Recommendations for improvement generated from its audits, provide opportunities for continued improvement in the accounting and operational practices of the Company.

The Company tracks open audit recommendations and provided Blue Ridge a copy of the open audit recommendations status report for the last two years.

The IAD does track the amount of time devoted to audit reviews/ consulting assignments, however, these assignments are not are not known at the start of each year and, therefore, are not specifically listed in the annual audit.[418]

The group monitors and compares itself to industry best practices. It participates in regular peer reviews and adheres to the Institute of Internal Auditors Standards and the Code of Ethics.

Conclusions and Recommendation

The IAD reporting lines are appropriate with the Director reporting functionally to the Audit Committee of the Board and administratively to the CEO of NU. These reporting

[415] Response to Data Request BRCS FO-04-096.
[416] Interview R. Smith 9/16/08.
[417] Interview R. Smith 9/16/08.
[418] Response to Data Request BRCS FO-04-098.

lines help ensure IA has the authority and support it needs to accomplish its assignments throughout the organization. The group is well organized and adequately staffed. Individuals are qualified and participate in continuing professional education. The audit planning process is appropriately risk based and audits are identified and prioritized based upon input from across the organization. Open audit recommendations are tracked. The group participates in non-audit consulting assignments, but these assignments are not formally tracked nor included within the audit plan.

Blue Ridge recommendations:

5.6.1 Consulting assignments performed by the internal audit group should be tracked and included on the Audit Plan to ensure that these assignments are not draining resources and potentially impairing independence and objectivity.

5.6.2 The status report for open audit recommendations should include aging to identify older open items.

5.7 Financial Planning

Background

The financial planning process of a company must be relied upon by management to make sound decisions to ensure its success. The financial planning process must integrate load, capital, and O&M forecasts and budgets into a single view of the company's expected results for management to understand its risks and opportunities over the next one to five years.

Blue Ridge's evaluation of NU's financial planning process focused on the NU Finance group's role in preparing NU's five-year plan and annual forecast.

Analysis

To evaluate NU's effectiveness in managing the forecasting process for all NU companies, Blue Ridge issued data requests to identify managers with responsibility for financial forecasts and the reports generated by the forecasting process. Blue Ridge interviewed two managers in the NU Finance group and one manager in the NU Accounting Services group with responsibility for various components of forecasted operating expenses and input of data into the MIBS system. The interviewees were the Director – Corporate Financial Forecasting,[419] Manager – Financial Planning and Analysis,[420] and Manager - Management Information & Budgeting Services (MIB Services).[421]

NU's Financial Planning process is an integral component of NU's overall financial management. Financial forecasts and budgets are coordinated by the NU Corporate

[419] Interview G. Osgood 10/7/08.
[420] Interview J. Vancho 10/2/08.
[421] Interview S. Thomas 9/16/08.

Financial Forecasting group, and they require the involvement of personnel from all operating companies as well as NU senior executive management and its Board of Trustees.[422]

NU described its annual budget process as follows:

> Corporate Financial Forecasting group is responsible to compile all the budget input data and produce the projected financial statements utilizing the Corporate Financial Model for all the operating companies. It begins with the collection of all budget raw data provided by various functional groups within the company. Each functional group provides their budget data based on the guidelines established by Chief Financial Officer. Operating company President will present their company's preliminary financial results to the Management Committee for their reviews and approval during the budget process. The Management Committee includes Chief Executive Officer, Chief Financial Officer, Chief Operating Officer and other senior officers of Northeast Utilities. Once the budget is approved by the Management Committee, it will be presented to NU's Board of Trustees for their final approval.[423]

The Corporate Financial Forecasting group is responsible for preparation of the five-year plan and the annual forecast.[424] Budget versus actual variance analyses used to be prepared by the Corporate Financial Forecasting group.[425] These analyses are now prepared by a group led by the Manager of Financial Planning and Analysis who reports to the Vice President Accounting & Controller.[426] The group performs financial analysis on capital budget requests for the RaCC and project-specific financial analysis for any organization within NU that requests it.[427]

The annual budget process starts with operating company presidents and senior management meeting to discuss strategic goals and objectives. Corporate Financial Forecasting monitors scheduling and the flow of information.[428] The operating companies and NU departments are provided a Critical Path Schedule that governs the forecast process starting in August through approval by the Board of Trustees in February of the following year.[429] Detailed functional O&M and capital budgets are input in the MIBS system.[430] These data along with revenue and other expenses are fed into the Corporate Financial Model (CFM) by Corporate Financial Forecasting who develops model runs.[431] Corporate Financial Forecasting vets inputs and assumptions to ensure

[422] Response to Data Request BRCS-FO-04-110.
[423] Response to Data Request BRCS-FO-04-110.
[424] Interview G. Osgood 10/7/08.
[425] Interview G. Osgood 10/7/08.
[426] Interview G. Osgood 10/7/08.
[427] Interview J. Vancho 10/2/08.
[428] Interview G. Osgood 10/7/08.
[429] Response to Data Request BRCS-FO-04-110.
[430] Response to Data Request BRCS-FO-04-111.
[431] Response to Data Request BRCS-FO-04-111.

they are accurate. Required changes in inputs and assumptions are communicated back to the business units. Two or three iterations of the annual budget are run over a three-month time period.[432] The Director – Corporate Financial Forecasting reviews results with the Vice President of Finance who then presents it to senior management along with the CFO.[433]

The various reports produced during the annual budget process include the following:[434]

Table 21: Reports Produced during the Annual Budget Process

Summary of Budget Reports

CL&P Docket No. 2008 Management Audit
Audit Request FO-04
Dated 07/28/2008
Q-FO-04-109-Bulk, PROTECTED

Report	Purpose	Frequency	Preparer	Users
Income Statement	Provides detailed monthly income statements by segment (Distribution, Restructuring, Transmission).	(A)	(B)	(C)
Balance Sheet	Provides detailed monthly balance sheets by segment (Distribution, Restructuring, Transmission).	(A)	(B)	(C)
Cash Flow Statement	Provides detailed monthly cash flow statements by segment (Distribution, Restructuring, Transmission).	(A)	(B)	(C)
Ratios and Statistics	Provides monthly summary by segment of Capital Structure, Net Income ROE and Dividend Payout Ratio.	(A)	(B)	(C)
S&P Ratios	Provides monthly summary for CL&P Consolidated of Funds from Operations to Total Debt, Funds from Operations to Interest and Debt to Total Capital.	(A)	(B)	(C)
Income Taxes	Provides detailed monthly income tax calculation by segment (Distribution, Restructuring, Transmission).	(A)	(B)	(C)
Permanent Differences	Provides Permanent Differences included in the income tax calculation by segment (Distribution, Restructuring, Transmission).	(A)	(B)	(C)
Timing Differences	Provides Timing Differences included in the income tax calculation by segment (Distribution, Restructuring, Transmission).	(A)	(B)	(C)
O&M Expense	Provides detailed monthly Operation and Maintenance Expense by segment (Distribution, Restructuring, Transmission).	(A)	(B)	(C)
Plant Account Report	Provides detailed monthly Plant Balances by segment (Distribution, Restructuring, Transmission) including Depreciation and Construction Expenditures.	(A)	(B)	(C)
Construction Summary	Provides detailed monthly Construction Activity by segment (Distribution, Restructuring, Transmission) including: Expenditures; CWIP; AFUDC; In Service; and Depreciation.	(A)	(B)	(C)
Rate Base	Provides detailed monthly Rate Base by segment (Distribution, Restructuring, Transmission).	(A)	(B)	(C)
Cost of Capital	Provides annual Cost of Capital ROE, variance to allowed ROE and earnings gap by segment (Distribution, Restructuring, Transmission).	(A)	(B)	(C)

(A) Reports updated or revised as necessary during the budget process.
(B) Prepared by the Corporate Financial Forecasting group utilizing the Corporate Financial Model.
(C) Users are defined as recipients of the reports. These include: Business Financial Services; Accounting; Treasury; Taxes; Regulatory and CL&P Operations.

Blue Ridge reviewed the reports produced by the Corporate Financial Model summarized above and found them to be appropriate for effective management decision-making. The annual forecast data is broken down by business segment and by month allowing management to identify key drivers of the forecast.[435] The initial iteration of an entire budget for a year is prepared within three months and presented to the Management Committee consisting of business group controllers and senior management for review and feedback.[436] At least three iterations of reviews are performed by the Management

[432] Interview G. Osgood 10/7/08.
[433] Interview G. Osgood 10/7/08.
[434] Response to Data Request BRCS-GR-63-001.
[435] Response to Data Request BRCS-FO-04-109.
[436] Response to Data Request BRCS-FO-04-110.

Committee over the next three months before a final budget is submitted to the NU Board of Trustees for approval.[437]

CL&P management is provided monthly reports reconciling budget to actual results with explanations of variances from budget in sufficient detail to give management an understanding of the cause of any material variances in revenue and expenses.[438]

The Corporate Financial Forecasting group evaluates its performance against Best Practices through comparison to other Edison Electric Institute (EEI) member companies.[439] It conducted a survey in Q3 2008 for forecasting improvements.[440]

Findings

Blue Ridge noted that the O&M budget process requires a significant number of manual hand-offs between personnel due to limitations in the MIBS system.[441]

Conclusions and Recommendations

NU's financial planning process is well established and provides corporate and operating company management with timely forecasts sufficient for effective decision-making. Major budget components consisting of revenue, capital, and operating expenses are synthesized into a uniform budget by NU's Corporate Financial Model providing management a complete picture of the Company's cash and capital needs as well as its expected results. Monthly reports analyzing variances between budget and actual results are prepared with explanations for all significant variances.

Blue Ridge recommendations:

5.7.1 Ensure that the limitations associated with the MIBS system that require manual hand-offs during the O&M budget process are resolved as NU upgrades its financial systems with the CPM discussed in Section 5.4 of this report.

5.8 Capital Budgeting

Background

Investment in infrastructure is typically a utility's largest use of its cash resources whether it is through cash on hand or through repayment of debt used to finance plant construction. A utility must plan its plant construction over a time horizon that spans a number of years because of the amount of capital involved and the engineering required to design and construct large scale projects. The consequences of poor investment decisions due to faulty customer demand assumptions or unforeseen changes in energy supply assumptions can significantly impact a utility's financial health. Therefore, a

[437] Response to Data Request BRCS-FO-04-110.
[438] Response to Data Requests BRCS-FO-04-117 and 118.
[439] Interview G. Osgood 10/7/08.
[440] Interview G. Osgood 10/7/08.
[441] Interview S. Thomas 9/16/08.

utility must have a capital budgeting system that allows it to thoroughly evaluate the pros and cons of each proposed capital project before the company commits significant resources to its development.

Blue Ridge's evaluation of CL&P's and NUSCO's capital budgeting process focused on NU's overall capital program, its capital project approval process, and the preparation of capital budgets to fund approved capital projects.

Analysis

To evaluate the capital budget process, Blue Ridge issued data requests to obtain copies of NU's capital program policies and procedures that govern capital planning, budgeting and project management for all NU businesses. Blue Ridge also interviewed three members of management with direct involvement in the capital budgeting and capital project approval process. The interviewees were the Director – Corporate Financial Forecasting,[442] Manager – Financial Planning and Analysis,[443] and the Director – Enterprise Risk Management.[444]

NU described the evolution of its capital program process as follows:

> In 2004 the Northeast Utilities (NU) regulated businesses jointly reviewed their capital program processes from start to finish, including the capital planning, budgeting and project management sub processes. As a result of this review a new policy document was created and issued, initially entitled "Utility Group Capital Program (UGCap)." In 2006 this policy was reviewed, revised and renamed as "Operating Companies Capital Program (OCCap) – Policy, Process and Requirements," number OCCaP-REQ-01. The OCCap program provides all NU regulated Operating Companies with a unified investment methodology that includes uniform processes, defines minimum requirements and identifies responsibilities to enable effective development, execution, and administration of the capital asset portfolio.
>
> Under the umbrella of the NU OCCap program, CL&P created a sub-process document entitled "System Projects & Asset Management Design and Construction Process." The System Projects & Asset Management Design and Construction Process document provides a detailed step-by-step process that CL&P follows to manage its capital program, providing the means to meet or exceed all OCCap requirements.[445]

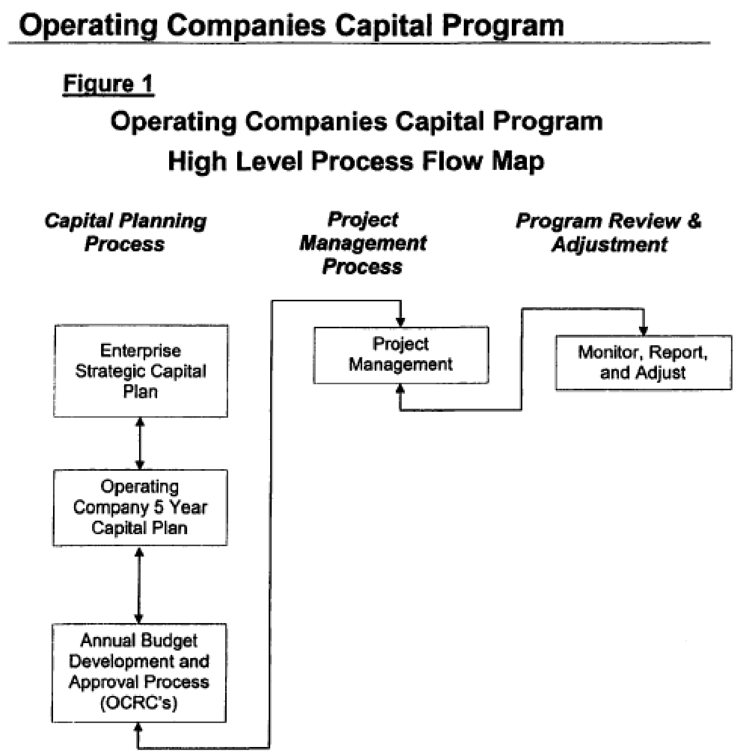
Since its implementation in 2004, the Capital Program has undergone a number of changes to ensure (1) alignment with current Operating Company best practices, (2)

[442] Interview G. Osgood 10/7/08.
[443] Interview J. Vancho 10/2/08.
[444] Interview S. Weber 10/7/08.
[445] Response to Data Request BRCS-FO-04-114.

alignment with the corporate Enterprise Risk Management requirements, and (3) the incorporation of new and approved program enhancements.[446]

Blue Ridge reviewed the OCCaP policies and procedures document and noted that NU's capital program is segmented into three major phases: (1) Capital Plan and Budget, (2) Portfolio Management and Project Management, and (3) Program Review and Adjustment.[447] This section of the report analyzes phases (1) and (3) because they focus on budget creation and review of actual results versus budget. The interrelationship of all three phases is depicted below.[448]

Figure 12: Operating Companies Capital Program High Level Process Flow Map



Each Operating Company prepares a Five Year Capital Plan which is reviewed by the NU Management Committee.[449] Each Five Year Plan is then combined to form the

[446] Response to Data Request BRCS-FO-04-114, "Operating Companies Capital Program (OCCap) – Policy, Process and Requirements", number OCCaP-REQ-01, Section 1.1, page 4.
[447] Response to Data Request BRCS-FO-04-114, "Operating Companies Capital Program (OCCap) – Policy, Process and Requirements", number OCCaP-REQ-01, Section 2.1, page 7.
[448] Response to Data Request BRCS-FO-04-114, "Operating Companies Capital Program (OCCap) – Policy, Process and Requirements", number OCCaP-REQ-01, page 8.
[449] Response to Data Request BRCS-FO-04-114, "Operating Companies Capital Program (OCCap) – Policy, Process and Requirements", number OCCaP-REQ-01, Section 2.1.1, page 7.

Enterprise Strategic Capital Plan.[450] Ultimately, these plans feed into the development of the annual budgets.[451]

Each Operating Company is tasked with developing a Two Year Capital Plan which consists of Year 1 and Year 2 capital budgets. Year 1 estimated capital expenditures include carry over expenditures from prior years as well as potential carry over into the following year.[452] Year 2 is a preliminary capital budget projection linked to the planning and development strategy outlined in the Year 1 capital budget.[453] Both budgets must be approved by the Operating Company Review Committee (OCRC) for each company, the Regulated Company Review Committee (RCRC), and then by the Executive Vice President of Operations, the Operating Company Presidents, and Chief Operating Officers.[454]

Capital expenditures are classified into six major categories for budgeting purposes: (1) New Business / Growth, (2) Run the Business, (3) Improve the Business, (4) Information Technology, (5) Major Projects, and (6) Generation.[455]

Large Scale Projects require review by the RaCC even though they are included in approved Capital Plans. NU's Capital Project Approval Policy and Procedures (CaPP) defines the capital projects subject to RaCC review as those costing $10 million or more which meet the following criteria: (1) non-routine capital program; (2) capital program which involves new or complex technology; and (3) capital program which increases the company's strategic, financial, operational or reputation risk.[456] The RaCC is NU's governing Enterprise Risk Management Committee which makes recommendations for approval of specific capital projects by the NU Chairman of the Board, President and CEO of NU, and the CEO / Chairmen of the operating companies.[457] NU's Enterprise Risk Management (ERM) Group prepares a list of all proposed capital expenditures $10 million or greater for RaCC review.[458]

[450] Response to Data Request BRCS-FO-04-114, "Operating Companies Capital Program (OCCap) – Policy, Process and Requirements", number OCCaP-REQ-01, Section 2.1.1, page 7.
[451] Response to Data Request BRCS-FO-04-114, "Operating Companies Capital Program (OCCap) – Policy, Process and Requirements", number OCCaP-REQ-01, Section 2.1.1, page 7.
[452] Response to Data Request BRCS-FO-04-114, "Operating Companies Capital Program (OCCap) – Policy, Process and Requirements", number OCCaP-REQ-01, Section 3.2.1, page 10.
[453] Response to Data Request BRCS-FO-04-114, "Operating Companies Capital Program (OCCap) – Policy, Process and Requirements", number OCCaP-REQ-01, Section 3.2.1, page 10.
[454] Response to Data Request BRCS-FO-04-114, "Operating Companies Capital Program (OCCap) – Policy, Process and Requirements", number OCCaP-REQ-01, Sections 3.2.2 – 3.2.6, page 10.
[455] Response to Data Request BRCS-FO-04-114, "Operating Companies Capital Program (OCCap) – Policy, Process and Requirements", number OCCaP-REQ-01, Appendix 3, pages 27-28.
[456] Response to Data Request BRCS-FO-04-114, "Capital Project Approval Policy and Procedures (CaPP) ERM-2001, Rev. 2, page 2.
[457] Response to Data Request BRCS-FO-04-114, "Capital Project Approval Policy and Procedures (CaPP) ERM-2001, Rev. 2, page 3.
[458] Response to Data Request BRCS-FO-04-114, "Capital Project Approval Policy and Procedures (CaPP) ERM-2001, Rev. 2, page 2.

The NU Finance group led by the Vice President of Finance is tasked with reviewing the financial metrics of each capital project and ascertaining the financial implications of the capital projects at the operating company level and NU level.[459] The group led by the Director – Corporate Financial Forecasting performs this task which also includes evaluating the impact of capital project proposals on each company's financial structure and earnings.[460] A new team within the Finance group led by the Manager – Financial Planning and Analysis perform project-specific financial analysis for any organization within NU that requests it as well as for the RaCC.[461] Started in January 2008, the Financial Planning and Analysis team is a centralized group that provides financial expertise to the various organizations and supports senior management by providing certain financial analyses pertaining to capital projects.[462] This group performs analyses that were previously performed by other finance groups and the capital project sponsors themselves.[463] Centralizing this function has created uniformity in the analyses supporting capital project requests. The Financial Planning and Analysis team evaluates the amount of the proposed expenditure, the timing of the expenditure, what it is being spent on, and how will it impact each operating company in terms of cash flow and earnings, revenue requirement and customer impact.[464]

Each Operating Company performs an Annual Effective Review to ascertain how efficiently the Capital Program's process is being applied. This includes (1) an assessment of actual individual capital project results versus projected results and (2) an assessment of how well the overall Capital Program was managed and implemented during the previous year (the Focus Year).[465] These reviews must be completed and delivered to the OCRC for that company by April 30 each year.[466] Each OCRC approves corrective measures and high-level action plans.[467] Presentations of each OCRC review must be made to the RCRC by May 31 each year.[468] The presentations focus on metrics such as the number of projects completed, actual vs. budget cost variances, and determination of whether the capital program delivered its intended results.[469] A Lessons Learned database is maintained to disclose relevant experiences with the capital program process are disclosed to others conducting similar work.[470]

[459] Response to Data Request BRCS-FO-04-114, "Capital Project Approval Policy and Procedures (CaPP) ERM-2001, Rev. 2, page 4; G. Osgood interview on 10/7/08.
[460] Interview G. Osgood 10/7/08.
[461] Interview J. Vancho 10/2/08.
[462] Interview J. Vancho 10/2/08.
[463] Interview J. Vancho 10/2/08.
[464] Interview J. Vancho 10/2/08.
[465] Response to Data Request BRCS-FO-04-114, "Operating Companies Capital Program (OCCap) – Policy, Process and Requirements", number OCCaP-REQ-01, Section 3.11.2, page 21.
[466] Response to Data Request BRCS-FO-04-114, "Operating Companies Capital Program (OCCap) – Policy, Process and Requirements", number OCCaP-REQ-01, Section 3.11.3, page 21.
[467] Response to Data Request BRCS-FO-04-114, "Operating Companies Capital Program (OCCap) – Policy, Process and Requirements", number OCCaP-REQ-01, Section 3.11.4, page 21.
[468] Response to Data Request BRCS-FO-04-114, "Operating Companies Capital Program (OCCap) – Policy, Process and Requirements", number OCCaP-REQ-01, Section 3.11.5, page 21.
[469] Response to Data Request BRCS-FO-04-114, "Operating Companies Capital Program (OCCap) – Policy, Process and Requirements", number OCCaP-REQ-01, Section 3.11.6, page 22.
[470] Response to Data Request BRCS-FO-04-114, "Operating Companies Capital Program (OCCap) – Policy, Process and Requirements", number OCCaP-REQ-01, Section 3.11.8, page 22.

CL&P produced its capital expenditure reports for the period 2004 – 2007 and year-to-date June 2008 in response to discovery.[471] These reports track actual versus budgeted capital expenditures by the six major categories noted above. The following excerpt from CL&P's data response illustrates the level of detail used by CL&P management to track capital spending in 2007.[472]

Table 22: CL&P Distribution Capital Spending 2007 Budget vs. Actual

CL&P Distribution
Capital Spending

$Thousands	2007 Actual	2007 Trustee Budget	Variance
NEW BUSINESS / GROWTH	**$ 107,752.4**	**$ 114,086.8**	**$ (6,334.4)**
New Business	**$ 54,307.4**	**$ 51,970.5**	**$ 2,336.9**
Customer Driven	50,599.1	49,025.1	1,574.0
Lighting	3,708.3	2,945.4	762.9
Background Load	**53,445.0**	**62,116.3**	**(8,671.3)**
Overloads - Distribution Lines	28,081.8	32,110.5	(4,028.7)
Overloads - Distribution Substations	20,823.0	20,002.9	820.1
Line Work Required by Transmission	114.2	1,999.8	(1,885.6)
Substation Work Required by Transmission	4,426.0	8,003.1	(3,577.1)
RUN THE BUSINESS	**89,070.9**	**76,875.7**	**12,195.2**
Equipment Failures	36,393.1	34,393.8	1,999.3
Plant Relocations	5,625.3	11,489.7	(5,864.4)
Transformers	26,221.4	16,050.2	10,171.2
Operational Exposures	12,780.9	5,593.8	7,187.1
Meters	4,692.1	4,527.2	164.9
Third Party Attachments	536.6	3,129.9	(2,593.3)
Other (Including Tools & Equipment)	2,821.5	1,691.1	1,130.4
IMPROVE THE BUSINESS	**65,860.0**	**66,338.2**	**(478.2)**
Reliability	40,273.7	41,564.4	(1,290.7)
Regulatory Commitments	20,420.4	22,028.3	(1,607.9)
Facilities	5,165.9	2,745.5	2,420.4
INFORMATION TECHNOLOGY	**7,137.0**	**6,600.9**	**536.1**
Radio System Upgrade	1,832.8	1,756.1	76.7
Other Information Technology	5,304.2	4,844.8	459.4
MAJOR PROJECTS	**13,437.9**	**6,596.2**	**6,841.7**
Customer Service Integration (CSI)	13,437.9	6,596.2	6,841.7
Total CL&P Utility Group	**$ 283,258.2**	**$ 270,497.8**	**$ 12,760.4**

CL&P also produces various scorecards which track multiple performance indicators including capital expenditures versus target expenditures and reliability measurements.[473]

Conclusions and Recommendations

Blue Ridge concludes that NU and its Operating Companies have an adequate capital budget system in place which is closely linked to the overall financial planning process. The capital program contains extensive policies and procedures for each Operating Company to follow in development of their Capital Plans and Capital Budgets. Proposed

[471] Response to Data Request BRCS-FO-04-115.
[472] Response to Data Request BRCS-FO-04-115.
[473] Response to Data Request BRCS-EM-40-002.

capital expenditures are subjected to extensive review by Operating Company management, the OCRC for each company, the RCRC, the RaCC, and ultimately, senior management of NU and the Operating Companies. Actual expenditures are tracked versus budgeted expenditures in sufficient detail to allow management to control spending and allocate its resources wisely. NU's capital program has undergone recent reviews and changes to ensure it is still in alignment with key corporate objectives and best practices.

Blue Ridge recommendations: none

5.9 Cost Control

Background

A company's financial planning process must include tools and procedures for controlling costs. The primary tool for cost control is the use of budget vs. actual variance analysis to ensure that management is kept abreast of the Company's performance against its plan. Frequent review of actual results versus plan and the causes of significant variances from plan allow the company to make the necessary changes to reach its short and long-term goals.

Blue Ridge's evaluation of CL&P's budget vs. actual variance process focused on the reports used by CL&P management to monitor O&M expenses.

Analysis

To evaluate CL&P's cost control process, Blue Ridge issued data requests to obtain its cost control reports and interviewed the NUSCO V.P. – Accounting & Controller,[474] Assistant Controller – Accounting Services,[475] and Director – Business Financial Performance[476] because their organizations perform the primary financial reporting and budgeting functions for the operating companies. In its data responses, the Company provided its full year analyses of budget vs. actual variances for 2004 through 2007 and through May 2008 year-to-date.[477] The Company's budget vs. actual analyses consist of a reconciliation of budgeted net income to projected net income at a macro level encompassing the entire CL&P Distribution Business operation. At a more granular level, the Company prepares budget vs. actual analyses of O&M expenses, Shared Services expenses, other income, and capital spending. Each analysis compares year-to-date budget vs. actual results and provides a projection of what actual results may look like for the full year vs. the original budget.

An excerpt of the CL&P's net income reconciliation as of May 2008 is shown below:[478]

474 Interview S. Payne 9/17/08.
475 Interview M. DiPietro 9/17/08.
476 Interview R. Doffek 10/29/08.
477 Responses to Data Requests BRCS-FO-04-117 and 118.
478 Response to Data Request BRCS-FO-04-117, attachment Q-FO-04-117 CLP Mgmt Audit FO-04-117.

Table 23: Example Budget to Actual Reconciliation

Connecticut Light & Power Company
Distribution Business
Reconciliation of Budget to Actual/Projected Net Income

Earnings Variances to Budget [Increase (Decrease) to Earnings] ($ Thousands)		Actual First Quarter	Projected Second Quarter	Projected Third Quarter	Projected Fourth Quarter	Projected Year 2008
2008 Budget Net Income		$ 17,024	$ 21,177	$ 18,974	$ 18,058	$ 75,233
Revenues:						
Retail Delivery Revenue	(a)	(2,531)	(2,089)	(1,941)	(2,494)	(9,055)
Other Revenue	(b)	538	213	(171)	(171)	408
Total Revenue Variances		(1,993)	(1,876)	(2,112)	(2,665)	(8,647)
Earnings O&M:						
Functional Distribution	(c)	(1,323)	(9,267)	723	2,551	(7,316)
Corporate Shared Services	(c)	1,292	(370)	(524)	(1,376)	(979)
Employee and Overhead Costs	(c)	717	1,960	259	374	3,310
Other O&M	(d)	527	(257)	(214)	(544)	(488)
Total Earnings O&M Variances		1,213	(7,934)	243	1,005	(5,473)
Other Operating						
Depreciation & Amortization	(e)	(259)	2,154	2,008	1,512	5,415
Other Federal & State Taxes	(f)	1,422	163	(93)	(133)	1,359
Regulated Return	(g)	265	(296)	454	30	453
Total Other Operating Variances		1,428	2,021	2,369	1,409	7,227
Total Operating Income Pre-tax Variances		649	(7,789)	500	(252)	(6,892)
Tax Impact of Operating Income Variances		(259)	3,116	(200)	101	2,757
Effective Tax Rate Budget Variance	(h)	1,730	7,477	(1,582)	656	8,282
Sub-total Operating Income Variances - After-tax		2,120	2,804	(1,282)	505	4,147
Other Non-Operating						
AFUDC Equity		523	92	-	-	615
Other Income & Deductions	(i)	4,146	(4,988)	2,990	(687)	1,461
Interest Expense	(j)	81	(994)	(47)	531	(430)
Total Other Non-Operating Variances		4,750	(5,891)	2,943	(156)	1,646
Taxable Non-Operating Income Variances - Pre-tax		4,227	(5,983)	2,943	(156)	1,031
Tax Impact of Non-Operating Income Variances		(1,691)	2,393	(1,177)	63	(413)
APB 28 Tax		(4,442)	(508)	3,050	1,900	-
Effective Tax Rate Budget Variance		1,091	(5,694)	(94)	(117)	(4,814)
Sub-total Non-Operating Income Variances - After-tax		(291)	(9,700)	4,722	1,689	(3,580)
Total Income Variances - After-tax		1,828	(6,896)	3,440	2,195	567
2008 Actual/Projected Net Income		$ 18,852	$ 14,281	$ 22,414	$ 20,253	$ 75,800

Note: Refer to the following page for footnotes.

The supporting O&M variance analysis that feeds into the net income reconciliation is shown below.[479]

Table 24: Example O&M Variance Analysis

CL&P Functional Distribution O&M

$Thousands		May-08 YTD Actual	May-08 YTD Budget	Variance	2008 Projection	2008 Budget	Variance	Jun-Dec Budget Variance
CL&P/Yankee President								
Customer Operations	(a)	$ 35,098.7	$ 31,564.9	$ 3,533.8	$ 74,482.2	$ 74,482.2	$ -	$ (3,533.8)
Energy Delivery Services		7,184.1	7,047.2	136.9	16,548.5	16,548.5	-	(136.9)
Field Maintenance	(b)	13,873.3	14,330.9	(457.6)	32,693.3	32,693.3	-	457.6
CT President	(c)	2,342.2	1,903.3	438.9	5,544.2	4,554.2	990.0	551.1
CL&P Storms	(d)	4,579.6	3,927.1	652.5	15,023.8	9,423.8	5,600.0	4,947.5
CL&P/Yankee President		**63,077.9**	**58,773.4**	**4,304.5**	**144,292.0**	**137,702.0**	**6,590.0**	**2,285.5**
Utility Services	(e)	**10,314.3**	**8,778.8**	**1,535.5**	**24,155.2**	**24,505.2**	**(350.0)**	**(1,885.5)**
CSI Project Team		**2,113.5**	**2,141.5**	**(28.0)**	**4,062.1**	**4,120.3**	**(58.2)**	**(30.2)**
CE Support		66.5	70.4	(3.9)	166.6	166.6	-	3.9
Customer Experience	(f)	**11,371.9**	**12,471.5**	**(1,099.6)**	**30,584.1**	**30,087.5**	**496.6**	**1,596.2**
Uncollectible Accrual	(g)	2,839.4	3,476.3	(636.9)	7,258.4	7,258.4	-	636.9
EVP Operations		**1,439.6**	**1,289.4**	**150.2**	**3,353.6**	**3,075.6**	**278.0**	**127.8**
PSNH President		**21.8**	**-**	**21.8**	**76.9**	**-**	**76.9**	**55.1**
Total CL&P Distribution O&M		**91,244.9**	**87,001.3**	**4,243.6**	**213,948.9**	**206,915.6**	**7,033.3**	**2,789.7**
Transmission Business Unit - Distribution O&M		**157.9**	**-**	**157.9**	**283.0**	**-**	**283.0**	**125.1**
Total CL&P Functional Distribution Earnings O&M		**$ 91,402.8**	**$ 87,001.3**	**$ 4,401.5**	**$ 214,231.9**	**$ 206,915.6**	**$ 7,316.3**	**$ 2,914.8**

479 Response to Data Request BRCS-FO-04-117, attachment Q-FO-04-117 CLP Mgmt Audit FO-04-117.

Footnotes describe the nature of significant variances in each report identifying whether they are due to timing differences or unanticipated events. NU noted that O&M expenses are reported on an organizational basis and that the organizations utilize an on-line reporting tool to further drill down on their expenditures.[480]

As noted in Section 5.4 of this report, NUSCO is focused on improving its financial reporting and budgeting process by eliminating unnecessary activity and cost center codes to simplify the data gathering process and by creating uniformity in the activity codes used by NU's various business units.[481] This should improve the comparability of financial results between NU'S business units. Section 5.7 of this report describes how NUSCO's Corporate Financial Forecasting group evaluates its organization's performance against Best Practices by NU's peers.

Conclusions and Recommendations

NUSCO's financial planning process utilizes tools and procedures that are necessary for controlling costs at its operating companies. Monthly budget vs. actual variance analyses are prepared in sufficient detail to enable management to project its financial results for the year against original plan and to make changes in the Company's operations where warranted.

Blue Ridge recommendations: none

5.10 Stranded Costs

Background

An important segment of a rate case is for a utility to include Utility Plant in Service (UPIS) and Completed Construction Not Classified (CCNC) as of a given date to have the opportunity to earn a return on its investment (rate base) and a return of its investment (depreciation expense) in its determine of revenue requirements. Assets which are not classified as UPIS or CCNC are excluded from a rate case filing and do not earn a return on or of the investment. Such excluded assets must wait until the next rate case to be considered for inclusion. Stranded costs can occur for various reasons. The primary reasons are: (1) the assets are built but do not end up serving customers or sufficient customers to provide an adequate revenue stream for the imbedded costs; (2) the assets become impaired because the cost is significantly greater than the fair market value; or (3) some or all of the asset costs are disallowed in rates by the Department. Assets that are determined to be stranded either in whole or in part are typically deferred, as directed by the Department, and amortized to expense over a predetermined period of time or written down to fair market value in accordance with Generally Accepted Accounting Principles (GAAP). Under GAAP the Company cannot defer costs unless either directed by the Department or if the Company has a reasonable expectation of recovery of those costs in a subsequent rate proceeding.

[480] Response to Data Request BRCS-FO-04-116.
[481] Interview S. Payne 9/17/08.

Analysis

Various NUSCO departments are involved in evaluating CL&P's asset base to identify stranded investment. Several departments, under the direction of the VP Regulatory and Governmental affairs, monitor the rate orders which include specific deferral requirements as directed by the Department. Those deferrals are executed by the accounting organization and monitored both for duration and amount by the Manager of Regulatory Policy and the Director – Revenue Requirements.[482] In addition, Plant Accounting performs an asset impairment review on all assets over a three-quarter period on an annual basis.[483] That review is initiated to determine if a major asset or group of assets is no longer providing a revenue stream to the Company. Examples include a single customer substation that no longer serves the customer or an asset that has become impaired because its fair market value has declined significantly. Assets that are ultimately disallowed either in whole or in part are tracked and accounted for in accordance with Department requirements.[484]

Findings

Blue Ridge found that the NUSCO Plant Accounting Department provides asset impairment reviews on a timely and consistent basis to ensure all assets are properly classified. The Company did not have any assets of material value that did not serve a customer or group of customers and, therefore, were not impaired in accordance with FASB 71.[485] Deferrals are reported to the Department as required by the Rates and Regulatory department.[486] In addition, deferrals are closely monitored through the Tracking Regulated Activities and Calendar System (TRACS) and reported on a timely basis to the Department. Blue Ridge was informed that going forward the review of potential impaired assets would be performed at a higher level to exclude small dollar assets.

Conclusions and Recommendations

The method the Company uses to monitor deferrals and review its asset base for potential stranded investments is reasonable.

Blue Ridge recommendations: none

5.11 Rates

Background

The ability of a regulated utility to generate a return on and of its investment in capital assets and the cost to serve its customers is based on the rates it is allowed to charge the various classes of customers as determined through periodic rate cases filed with the

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482 Interview J. Palmer 10/07/08 and Interview M. Mahoney 10/17/08.
483 Interview J. Deegan 10/06/08.
484 Response to Data Requests BRCS-FO-04-119 and BRCS-FO-04-120.
485 Response to Data Request BRCS-FO-04-123.
486 Interview M. Mahoney 10/08/08.

Department. The filing of those rate cases represents a major effort on the part of the Company in providing the appropriate written testimony, support, and expert witnesses to explain certain aspects of the filed case. All of these functions are performed based on a rigid filing schedule provided by the Department. In addition to filing the case, implementation of the rate order also requires significant coordinated effort from various departments throughout NUSCO and/or the company.

The task of coordinating the rate filing and implementation of approved rates generally falls on the various rates and regulatory departments under the direction of the VP Regulatory and Governmental Affairs. Rate cases start with financial and operating data for a given test year in the form of written testimony and supporting schedules provided by the Company. Through the administrative hearing process, the Department Staff presents its case in response to the Company's request. Ultimately the Department accepts or rejects various aspects of the Company's application to determine the approved rates to be charged to the Company's customers. The process generally takes about 11 months. Approved rates and other regulatory order requirements are usually implemented at the beginning of a calendar year.

Analysis

Blue Ridge's review consisted of evaluating the effectiveness of the various rates and regulatory departments under the direction of the VP Regulatory and Governmental Affairs in providing timely data in support of a rate case. Various departments in and out of the regulatory area are assigned specific tasks and deadlines. The Company uses TRACS to provide a detailed schedule by task of what is required, when, and the department responsible for performing the task. It also includes the ability to determine if the task is complete, when it was completed, and who executed the review. This system is compliant with Sarbanes-Oxley requirements and is a tool used by the Regulatory Policy Department to coordinate all the many events that take place to provide an accurate and timely rate case. The TRACS system is also used to implement all aspects of rate case implementation. While the Rates and Regulatory function is covered by several departments with different responsibilities, the control of TRACS resides with the Manager of Regulatory Policy.[487] Implementation of the rate case directives includes an executive summary, proposed journal entries, and a detailed analysis of all the case requirements, including the implementation of new file tariffs.[488]

Conclusions and Recommendations

The TRACS system provides an excellent method of managing all aspects of the rate case filing and subsequent implementation of Department-ordered rates, terms, and conditions. In addition, the Company is effectively coordinating the filing efforts with the other financial, accounting, and operational organizations within the Company.

While the TRACS system is excellent in terms of providing a set of tools to monitor the various aspects of the rate case and implementation of approved rates, terms, and

[487] Interview J. Palmer 10/07/08
[488] Response to Data Request BRCS-FO-04-125 and BRCS-FO-04-126

conditions, various management personnel have indicated that, as expected, resources become an issue during a rate case.[489] Some departments use temporary personnel while others use resources from within the Company and others do not add resources, but work considerable overtime.

Blue Ridge recommendations:

5.11.1 The Company should consider cross training among the various Rates and Regulatory departments to help "shave the peak" from the work associated with a rate case.

5.11.2 The Company should also consider developmental rotational assignments of other financial / accounting personnel into the various rates departments. Blue Ridge understands that rates cases are sporadic; therefore, an individual in a developmental assignment may not work on a rate case. However, the primary benefits are to provide a ready pool of resources to assist in rate cases without using temporary employees and to give employees a better understanding of the rate making process. Developmental assignments should also be considered between the various regulatory departments.

5.12 Allocations

Background

In a utility company structure in which a parent company provides functional services through one of its subsidiary companies to another or all of its other subsidiaries, the parent company must allocate the costs of those services reasonably and fairly. A Cost (or Corporate) Allocation Manual (CAM) is the usual document in which a company identifies, defines, and describes the method by which it will assign its service costs to affiliate companies. However, some companies incorporate this allocation information in their affiliate agreements and/or other company documentation.

The evaluation of the allocation process focuses on five areas of concern: (1) Design, including allocation structure, governing documentation, and development process; (2) Training in the allocation process; (3) Application, including time-reporting and billing process; (4) Reporting/Control, including benchmarking studies and both NUSCO and CL&P management control; and (5) Compliance, including procedure, audits, and violation reporting and resolution.

Analysis

Design

Blue Ridge reviewed the Company affiliate agreement and other documents governing the relationship between CL&P and NUSCO (Northeast Utilities Service Company). The affiliate agreement between CL&P and NUSCO[490] extends for a term of one year,

[489] Interview E. Davis 10/07/08, Interview M. Mahoney 10/08/08, Interview J. Palmer 10/07/08.
[490] Response to Data Request BRCS-GR-01-012.

coinciding with the calendar year, and is renewable for additional one year terms thereafter. According to the affiliate agreement, NUSCO categorizes its provided services as (1) General System Management and (2) Other Functions and Activities.

The General System Management services include those management and administrative activities necessary for the effecting of policies and programs that relate to the NU System as a whole. These include financial, accounting, and economic policies and programs, power supply, public and employee relations, regulation, contractual arrangements, administrative and other proceedings, industry-wide activities and like matters.

Other Functions and Activities include the following areas of function.[491]

1. Corporate and Secretarial
2. Financial Planning
3. Accounting
4. Taxes
5. Insurance
6. Budgets
7. Data Processing
8. Bulk Power Supply
9. Engineering Research & Standardization
10. System Operations
11. Other Administrative Services
12. Purchasing and Stores
13. Commercial Activities

The affiliate agreement does not describe specific activity within each of the above functions. NUSCO incorporates the specific policies and procedures by which it performs the functional services within the structure and policies of the NUSCO organization.

The Service Company assigns charges for services both directly and indirectly to an affiliate (sometimes referred to as System Company). Unless the nature of the performed function applies to various affiliates at the same time, NUSCO's policy is to direct charge each affiliate for services used by those affiliates.[492] When the service encompasses more than one affiliate without specific division of the charges along company lines, NUSCO employs its allocation methodology to assign costs.

The allocation methodology for charges among System Companies incorporates one of the following five bases:[493]

1. Revenues – the relation of each company's gross operating revenue (electric, gas, or total as appropriate) to the sum of the operating revenues of all System Companies (electric, gas, or total as appropriate) for the preceding calendar year.
2. Electric Peak Load – the relation of each company's annual electric peak load to the combined electric peak load of all System Companies for the preceding calendar year.

[491] Response to Data Request BRCS-GR-01-012, section 2 "Services to be Performed."
[492] Response to Data Request BRCS-GR-01-012, Appendix A, p.2, and Interview M. DiPietro 9/17/08, 2nd Interview S. Thomas 10/07/08.
[493] Response to Data Request BRCS-GR-01-012, Appendix A, p.5.

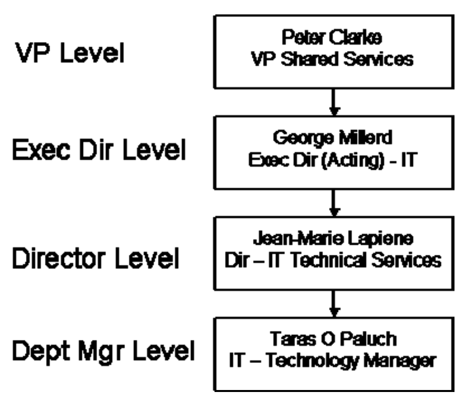
3. Peak Day Sendout – the relation of each company's gas peak day sendout to the combined gas peak day sendout of all System Companies for the preceding calendar year.
4. Customers Billed – the relation of each company's total customers billed to the combined total of all System Companies for the preceding calendar year.
5. Other – such other basis or bases as experience may show will provide, on a functional relationship, a more fair and equitable allocation of particular charges than any of the foregoing.

Bills provided to affiliates include detail designating (1) the department from whom the charges originate, (2) the function or type of service provided; (3) the nature of the charges, whether direct or indirect (overhead); and (4) the source of the charges, if direct.

Correlation between NUSCO and affiliates for both direct and allocated costs begins with an identifying matrix of Accounting Units. The Source Accounting Unit (SAU) is a two digit code identifying the company providing the resources. The Charge Accounting Unit (CAU) is a two digit code representing the business segment or line that is being charged for the item or service. NUSCO specifies a CAU of 99 for charges that are to be allocated over more than one company. The 99 designation indicates to the system an allocation for multiple companies.

Within each Accounting Unit, NUSCO established Cost Control Centers (CCCs) to organize costs. NUSCO has numerous CCCs that (although fully covering all NUSCO activity) loosely correlate to departments (and department managers). The following chart provides an example of the department level within NUSCO.

Figure 13: CCC Level Example[494]



Each CCC manager establishes a Functional Profile that maps activities to both FERC accounts and rate codes used for allocation purposes. Cost drivers (or methodologies), such as number of employees or payroll, are the basis for rate codes. CCC managers can customize the rate codes to include only the companies and/or business segments that are

[494] Workpaper *6.12 – CCC Level Example.ppt*.

receiving the benefit (i.e., being charged). Current methodologies upon which rate codes are based include those in the following list.

Table 25: NUSCO Current Allocation Methodologies[495]

1. Conservation and Load Management Programs, Labor and Expenditures
   Based on budgeted costs
2. Customers
   Based on actual number, at a point in time
3. Direct Charged Costs
   Based on actual charges, at a point in time
4. Employees
   Based on budgeted number of full time equivalents (FTEs)
5. Facilities Floor Space
   Projected square footage occupied by facility provided by Facilities Management
6. Forecasted Departments' Work Plan
   Based on each departments' analysis
7. Fuel Purchased
   Based on actual tons of coal consumed by station
8. Gross Plant Assets
   Based on budgeted plant assets
9. Invoices Processed
   Based on actual number, at a point in time
10. IT Storage
    Based on actual usage of storage infrastructure, at a point in time, provided by the Information Technology Department
11. Payroll
    Based on budgeted labor costs
12. PC Counts
    Based on actual count, at a point in time, provided by the Information Technology Department
13. Revenues
    Based on budgeted sales and rates
14. Software Applications
    Based on ownership of actual Web applications, at a point in time, by the Information Technology Department
15. Vehicles
    Based on number of vehicles, at a point in time, provided by the Transportation Department
16. Work Order Back Log
    Based on actual dollar amount of construction work in progress (CWIP) work orders, at a point in time, provided by the Plant Accounting Department

[495] Workpaper *6.12 – Current Allocation Methodologies.doc.*

Thus, when an activity is entered into the Management Information and Budgeting System (MIBS) along with the CCC and CAU, the system can look up the appropriate rate code, FERC account, and methodology to apply the cost across the appropriate business segments.[496]

Exceptions always exist, and NUSCO has several identified methods to manage exceptions. Some exceptions would include charges from a non-established cost center, previously undefined grouping of business segments to whom charges are allocated, and overrides to FERC account designation. The MIBS system has the flexibility to input and manage these exceptions.[497]

The Company reestablishes the criteria used in developing the allocation bases every year or more often as needed.[498]

Training

Blue Ridge reviewed the training to ensure that NUSCO personnel were appropriately cognizant of the methodology by which the Service Company assigns allocated charges. New supervisors undergo training of which a part includes an emphasis on the importance of direct charging when possible. The training continues with explanation of how to allocate among more than one System Company when specific designation of charges is not possible.[499] Additionally, CL&P supervisors receive the same type of training concerning the importance of direct charging and how NUSCO allocates costs. The Company conducts the training four times a year or as needed.[500]

In 2004, NUSCO introduced a new automated system for the development, monitoring, updating, and approval of the various rate codes and functional profiles used by the CCCs. The Service Company implemented this system in January 2005. They offered formal hands-on training to the CCC managers and their employees who assist in maintaining rate codes and functional profiles.

Furthermore, the orientation process for new employees includes references to code of conduct material, specifically, a summarization of the NU procedure "Affiliate Rules: Codes of Conduct for Regulated and Unregulated Affiliates Procedure."[501]

NU has an intra-company network called NUNet with access available to all Company employees. NUNet includes procedures and information concerning affiliate relationships, codes of conduct, and charging instructions (based on Accounting Policy 20). Additionally, the MIBS Code Block Manual, which provides detailed instruction concerning allocation charging, is available on the NUNet.[502]

[496] Response to Data Request BRCS-ER-05-001, MIBS Code Block Manual, p.29, and Interview M. DiPietro 9/17/08, 2nd Interview S. Thomas 10/07/08.
[497] Response to Data Request BRCS-ER-05-001, MIBS Code Block Manual, pp.8, 32-33.
[498] Response to Data Request BRCS-ER-05-001.
[499] Response to Data Request BRCS-ER-05-011.
[500] Response to Data Request BRCS-ER-05-012.
[501] Response to Data Request BRCS-ER-05-011.
[502] Response to Data Request BRCS-ER-05-011.

Application

According to NU Accounting Policy 20, employees enter time weekly through the Corporate Online Time (COLT) software. The Company approves the time weekly as well. The policy also emphasizes direct charging to a specific NU subsidiary when possible (in accordance with the affiliate agreement's required practice). When costs cannot be identified as being provided to one specific subsidiary, the Service Company allocates costs to certain subsidiaries on a predetermined basis.

Accounting Policy 20 also has a link to the COLT User Manual and a CAU listing for assistance in time reporting. Likewise, the MIBS Code Block Manual provides additional instructional resource. All of these instructional guides are maintained on the NUNet company intranet site.

Reporting/Control

In discussion with the Assistant Controller, Blue Ridge learned that the budget process is usually a top-down process flow that provides targets for each organization/department.[503] The various departments within NUSCO develop their budgets which the Controller's office subsequently pulls together before being issued to CL&P and other affiliates. NUSCO budget personnel then hold meetings with the affiliate managers to answer questions and resolve any issues.

Since rate codes drive allocations (as defined by the functional profile within each CCC), the CCC manager (usually the organization department manager) is responsible for reviewing allocation charges to ensure that activities charged are appropriate as to rate code and charging employee.

The Service Company issues monthly reports that provide actual to budget comparisons. NUSCO department heads and the affiliates, with the help and coordination of the Assistant Controller, resolve significant variances. Personnel may access reports through the NUnet online system.

Blue Ridge compared Service Company charges broken down by service function over the past three years. The chart below includes those service charges by major grouping.

Table 26: CL&P O&M Shared Services Charges[504]

	YTD December 2006			YTD December 2007				Prorated Adjustment YTD December 2008 YTD May 2008				
O&M: $Thousands	Actual	CL&P Budget	Variance	Actual	CL&P Budget	Variance	%	Actual	CL&P Budget	Variance	2008 Actual Adj to full Yr	%
Shared Services	**28,080.2**	27,993.5	86.7	**33,493.7**	32,754.5	739.2	19.3%	13,440.9	13,903.1	(462.2)	**32,258.2**	**-3.7%**
Legal & External Affairs	**15,009.8**	16,007.6	(997.8)	**15,002.8**	16,882.4	(1,879.6)	0.0%	6,294.1	6,623.9	(329.8)	**15,105.8**	**0.7%**
Finance	**9,808.9**	10,464.4	(655.5)	**16,104.4**	16,407.2	(302.8)	64.2%	6,480.8	6,619.6	(138.8)	**15,553.9**	**-3.4%**
Other	**10,847.7**	9,550.3	1,297.4	**12,995.3**	9,647.0	3,348.3	19.8%	4,412.9	4,772.1	(359.2)	**10,591.0**	**-18.5%**
Total O&M	**$ 63,746.6**	$ 64,015.8	$ (269.2)	**$ 77,596.2**	$ 75,691.1	$ 1,905.1	21.7%	$ 30,628.7	$ 31,918.7	$(1,290.0)	**73,508.9**	**-5.3%**

[503] Interview M DiPietro and 2nd Interview S. Thomas 10/07/08.

[504] Workpaper *6.12 –Allocation Costs.xls*, Source: Response to Data Request BRCS-GR-01-024.

The Company explained that the major increase in the Shared Services line item was due to a 2007 organizational change in which budget accountability for certain IT functions were transferred from the business units into the Corporate Shared Services IT organization. Likewise in 2007, the Company transferred two groups (Business Financial Services and Wholesale Power Contracts) into the Finance organization. Increases from these groups were due to salary escalation, higher external auditor costs, third party costs for implementation of FIN 48 and the development of a closing calendar, and the filling of approved staff positions in 2007. Additionally, the Other line item included Corporate Shared Services Incentive[505] which was higher in 2007 due to the increased portion of employee incentive plan costs based on the aforementioned organizational changes.

Various NUSCO departments (e.g., Accounting, IT Security, etc.) perform benchmarking studies, although not on a regular or comprehensive basis. The Service Company uses the benchmarking studies as both a focus on performance in comparison to industry in general and as a means to identify areas for improvement.[506] The Company has not discovered areas demonstrating significant lack of industry standard or capability in recent studies.

In response to a data request, the Company provided the following list of benchmarking studies performed within the last five years (some of these studies are classified as confidential).[507]

Educational Reimbursements
Building Lease Market Rates
IT
Environmental
Legal
Human resource - Business Applications Performance
GAIN - Institute of Internal Auditors
Facilities Management - CL&P
Accounting - Accounts Payable
Accounting - Financial Reporting
Accounting - Fixed Assets
Accounting - General Ledger
Accounting - Payroll
Accounting - Cash Management
Security of Electronic Information
Purchasing - UPMG
Purchasing - Oliver Wyman
Purchasing - Mercer Study

[505] Response to Data Request BRCS-FO-14-028.
[506] Response to Data Request BRCS-FO-04-012 Attachment.
[507] Response to Data Request BRCS-ER-05-017.

The benchmarking studies listed cover many but not all of the areas of NUSCO service. The Company further stated that there is no regular schedule for performing benchmarking for NUSCO services.[508]

Compliance

Blue Ridge reviewed the Company's internal audits covering NUSCO's services. The Company identified four recent (within the last five years) internal audits related to allocations. These audits included two concerning NUSCO Cost Allocations (2004 and 2007), one on FERC Mapping (2005), and one on the Budgeting Process (2006).[509]

The audits did not produce significant findings. However, auditors did provide some recommendations. The Company has completed/resolved all action plan commitments.[510]

The SEC performed the only external audit on NUSCO's allocation process in September 2005. The Company reported that all recommendations in that audit have been addressed and the SEC has accepted NUSCO's responses and closed the audit.[511]

Blue Ridge requested that the Company provide information concerning compliance violation reporting associated with the cost allocation process. In response, the Company first explained the process by which allocations are assigned in MIBS and the responsibility of the CCC manager for ensuring the accuracy of allocation coding. The Company then referenced the internal audits noted above as indicative of the control exercised on compliance.[512]

Rocky River Realty

CL&P leases the building and land known as its New Milford facility from the Rocky River Realty (Rocky River), a wholly-owned subsidiary of NU. Rocky River also provides certain real estate functions for NUSCO. NUSCO allocates these charges out among affiliates in the same manner as other NUSCO direct and indirect costs. Total charges to CL&P for the last four years range from about $794,000 to about $1,220,000.

CL&P also provides some services to Rocky River of which the cost for each of the last two years has been less than $65,000.

Findings

Design

Based on the documentation provided, the affiliate relationship that CL&P has with NUSCO is well-defined and appropriately documented. Although a separate Cost Allocation Manual is not maintained, the affiliate agreement coupled with the description and instructions contained within the MIBS Code Block Manual provide adequate

[508] Response to Data Request BRCS-ER-05-018.
[509] Response to Data Request BRCS-ER-05-020.
[510] Response to Data Request BRCS-FO-59-001.
[511] Response to Data Request BRCS-ER-05-020 and 022.
[512] Response to Data Request BRCS-ER-023.

documentation for the allocation process structure and application. Responsible personnel review the allocators at least yearly. Thus, the process provides an equitable means of distributing costs among affiliates using NUSCO services.

The documentation as well as interview emphasis provides assurances that all costs charged by NUSCO to affiliates are at cost (including both direct and indirect charges as described in Appendix A of the affiliate agreement).[513] This practice is consistent with SEC requirements.

Training
Training programs of both CL&P and NUSCO appear adequate to keep employees cognizant of cost allocation guidelines. Furthermore, the intra-net access of documentation for reporting appears to be a useful tool to assist in maintaining the accuracy of cost allocation.

Application
The process by which time is entered and billed to affiliates (and assistance provided by the NUNet intra-net site) appears to ensure appropriate charges to CL&P. The coordination of the Controller's office and the CCC managers provides further assurance that Company personnel charge appropriately.

Reporting/Control
Control of budget development as well as the ongoing variance analysis appears to receive proper scrutiny in coordination between the Service Company and affiliates (including CL&P). While questions arise, indicating proper rigor in the process, no unresolved problems (e.g., forced charges) have arisen.[514] The Company's monthly reports and access to them through the NUNet intranet system provide adequate tools to report and control the allocation of its service costs.

Blue Ridge found that the NUSCO service charges that were in excess of normal trend were adequately explained, indicating that reasonable allocations continue year to year.

Blue Ridge found that the benchmarking studies performed by the Company and NUSCO did provide adequate review and comparison for certain service company functions and charges. However, the Company could realize greater assurance that Service Company charges for all service functions are appropriate according to industry standards by developing a comprehensive and coordinated benchmarking program.

Compliance
Internal audit reports and the SEC external audit confirm appropriate and adequate application of governing guidelines to the Service Company allocation process. Additionally, the emphasis on and amount of scrutiny performed within the allocation

[513] Response to Data Request BRCS-GR-01-020, Attachment *NUSCO Agreement and New Milford Lease*, Appendix A, pp. 2-4.
[514] Interview M. DiPietro and 2nd Interview S. Thomas 10/07/08.

charging process appears to provide sufficient rigor to maintain correct allocation application.

Rocky River Realty

The Rocky River Realty affiliate transactions appear to be appropriate. The dollar amounts involved are not material.

Conclusions and Recommendations

Blue Ridge concludes that service function charges allocated by NUSCO to CL&P are reasonably and appropriately established, documented, and controlled. The specific allocators and allocation methods provide proper assignment of costs on a fair and fitting basis. The documentation outlining the process provides sufficient guidance for consistent practice. Instructional provision in both the NUSCO and CL&P organizations is suitable and comprehensive. The application of the charged services through the time-reporting and billing processes allocates charges appropriately. Sufficient management control is applied in ensuring reasonable as well as correct charges. Adequate functional review as well as the internal audit program ensures compliance with program goals and procedures.

Blue Ridge recommendations:

5.12.1 NUSCO should develop a benchmarking studies program that touches on all service functions of the Service Company as applied to CL&P. The program may be done on a five-year rotating basis coordinated to the internal audit program, ensuring that NUSCO continues to provide services in all areas within industry norms.

5.13 Affiliate Company Transactions

Background

In a utility holding company environment, there exists relationships among subsidiary companies within the holding company where they can and do provide services and resources among one and another. This is typical, expected and can generate synergy savings by eliminating duplicate functions across the holding company organization.

However, there are also situations that can develop which result in an unfair allocation of resources or cross-subsidization from and between regulated and unregulated entities. This can create a situation where CL&P incurs costs that it might not otherwise incur absent the affiliate relationships.

The issue of affiliate transactions has received much attention at both the Federal and State levels. Focused and comprehensive audits on this issue are common place throughout the regulated utility industry. Central to a sound affiliate transaction relationship that protects ratepayers from inappropriate costs is the Company's Code of Conduct and Affiliate Transaction agreements. In addition, periodic compliance reviews and audit by the company's internal and external auditors as well as outside agencies such as FERC or the SEC[515] provide additional assurance that a utility holding company, its regulated and unregulated subsidiaries are acting in an appropriate manner.

Analysis

Blue Ridge requested and reviewed the Company's affiliate transaction code of conduct as well as a list of the entities to which CL&P has affiliate relationships.[516] In addition, auditors reviewed the findings and conclusions of other recently completed audits related to affiliate transactions.

Blue Ridge reviewed the service agreement between NU's service company and CL&P as well as several of the facility lease agreements between CL&P and its sister company's within the NU holding company.

Findings

Blue Ridge found that since NU made the corporate decision to exit the unregulated energy services sector, the incidences of affiliate transactions has diminished significantly. In response to a data request,[517] the Company listed only 7 affiliate agreements; 5 of which are facility leases between Yankee Gas and CL&P (the other is a facility lease between Rocky River Reality and CL&P.

Blue Ridge found that NU's corporate intranet website contained CL&P's affiliate code of conduct and its affiliate transaction principles. Further, the intranet application for employees also includes an easy reference page for employees who have questions to contact the Company's compliance officer.[518]

Blue Ridge found that the executed lease agreements appear to be in compliance with the Affiliates Transaction code of conduct.[519]

Blue Ridge noted several documents on the Company's intranet showing compliance plans for implementation of the affiliate transaction codes of conduct (1999) as well as 2004 FERC compliance plan related to Transmission.

Conclusions and Recommendations

Except as noted related to allocations, Section 5.12, NU's corporate strategy to exit its unregulated energy business ventures has significantly reduced the potential impact of these types of affiliate transactions. However, the issue of compliance with affiliate transactions rules should remain a priority with the Company and should be encouraged through continued training and awareness programs.

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515 FERC – Federal Energy Regulatory Commission; SEC – Securities and Exchange Commission.
516 Response to BRCS data request GR 01-012.
517 Response to BRCS data request GR 01-012.
518 Information contained on NU Net.
519 Response to data request BRCS GR 01-012.

Blue Ridge recommendations:

5.13.1 NU should continue to emphasize compliance with its Affiliates Transaction Code of Conduct.

6. MARKETING OPERATIONS

Objectives and Scope

Marketing Operations included a review of the Company's marketing organizational structure, departments, functions, energy efficiency, and conservation and load management program (C&LM).

Blue Ridge reviewed the marketing function to ensure that it is congruent with state initiatives and policy decisions. One focus was research, support implementation, and verification of conservation and load management initiatives and their underlying basis. The balance between customer and institutional incentives and internal versus external resources and implementation was also examined.

Overall Assessment

Blue Ridge found that CL&P is aware of the nature and scope of the challenges it faces in the energy arena. The Company appears to have a flexible organization led by experienced marketing personnel with a broad range of expertise to address the challenges it faces. However, at the time of this audit there did not appear to be any overall, comprehensive marketing plan to direct the efforts of the individual Customer Solutions groups. Furthermore, not every group within Customer Solutions has developed individual or departmental business plans or goals.

The major undertaking of the Customer Solutions group is the implementation of a comprehensive Conservation and Load Management Program which is developed annually with coordination and input from various groups including the DPUC and the Energy Conservation Management Board (ECMB). While this effort has clearly produced positive results for CL&P customers it is faced with budgetary concerns.

6.1 Marketing Structure, Departments, and Functions

Background

An utility's marketing organization must be organized for address change. As customers implement new technologies, participate in energy efficiency, conservation and demand management programs the utility may need to shift priorities to new and more effective areas. This shift requires the ability to evaluate existing programs, the capability to design and implement new programs, and the willingness to cease unproductive or ineffective efforts and programs. The utility's efforts must be underpinned by appropriate customer load research, load forecasting, and a strong measurement and verification component.

Analysis

The Marketing function at CL&P now called Customer Solutions consists of four groups (see organizational chart below) that are responsible for implementing a comprehensive Conservation and Load Management Program, interfacing with the community and growing business through its economic development programs, establishing and maintaining relationships with its large customers through Account Executives, and overseeing and facilitating the installation of Distributed Resources. Blue Ridge interviewed each section manager, the Director to whom they report, and the Vice President of Energy Services to gain an understanding of their background, roles and responsibilities and the overall activity and functions within each group. Additionally, the Director of Legislative Policy and Strategy was interviewed to gain further understanding of how Legislative initiatives and major system improvements are integrated into CL&P's overall Customer Solutions program. Marketing strategies, procedures, regulatory policy and initiatives, business plans, and key documents were also reviewed.

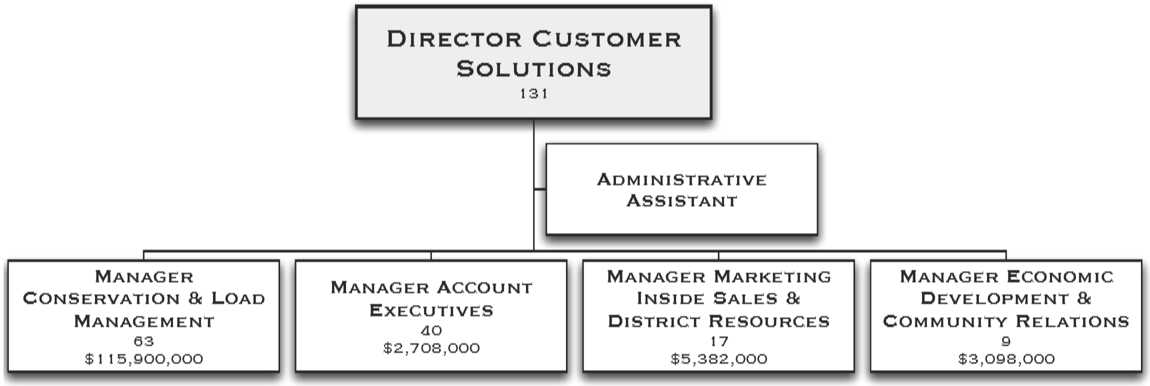
We focused on productivity initiatives, operational challenges, goals and performance indicators within each area. Marketing is similar to the research and development function where productivity is different from other utility activities and can be relatively difficult to measure within some functional areas. Individual program evaluations are necessarily long term, since the impact or persistence of many of the programs and initiatives are long term in nature. In other areas such as distributed resources, key results such as adding generation, are clearly not within the utility's control. Productivity is ultimately a product of the people within the organization and how well they are directed. Quantifiable measurement, while desirable, is sometimes difficult to obtain.

Marketing at CL&P has the stated objectives of "helping our customers increase their energy efficiency; optimize their use of energy; help business generally grow and expand in the state; and promoting other initiatives that support these strategies."[520] Translating the goals of reducing peaks, reducing inefficient demand and usage, without overly impacting revenues through various programs and load management projects is a somewhat paradoxical task. The revenue loss can be offset somewhat by incentive payments that are earned for the efficient implementation of regulatory approved programs. During the interview process Company personnel repeatedly stated that if the programs are beneficial to the Connecticut customer, regardless of revenue impact, it will in the long run be of benefit to the utility.

The following figure depicts the current structure, staffing levels of the organization, and 2008 budget for each group.

[520] Response to Data Request BRCS-MO-11-016.

Figure 14: Current Structure, Staffing Levels and 2008 Budget



Findings

As part of CL&P's re-organization, and to address recommendations in the 2002 Jacobs Consultancy Management Audit, the Marketing Organization, was modified in 2006 to effect better coordination, communication, effect efficiencies, capture cost savings and drive decision making and accountability down into the organization.[521] Most significant, 39 Account Executives who formerly reported to Division Directors now report to the Director of Customer Solutions. Likewise, the Economic Development and Community Relations, Marketing Inside Sales and Distributed Resources, and the Conservation and Load Management groups who also reported to individual Directors, now report to the Customer Solutions Director. The Customer Solutions Director reports directly to the Vice President of Energy Delivery Services.

Since there have been recent changes in personnel and the Company's overall marketing organization itself, it will take some time to determine the impact of these changes. This is especially true with respect to the Account Executives since their responsibilities will be impacted again as a result of the changing association with Yankee Gas.

Based on interviews, review has confirmed that Marketing is well positioned under the Vice President of Energy Delivery Services and led by experienced personnel, with clear customer focus and excellent Conservation and Load Management Programs. However, Blue Ridge did not find evidence of an overall Marketing Plan that directs the initiatives and plans of its component groups. It appears that each group that develops such initiatives does so independently.[522]

Blue Ridge found that only two measures of Customer Solutions activity were incorporated in CL&P's Key Performance Indicators (KPI) report, "Revenue Growth from Economic Development" and "Incentive Revenues from PA-05-01 & C&LM."[523] It is not clear why key goals for Customer Solutions' major undertaking, its Conservation and Load Management Program are not reported therein. It could be assumed that if

[521] Response to Data Request BRCS –MO-11-013.
[522] Response to Data Request BRCS MO-11-017
[523] Response to Data Request BRCS EM-40-002-RV-01-BULK

incentive revenues are being earned, then goals are being met. (An assessment of the individual groups will be addressed in following sections)

Conclusions and Recommendations

The Company is aware of the nature and scope of the challenges it faces in the energy arena and has developed a flexible organization led by experienced personnel with a broad range of expertise to address the challenge to be faced.

There does not appear to be any overall, comprehensive marketing plan to direct the efforts of the individual Customer Solutions groups.

Major goals and milestones for the Conservation and Load Management program are not reflected in the KPI reports.

Blue Ridge recommendations:

6.1.1 The Company should re-evaluate its organizational structure to ensure that it is functioning as intended.

6.1.2 The Company should develop a comprehensive marketing plan that formalizes and consolidates its overall strategy.

6.1.3 Blue Ridge recommends that given the exposure of the Conservation and Load Management Program, the Company should include additional program goals in its KPI report. Doing so would better integrate Customer Solutions activity in the corporate goal hierarchy.

ACCOUNT EXECUTIVES

Background

In today's business environment it is essential that utility companies maintain positive working relationships with their larger customers. Higher costs, environmental concerns and increased media coverage all lead to increased utility visibility. Account Executives provide a valuable function by not only creating a somewhat personal relationship, but also act as an information conduit from the customer's perspective which, if properly used, is an invaluable resource for the utility.

Analysis

Blue Ridge interviewed the Account Executive Manager and reviewed the rationale for the organizational change, performance measures, utilization of the iAvenue data base system and the results of the 2007 Commercial and Industrial Customers' survey that evaluated the Account Executives.

Findings

As noted earlier, this group is currently comprised of 39 Account Executives who report to the Manager of Account Executives who reports to the Director of Customer Solutions. Formerly, they reported to the Division Directors. The Account Executives (AE) are responsible for maintaining relations with the Company's larger customers, municipal customers, and various community groups and associations. Account Executives also provide support for the Conservation and Load Management Program and the distributed generation programs by conducting meetings and seminars that cover such topics and the opportunities afforded through them. Part of the rationale for transferring these positions from the Division Directors to the Customer Solution Director was to take advantage of the synergies between electric and gas. However, Blue Ridge understands that the affiliation with Yankee Gas will be ending.[524]

In a response to a request for this group's goals and objectives and business plans, the Company provided what can be characterized as individual performance measures.[525] The Company did not provide a departmental business plan for its Account Executives.[526] With respect to these individual performance measures for the Account Executives, supervisors meet with each AE each month to review the goals and their status. The reporting system, iAvenue is used to keep track of AE progress as well as documenting the monthly discussions.[527]

The Company stated that the Account Executives are responsible for achieving sales and retention goals, however, there was no quantification provided.[528] The Company did not provide details as to how this objective was established and whether it is reasonable and attainable. The Company surveys its larger accounts to provide feedback on the efforts of the account executive workforce. Absent any measureable results of account executive customer interaction, little else can be done to evaluate performance at this time.

Conclusions and Recommendations

Account Executive goals cannot be considered departmental in nature. In fact, achieving these goals does not translate into any measure of effectiveness for the group.

Account executives will no longer be affiliated with Yankee Gas.

Blue Ridge recommendations:

6.1.4 The Company should develop and formalize higher level goals for this Department.

6.1.5 The Account Executive group should develop a comprehensive business plan and consider using the Economic Development Group's plan as a model.

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524 Press release Energy Central News 9/26/08.
525 Response to Data Request BRCS-MO-11-11.
526 Response to Data Request BRCS -MO-11-11.
527 Interview B. Shaw 10/03/08.
528 Response to Data Request BRCS-MO-11-11.

6.1.6 Given the change in the Yankee Gas affiliation, CL&P should re-evaluate the Account Executive organization.

ECONOMIC DEVELOPMENT AND COMMUNITY RELATIONS

Analysis

Economic Development and Community Relations is a relatively small group within the Customer Solutions organization, Blue Ridge interviewed its Manager and the Director to whom he reports. Document requests were issued that addressed the group's budget, goals and objectives, business strategy and overall functions.

Findings

Formerly, the two groups that comprise this section reported to individual directors. The Company has merged them, and they now report to a single manager. This is an externally focused group of mostly communication professionals that work closely with communities with business representatives, community leaders, site selection consultants, special needs customers, and other similar groups essentially to build and retain capacity within the area.[529] They work closely with the Account Executives and consider themselves tied to the health of the community. Oftentimes they lend their expertise to help communities develop a consensus on various activities and projects that may be under consideration.[530] Additionally, they occasionally assist in the timely resolution of service issues.

This nine person group has a 2008 budget of $3.0 million. While the overall budget of $1,750,000 has remained fairly flat for the past few years for the Economic Development Group (comprised of Economic and Community Development & Economic and Business Development), and the $1 million budget for Economic and Community Development has virtually been eliminated, the Economic Business Development has increased accordingly.[531] Clearly, this shift in emphasis is in response to the DPUC position that programs with the greatest benefit/cost ratios be increased.[532]

One of the major reported goals for this group is "Revenue Growth From Economic Development", which remained on target for the first half of 2008 despite difficult times. To assist in the identification of potential business expansion or activity, the Company uses its E-pulse business visitation program. With respect to community relations evaluations a variety of outside surveys are used, such as:

- The Edison Electric Institute Low Income Program Survey
- The Connecticut Council for Philanthropy Survey of Greater Hartford Corporate Funders

[529] Interview D. Fisher 9/19/08.
[530] Response to Data Request BRCS- MO-11-010.
[531] Response to Data Request BRCS-MO-11-006.
[532] Docket No. 07-10-03, p. 16.

Conclusions and Recommendations

Economic Development and Community Relations has an excellent, comprehensive Business Plan that provides the strategic focus framework for upcoming activities, program performance metrics, and in some instances a summary of past accomplishments.[533] The Company has classified this document as confidential.

Blue Ridge recommendations: none

MARKETING INSIDE SALES & DISTRIBUTED RESOURCES

Background

The Marketing Inside Sales group primarily performs activities related to Yankee Gas, with minimal activities related to the CL&P.[534] The Distributed Resources Group is primarily responsible for overseeing the installation and interconnection of distributed generation, but it is also concerned with implementing other load response strategies consistent with The Energy Independence Act.

Analysis

Since Marketing Inside Sales is associated with Yankee Gas, Blue Ridge only focused on the Distributed Resources Group's activities. Blue Ridge interviewed the Manager, reviewed regulatory policies and decisions concerning distributed generation, interconnection guidelines, forward capacity auctions, performance measures, and the group's goals and objectives.

During the interview process the Company stated that approximately 15 to 20 MW has been added under the current program.[535] However, the manager was unable to provide the cost of these installations even though he stated costs are monitored. Currently, the Company provides legislatively determined incentives[536] and assistance to customers desiring to install generation. As in the Conservation and Load Management Program, the Company receives incentive payments for the efficient implementation of its Load Response Program. As of the second quarter, CL&P reports that 186 MW has been enrolled in the Load Response Program, with 14 MW coming from third party vendors.[537]

In its recent Decision, Docket No. 07-10-03, the DPUC stated that funding for EIA programs will end in 2008, but there will be a provision to request budgetary funding through a different process.[538] The funding was originally intended as a short term measure and given the response and success of the measures implemented, it is no longer

[533] Response to Data Request BRCS-GR-63-001.
[534] Response to Data Request BRCS-MO-11-012.
[535] Interview B. Barbera 9/18/08.
[536] Interview R. Soderman 12/17/08.
[537] Response to Data Request BRCS-MO-11-021, p. 4.
[538] Docket No. 07-10-03, p. 11.

necessary. Additionally, it stated that the need to add additional generating resources has lessened.

Findings

Distributed Resources provided Blue Ridge with a copy of its 2008 goals.[539] However, when requested, the group did not supply a business plan.[540] In response to a data request on the development of initiatives, the Company cited many DPUC-EIA dockets as the stimulus, but Blue Ridge found no formal process to develop plans or initiatives within Distributed Resources in response to the docket.[541]

While Distributed Resources and related EIA initiatives will play a part in future energy requirements, the Company may have to reconsider the function of this group.

Conclusions and Recommendations

Much of Distributed Resource's work is the result of legislative and/or regulatory proceedings and decisions. However, Blue Ridge believes that Distributive Generation would benefit from the direction and focus a business plan would provide.

Blue Ridge recommendations:

6.1.7 Distributed Resources should institute a formal process to develop initiatives or business plans for the group. A formal process would ensure that all major issues, inter-relationships, and alternatives are addressed.

6.1.8 Distributed Resources should also develop a comprehensive business plan and consider using the Economic Development Group's plan as a model.

6.2 Energy Efficiency, Conservation, and Load Management

Background

Energy efficiency, conservation and load management programs assist the utility meet end use and peak loads more economically, with lower impact on the environment. However, such programs also require reliance on a number of stakeholders. Governmental action can also influence or create an appropriate market value for demand management. Product and services suppliers must be developed and encouraged to create the availability of needed load management and energy efficiency devices and services. Since this is a joint effort, customers must be educated to understand the need for and the mechanisms to achieve load management, along with the financial and environmental benefits and costs.

[539] Responses to Data Request BRCS-MO-48-002 and BRCS-GR-63-01, item 14.
[540] Response to Data Request BRCS-MO-11-012.
[541] Response to Data Request BRCS-MO-11-017.

As a result, a utility's approach to conservation and load management, demand response, and related topics is a function of many variables, which evolve as the nature of the electric utility business and technology both evolve. Efforts to influence customer behavior are driven by factors which can within a short time change significantly and today's' utilities should have the flexibility, strategy, and information to deal with such changes.

Analysis

Blue Ridge's review of the Conservation and Load Management (C&LM) department focused on the overall Conservation and Load Management Program, its development, management, reporting, and evaluation. Individual programs were not assessed.

C&LM is responsible for developing and implementing individual marketing strategies for each Connecticut Energy Efficiency Fund program and initiative it administers.[542] Annually it prepares a comprehensive Conservation and Load Management Plan, which is jointly submitted to the DPUC by CL&P and United Illuminating Company. This plan and its estimated budget are formally developed, reviewed, and finalized with close coordination and input from the Energy Conservation Management Board (ECMB), the Connecticut Energy Efficiency Fund (CEEF), and other interested parties.

The current approved 2008 plan reflects 20 individual programs with a combined budget of $115,900,000. The Conservation and Load Management Program budget is $88,700,000 and the Energy Independence Act (EIA) initiatives have a budget of $27,200,000.[543] Funding for the programs, as well as the costs for the C&LM group, is provided through a statewide energy surcharge of 3 mils/kwh[544] and through the Non-Bypassable Federally Mandated Congestion Charges (NBFMCC).

CL&P develops its strategy for its C&LM program through active participation in legislative processes and regulatory proceedings that address the many aspects of Connecticut's overall energy policy, capacity and demand forecasts, integrated resources, and specific initiatives such as renewable energy sources and emergency generation.[545]

Pursuant to a Legislative directive, (PA 07-242) CL&P filed an Integrated Resource Plan, the first in ten years with the Connecticut Energy Advisory Board (CEAB) in January 2008. This plan will be forwarded after review by the CEAB to the DPUC. The Integrated Resource Planning process was more prevalent in the industry prior to deregulation, but remains an effective forecasting tool for integrating various resources to meet projected customer demand.[546]

The following table provides a summary of the programs, incentives, budget status, and savings as of the second quarter of 2008.

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[542] Response to Data Request BRCS-MO-11-017.
[543] Broadly defined as those activities designed to address capacity and reliability issues.
[544] Interview R. Soderman 12/19/08.
[545] Response to Data Request BRCS-MO-11-015 and 016.
[546] Interview R. Soderman 12/19/08.

Table 27: CL&P/UI C&LM Programs Incentives, Budget status, and Savings

#	CL&P/UI C&LM Programs	2005 Budget	2005 Spending	2005 % of Budget	2006 Budget	2006 Spending	2006 % of Budget	2007 Budget	2007 Spending	2007 % of Budget	YTD 2ndQ 2008 Budget	YTD 2ndQ 2008 Spending	YTD 2ndQ 2008 % of Budget
1	**Dollars**												
2	Residential	$ 20,277	$ 17,195	84.8%	$ 16,705	$ 17,762	106.3%	$ 18,200	$ 19,956	109.6%	$ 23,551	$ 10,871	46.2%
3	Commercial & Industrial	$ 32,423	$ 31,745	97.9%	$ 28,157	$ 27,462	97.5%	$ 29,610	$ 47,331	159.8%	$ 34,890	$ 26,881	77.0%
4	Education	$ 200	$ 200	100.0%	$ 727	$ 713	98.1%	$ 725	$ 719	99.2%	$ 500	$ 150	30.0%
5	Programs & Requirements	$ 403	$ 404	100.2%	$ 566	$ 609	107.6%	$ 300	$ 297	99.0%	$ 330	$ 26	7.9%
6	Load Management	$ 3,889	$ 2,051	52.7%	$ 2,457	$ 1,378	56.1%	$ 2,033	$ 645	31.7%	$ 830	$ 93	11.2%
7	Admin/Planning	$ 8,946	$ 8,084	90.4%	$ 7,018	$ 8,059	114.8%	$ 6,456	$ 8,589	133.0%	$ 7,428	$ 2,002	27.0%
8	Renewable / RD&D	$ 1,044	$ 629	60.2%	$ 315	$ (23)	-7.3%	$ 400	$ 131	32.8%	$ 350	$ 29	8.3%
9	**Demand (kW)**												
10	Residential	12,600	11,859	94.1%	9,014	12,088	134.1%	9,412	9,771	103.8%	12,884	4,942	38.4%
11	Commercial & Industrial	24,955	26,145	104.8%	23,013	33,066	143.7%	19,746	36,772	186.2%	21,180	10,215	48.2%
12	Education	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
13	Programs & Requirements	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
14	Load Management	15,696	76,316	486.2%	40,830	27,752	68.0%	445	20,879	4691.9%	14,000	16,023	114.5%
15	Admin/Planning	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
16	Renewable / RD&D	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
17	**Energy (MWh) (in 000)**												
18	Residential	596	675	113.3%	566,413	719,351	127.0%	553,610	734,045	132.6%	721,937	379,539	52.6%
19	Commercial & Industrial	1,952	2,595	132.9%	2,448,099	3,101,242	126.7%	1,514,136	2,686,189	177.4%	1,575,941	671,048	42.6%
20	Education	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
21	Programs & Requirements	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
22	Load Management	21	2	9.0%	17,094	25	0.1%	7,700	-	0.0%	n/a	n/a	n/a
23	Admin/Planning	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
24	Renewable / RD&D	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Source: MO 11-005

The progress and performance of the program is monitored through a variety of reports at different levels within the Company with respect to budgets, kWh savings goals, customer participation, performance incentives etc. In some, explanations for performance as well as actions to improve performance are provided.[547] For example, in reporting on "Revenue Growth from Economic Development" the Company stated "Economic conditions promise to challenge this metric for the balance of 2008 and into 2009. The aggressive use of the new E-Pulse business visitation program by CL&P/YGS and its partners should help identify companies in the midst of critical expansion decisions…"[548] Additionally, C&LM meets regularly with the ECMB to review program performance and possible modification for future program development. The ECMB also hires third party vendors to conduct impact and process evaluations of the programs.[549] These evaluations provide vital feedback and determine the overall value or benefit of each program.

Findings

Overall, Connecticut was ranked number one (along with California and Vermont) by the American Council for an Energy Efficient Economy[550] for its energy efficiency initiatives with CL&P gaining national recognition for some of its individual programs.

Despite this excellent program performance, the Company was recently criticized by the DPUC for overspending its budget prior to formal approval and doing little to control its budget over the past few years.[551] The C&LM and EIA budgets for 2007 were exceeded by ~ $24.3 million. There was partial recovery through the NBFMCC with the unrecovered balances for both 2007 and 2008 to be applied to 2009 C&LM revenues.

The final approved 2008 Plan reflects a significant increase over what was actually expended in 2007. In fact, spending for the Conservation and Load Management Program alone exceeded the 2007 budget by ~$20 million or 34.55%.[552] The primary reason for this increased spending is attributable to oversubscription of some of the Company's programs. At the time of this review, and in response to the DPUC's decision in Docket No. 07-10-03, the Company reported that the 2008 Commercial and Industrial budget has been fully committed and that "all new commercial activity has been suspended and actions have been taken to cancel all existing projects that have expired wherein the customer has taken no action."[553]

In further discussion of the budget issue, the DPUC acknowledged in its Decision, Docket No. 07-10-03, that:

547 Response to Data Request BRCS-MO-11-021, p. 2.
548 Response to Data Request BRCS-MO-11_021, Bulk
549 Response to Data Request BRCS-GR-63-001.
550 www.aceee.org.
551 Docket No. 07-10-03, p. 3.
552 Response to Data Request BRCS- MO-11-005, p. 4.
553 Response to Data Request BRCS-MO-11-021, p. 2.

> The high price of energy is causing customers to seek out the programs supported by the Connecticut Energy Efficiency Fund. This in turn is placing upward pressures on program budgets and creating a challenge; specifically, how to meet the increasing demand for C&LM program services while avoiding an increase in the overall C&LM budget, which would require an increase in electric rates to recover the costs.[554]

This is an issue that poses funding questions for both the DPUC and Legislature as these programs move forward.[555] Normal price elasticity combined with the conservation effects of program participation further complicates the budget/cost recovery situation. (Funding is directly tied to kWh sales which are being reduced by program participation.)

The DPUC also stated in its decision that "The Department is concerned with the apparent lack of regard for the C&LM budgets approved by the Department,"[556] and effectively put the Company on notice that future cost recovery will not be guaranteed. The Company did not provide any internal documentation that addressed or discussed the budget concerns of the DPUC. (Documentation was provided that described the actions the Company proposed to the DPUC, ECMB, and others to address the budget concerns.[557])

Blue Ridge agrees with the DPUC regarding the Company's budget oversight. CL&P cannot let these programs take on a life of their own and assume automatic cost recovery. Auditors acknowledge the fact that untimely curtailment or elimination of programs is a difficult decision for the Company and the DPUC.

The recently submitted Integrated Resource Plan, which will evaluate 3, 5, and 10 year energy and capacity requirements and which proposes increases in C&LM funding,[558] is a positive step. It is more unified and long term in nature and should provide better direction to the C&LM program.

Blue Ridge reviewed reports provided to senior management regarding the C&LM and EIA initiatives. The majority of these reports contain financial information with little qualitative information on the individual programs. Reports are an important management tool helping to track variances and performance. It is unclear from the information provided to Blue Ridge the extent to which the Company's senior management reacted to the budget overruns.

In developing its C&LM plan, the Company must possess and utilize accurate and current customer and system load information. Having such information provides the basis for the utility to tailor programs and services that will yield the most benefits to its own load characteristics, system assets, and the customers themselves. Blue Ridge's review of

[554] Docket No. 07-10-03, p. 3.
[555] Docket NO. 07-10-03, p. 3.
[556] Docket NO. 07-10-03, p.8.
[557] Response to Data Request BRCS- MO-48-001.
[558] Docket NO. 07-10-03, p. 15.

requested material indicates that such information is integrated into the development of the annual Conservation Plan.[559] The C&LM Plan also reflects information gleaned from formal market assessments on customers and other stakeholders.[560] The marketing organization must also stay abreast of the latest technologies in the energy service arena so that all feasible alternatives are considered in its program development. The Company provided Blue Ridge with documentation, which indicates that its Customer Solutions staff has attended extensive seminars and trade shows within the past several years.[561]

Blue Ridge noted that while there are many excellent individual programs and initiatives, the Company does not have a formal process to develop these programs and initiatives. Once an initiative is identified, the Company will establish a cross functional team to further develop it.[562]

The Company provided Blue Ridge with copies of its C&LM procedures for the administration of its program. The review notes that they are detailed, comprehensive, and undergoing revision.[563]

The Company has a formal process for program evaluation in collaboration with the ECMB. These are third party evaluations and can be process, impact, market assessment or special purpose, and are approved by the DPUC. The Company provided Blue Ridge with a listing of 19 completed formal evaluations on its C&LM program. Evaluations in the area of conservation and load management are often long term in nature and are oftentimes performed some time after particular measures have been installed or implemented. Usually this is done to gauge the persistence or long term impact of the measures in question. From the information reviewed, Blue Ridge could not determine if there were any formal evaluations completed subsequent to 2005. Five program evaluations were scheduled to be completed in the latter part of 2008.[564]

A Company data response stated that only one internal audit has reviewed the C&LM function in the last three years.[565] The audit was to review the controls of the administration and expense of the Energy Opportunities program.

Overall, the Conservation and Load Management Program and Demand Response initiatives at the Company have been a success. Programs implemented last year alone are estimated to save customers some $643 million over the life of the measures, and the Company doesn't foresee Connecticut needing to add generation until 2013-2014.

[559] Response to Data Request BRCS- MO-11-29.
[560] Response to Data Request BRCS-GR-63-001.
[561] Response to Data Request BRCS-MO-48-003.
[562] Response to Data Request BRCS-MO-11-017.
[563] Response to Data Request BRCS-MO-11-014.
[564] Response to Data Request BRCS-MO-11- 20 Bulk.
[565] Response to Data Request BRCS -MO-11-025.

Conclusions and Recommendations

While CL&P has developed and implemented a comprehensive and effective Conservation and Load Management Plan, budgetary and rate concerns remain.

While some C&LM initiatives may come directly from the DPUC, the ECMB or other outside parties, no formal process exists for the development of proposed or modifications to ongoing programs.

While there appear to be adequate checks and balances in the Company's individual program procedures for the processing and payment of outside contractors and/or customer rebates, Internal Audit has had little involvement in the C&LM Program over the past several years.

Blue Ridge recommendations:

6.2.1 Given the DPUC's C&LM budget concerns, the Company must be more proactive, anticipate and/or prioritize program or operational changes in its annual plan submission, and focus on improved cost performance both in-house and with its contract vendors. The Company should re-evaluate its budgetary and cost control procedures, and accountability for its C&LM program.

6.2.2 The Company should develop a formal process for the development of C&LM programs or initiatives. A formal process would enhance the current program. Whether it is a solicitation, top down or bottom up process, there should be a formal avenue, company wide, to propose and review potential endeavors. Such a process would better ensure that specific projects be developed and prioritized based on cost effectiveness, manageability, or other criteria. Specific procedures would require that each proposal contain all the required information necessary for management to properly evaluate such proposals. This is especially important in light of the recently implemented Integrated Resource Process directed by the Legislature.

6.2.3 The Company should increase its internal audit activity in vendor implemented programs. There should be more independent oversight given the nature of the transactions and sums of money involved. Even though many programs require verification of particular measures, it is important from a control perspective, for the Company to have its own auditors randomly verify that procedures have been followed.

7. HUMAN RESOURCES

Objectives and Scope

Blue Ridge's review of Human Resources (HR) included a review of recruiting and staffing; compensation programs; incentive programs; employee benefits, including pensions and other post retirement employee benefits (OPEB); employee development and training; performance evaluation; labor relations; manpower planning; process management; ethics, diversity, and EEO; and safety and health.

Overall Assessment

As a centralized, shared service for all the companies within NUSCO, the Human Resources organization provides traditional transactional services plus an array of internal strategic consulting services to CL&P. The Human Resources team follows industry standard policies and practices and develops best-in-class innovations, some programs have won national awards for excellence. The majority of the work completed by the Human Resources department is of best practice level.

The Recruiting (Employment) and Staffing section of the organization develops a hiring strategy so that they can make deliberate and thoughtful hiring decisions. In addition, it is the only section within HR that has begun to evaluate the performance of key sub-processes.

Compensation Programs for both executives and non-executives are based upon standard industry practices and is handled with impartiality, expertise, and a high level of integrity. The Compensation department, the Compensation Committee, and the independent outside executive compensation consultant design and monitor incentives to help the Company remain competitive.

The Employee Benefits (including Pensions and OPEB) offer a wide range of benefits that provides flexibility in meeting the changing and demanding needs of a diverse workforce. The Company manages its benefits programs well and has won national awards for their WellAware Program.

Employee Development and Training is comprised of two main components: Technical Training and Organizational Change and Learning. Both provide an adequate array of programs for specific populations. However, employees perceive training as only average, indicating a need for additional evaluation by the Company.

Human Resources performance evaluation and management has opportunities to improve both at the department and the Company level. Instead of cascading the Key Results Areas (KRAs) from the corporate Balanced Scorecard, the Human Resources team employs each Vice President's own performance metrics to measure the performance of the department and processes.

Labor Relations, staffed with seasoned experts, handles union relations, negotiations, grievance processing, and company-wide disciplinary actions. They have a good working relationship with one union and are enhancing the relationship with the other major bargaining unit. Labor Relations has no substantial metrics and has not documented administrative procedures beyond a high-level flowchart of the process.

Workforce or Manpower Planning is a major impetus for the Company. With the expected retirements of Baby Boomers during the next five years, Northeast Utilities has spearheaded a concerted effort to recruit younger workers and encourage students to consider utility work as their choice of profession.

Process Management develops standards and metrics to ensure that the HR processes continue to perform at their targeted standards. Blue Ridge noted several areas within the Company where development of standards and metrics is a weakness of the Company's Human Resources organization.

The Company complies with both the letter and the spirit of the law regarding ethics, diversity, and EEO (Compliance). A strong employee involvement culture and a variety of creative programs help develop the Company's employee involvement and ownership beyond the regulatory specifics of the laws and guidelines.

CL&P has developed solid Health and Safety programs and they follow best practices in both the safety and health areas. The preventive health programs have won awards. CL&P has adopted programs known to work from other organizations to improve safety on the job. In spite of renewed commitment to safety, the results have not met the Company's goals. The employee committees, instituted in 2008, are still a work-in-progress.

7.1 Human Resources Overview

The role of Human Resources is becoming increasingly important as company assets become more intangible and reliant on intellectual capital. HR professionals strive to use people wisely with respect to the strategic needs of the business.

Human Resource departments have become an integral part of guiding the business. They facilitate planning, project, and process improvement teams. They coach and counsel executives on integration of strategies into the business. They train operations in tools and techniques to improve the business. They are experts in policies, programs, and practices, and have now become experts in processes, cultural change, and solutions in the new world of strategic partnership.

Analysis

Blue Ridge reviewed data responses and studied the Human Resources organization to determine what functions and roles fell under its umbrella and how the group was organized. The analysis included scrutinizing short-term and long-term planning documents, NARUC documents, Annual Plans, proxies, Commission guidelines, processes, policies and procedures on-line, department goals and objectives, and the on-line employee handbook.

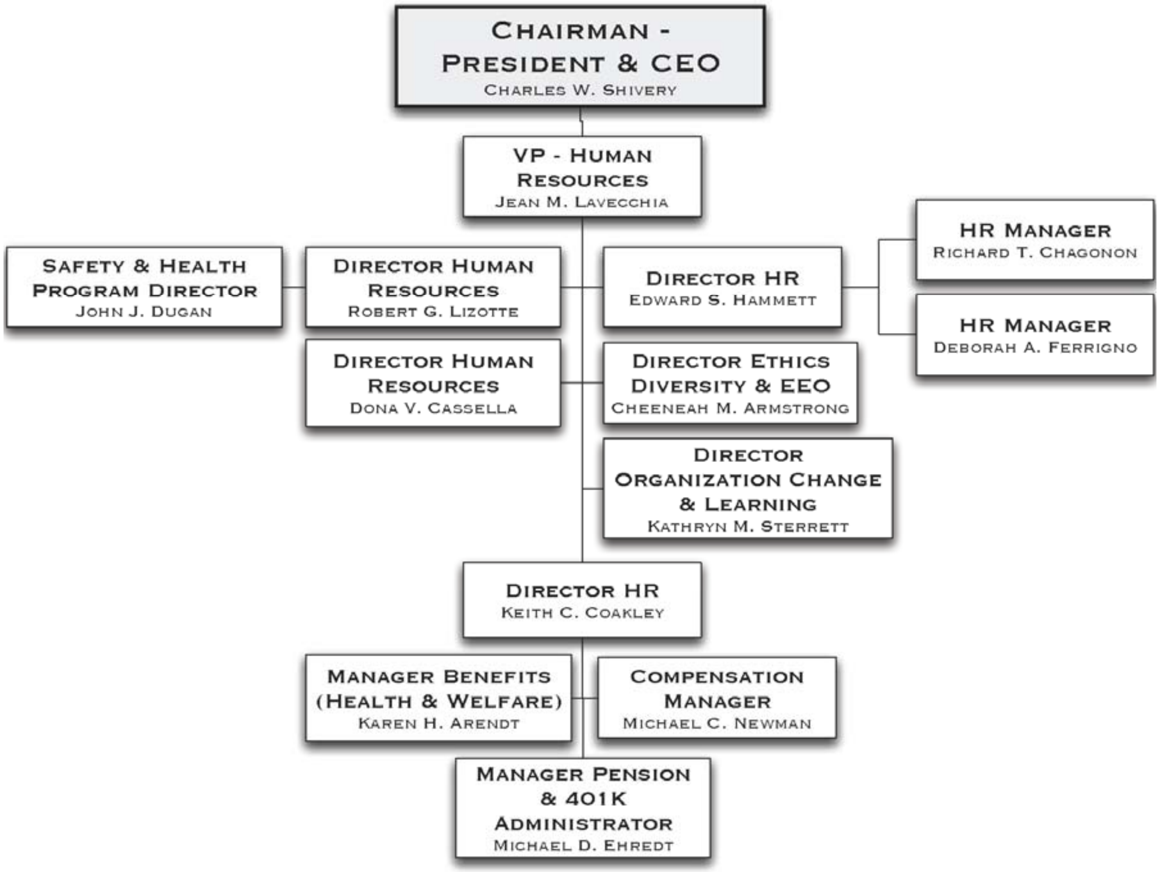
The audit also covered department performance measures to evaluate the performance management system. Internal audits and a benchmarking study of human resource information technology were reviewed, and budgets, cost savings and containment methods were studied. Blue Ridge considered the services and the level of customer satisfaction of the HR Service Center, the results of the 2007 Workplace Survey, and exit interviews.

Blue Ridge also scrutinized processes and actions that impact employees' well-being and employment status. The audit investigated the personnel files, and how HR maintains confidentiality and data safely and compliance with federal and state human rights-related regulations. Blue Ridge interviewed the Human Resources management team, its Vice President and directors along with the Director of Technical Training, and the manager of CL&P's Safety program. An interview was also conducted with the chair of the Board of Trustee's Compensation Committee. Company personnel conducted the auditors on two tours covering the corporate campus and Building 3333 to view the facilities and to check that the appropriate posters, regulations, etc. were posted in prominent places.

As a centralized shared service, Human Resources help Northeast Utilities and the operating companies provide human resources services to the entire organization. The Company assigns Human Resources representatives throughout operating groups.[566] The following figure contains NU's current Human Resources organization.

[566] Interview D. Cassella on 9/16/08.

Figure 15: NUSCO Human Resources Organization[567]



In 2006, Human Resources reorganized and restructured to better serve the corporation and companies. Considering the reduction in number of staff members and increase in more complex problems, the decision was made to organize HR strategically and partner with the operating businesses creating what is know as a strategic Center of Excellence (COE) Model.[568]

The COE Model centralizes core services, allowing experts to focus on specific disciplines and core skills rather than spreading them throughout the organization. At NU, Human Resources created several Centers of Excellence: Employment and Staffing, Labor Relations, Organizational Change and Learning, Compensation, and Benefits Design. This allowed HR to specialize and develop economies of scale by handling the work from all the companies. For instance, most of the transactional and customer-oriented services, such as, personnel record retention, Human Resources Information Technology (HRIT), and HR Service Center fall under one director.[569] This organizational construct ties to what is considered industry best practice.

[567] Response to Data Request BRCS-GR-01-004.
[568] Interview D. Cassella on 9/16/08.
[569] Interview D. Cassella on 9/16/08.

With the loss of day-to-day transactional work at the individual company level, other professionals (three for CL&P and Yankee Gas) could devote themselves to strategic employee relations work as Business Partners. Two additional senior HR consultants partner with managers, supervisors, and directors in completing diagnostic interventions to improve the businesses' performance and, then, handing off to the Business Partners.[570] Two senior HR directors support executives as strategic partners.[571] To maintain integration and continuity, the HR peer group meets monthly for Just-In-Time training, problem solution, legal and compliance updates, and to share their successes and development needs.[572]

The HR Service Center centralizes transactional duties that allow the rest of the Human Resources team to work on more strategic issues. The two HR Service Center Customer Service representatives handle all questions from nearly 12,000 active and non-active employees about benefits, compensation, policies and procedures, retirement, healthcare, etc. Their workload of 56-75 calls per day peaks three-fold during open-enrollment periods at which time they are supplemented by contractors. The Service Center director attributes the strong showing of the 94% customer satisfaction index score to the following:

- Weekly training in advance
- Meetings every morning regarding issues during Open Enrollment
- Written Standard Operating Procedures for over 100 processes
- Remedy tickets to ensure all problems are resolved to the customer's satisfaction in a timely manner
- Managing intervention to resolve issues
- Performance measurements that are taken and used
- Effective technology
- Monitoring of calls by the director to ensure courteous, responsive, and accurate service[573]

The Human Resources Information Technology (HRIT) is referred to as a barnacle system because all new needs and uses have just been stuck on to make it work for them. Those directors interviewed who had used PeopleSoft at other companies opined that the NU system does not allow them to slice and dice data the way they would like. The reason that the HRIT had been so effective up to this point is that their Information Technology team is seasoned. With the retirement of the Information Technology team, that success will be constrained.

Records management, another core service of HR in the transactional group, is involved in a pilot program. The new system RIMS, which updates the previous record

[570] Interview E. Hammett on 9/2708.
[571] Interview D. Cassella on 9/16/08.
[572] Interview D. Cassella on 9/16/08.
[573] Interview D. Cassella on 9/16/08.

information management system, documents the procedures for creating, managing, retaining, preserving, and disposing of records.[574]

Two Workplace Surveys (2004 and 2007) allowed Human Resources to measure how their work has impacted the Company over a three-year period. Broken out by corporate, company, and Human Resources, the results provided Human Resources data about culture, communications, ethics, trust, and potential retirements. InFocus teams, sponsored by executives, are defining solutions to address issues and problem areas identified in the survey.

The Human Resources organization has clear, written policies, procedures, and descriptions that are documented on the NuNet Intranet. The information on NuNet comprises a variety of topics, including benefits, diversity and EEO, job information learning, policies and procedures, retirement, labor relations, compensation, and a Manager Center. Augmented by a Self-Service Center, NuNet offers links to a pension calculator and travel services for making plane reservations.[575]

HR ensures that all new policies, procedures, and plans comply with applicable federal and state laws and guidelines, and are legally defensible if challenged. HR personnel consult regularly with NU's Legal department concerning new and changed laws and regulations monthly.[576]

HR has a mission, goals, and objectives which align with those of the business and are communicated to employees.[577] On the 2007 Workplace Survey, the Human Resources respondents replied as follows:

- 87% said that they understand how their job helps HR achieve its business goals (vs. 82% of all NU respondents)

However, the HR personnel did not feel as positive about communication:

- 39% said that HR does a good job of communicating information to employees (vs. 42% of all NU respondents)[578]

HR has systems to handle workforce planning, hiring, talent management, competencies, and performance. For example, the Company initiated a program to attract high school students into technical training paths so that they can create a feeder pool of technical talent for the future.

The Workplace Survey prevails as the major way that the HR organization uses employee feedback about the performance of the Company.[579] The Director of Ethics, Diversity,

[574] Response to Data Request BRCS-FO-04-014 and Interview D. Cassella on 9/16/08.
[575] From *https://webvpn.nu.com/NUCorporate/Depts/HR*.
[576] Interview D. Cassella on 9/16/08 and Interview K. Coakley on 9/4/08.
[577] Interview J. LaVecchia on 8/20/08 and Response to Data Request BRCS-GR-01-001.
[578] Response to Data Request BRCS-HR-07-082.
[579] Response to Data Request BRCS-HR-07-082 and Interview J. La Vecchia on 8/20/08; Interview K. Coakley on 8/20/08; Interview D. Cassella on 9/16/08; Interview E. Hammett on 9/29/08.

and EEO even used the difference between diversity scores on 2004 and 2007 to show how the gap had decreased over time.[580]

Human Resources use a number of strategies and tools to help CL&P lower cost, improve processes, and help the business work more effectively. They include:

- Programs in health and welfare areas that are aligned with business objectives
- Compensation programs designed to provide a balance between being externally competitive, meeting employee needs, and managing internal cost constraints
- Development of a Performance Talent Management System to help management become more effective with performance reviews, goal setting, and employee development plans
- Leadership development programs and opportunities including rotational assignments, mentoring programs, business school opportunities, internal and external management development courses
- Utilizing the new Windsor Call Center facility for learning sessions[581]

Almost every HR interviewee mentioned completing some kind of evaluation of its systems and practices against *Best Practices* either before planning or after implementation of programs.

Findings

The Human Resources team is articulate, strategic, expert, and committed. They employ industry standard Human Resource practices and procedures, but have ameliorated them through initiative and innovation. They provide a level of excellence to their work. In spite of some archaic systems, such as the Human Resources Information Technology, they provide creative, legal, and good results.

Most of their work is at the best practices level except in the area of measurement and using processes to run Human Resources like a business rather than as a staff role.

The 2007 Workplace Survey offered some pointed data for both the Company and Human Resources. In spite of the upbeat Communications vehicles, some deep-seated issues prevail. For instance, if employees feel that their Company does not provide a climate of openness and trust,[582] they will never bond as a high performing team.

The HR organization does not identify and monitor metrics that predict and measure the performance of the HR processes and activities.[583] According to the Vice President of Human Resources, HR utilizes the Vice President's own performance metrics which do not predict or measure process performance.

[580] Response to Data Request BRCS-HR-21-064.
[581] Response to Data Request BRCS-HR-21-016.
[582] Response to Data Request BRCS-HR-07-082.
[583] Responses to Data Request BRCS-GR-01-001; 019.

Human Resources consolidated functional activities to reduce costs and eliminate duplication of efforts in a variety of ways, including:

- Creation of the Centers of Excellence to share between the companies of the corporation
- Cutting staff 50% over the last 5 years, and bringing in a contractor for temporary employees during peaks
- Reducing staffing coverage in different areas so that employees and managers have a broader range and span
- Hiring more junior staff to monitor, train, and coach [584]

Conclusions and Recommendations

The HR organization thinks, plans, and acts strategically. The structure of the organization and the Strategic Employee Relations organization developed from a strategic intent. The Human Resources Information Technology situation, measurement for the processes of Human Resources, and resolution of issues raised by the Survey are all critical.

The Balanced Scorecard measurement system and the Performance Management and Performance and Talent Management System seem to be running parallel measurement systems where the wording and measures should be aligned. See section 7.10 Process Management regarding performance measurement and metrics.

When reporting the results of employee surveys, Northeast Utilities' compares favorably to norms of other respondent companies in the data pool. The Company should share this information in reporting survey results so employees can identify the actual impact of the responses.

Many of the 2004 communications vehicles identify the relationship to norms as did the Management Committee Report dated December 7, 2007, but the 2007 Workforce Survey Reports did not identify these. Also, the 2004 data were presented in a way in which the reader could synthesize more accurate conclusions. The previous comparisons with normative data in the consultant's database of those respondents who had answered the same question were more helpful. Even if 99 percent of Northeast Utilities respondents replied positively to a question, if it were much lower than the normative percentage, it would indicate that more analysis was needed. For a World Class Human Resources organization like this one, comparisons with World Class figures are also needed.

Measurement for Human Resources process performance is limited and not completely aligned with the metrics of the corporation.

[584] Interview D. Cassella on 9/16/08.

- The corporate Balanced Scorecard measurement areas (Key Results Areas and Key Performance Indicators) are not cascaded down to Human Resources, and, then, to all the HR sections.
- HR employs the vice president of HR's Key Performance Indicators as its metrics, ignoring HR's impact on the remaining KRAs of Operational Performance, Customer Care, and Financial Performance.
- the HR Team does not have a direct line-of-sight back up the chain to see how they individually impact and influence the performance of the corporate KRAs of Operational Performance, Customer Care, and Financial Performance; they do have the line-of-sight for the KRA of People as the vice president of HR's Key Performance Indicators revolve around people issues.
- Except for the Recruiting and Staffing section, HR does not use a process focus to ensure quality, standardization, and consistency in their work; without written Standard Operating Procedures that document the steps of the processes, training new employees or improving performance of existing employees remains very difficult and unsystematic.

Individual performance evaluations do not align and reinforce the importance of the Key Results Areas.

Blue Ridge recommendations:

7.1.1 The organization should work on those issues indicated as negative in the Workforce Survey Reports, such as improving communication and trust.

7.1.2 In reporting the results of surveys, when the Company does compare Northeast Utilities' numbers to norms of other respondent companies in the data pool, share the norms so readers can identify the actual impact of the responses. Many of the 2004 communications vehicles did identify the relationship to norms as did the Management Committee Report date 12/7/07, but the 2007 Workforce Survey Reports did not for the general reader.

7.1.3 Create a Balanced Scorecard for the Human Resources Department and the HR sections. Ensure that the Scorecards measure all of the same four Key Results Areas employed in the corporate version (for alignment, achieving all KRAs, and employee line-of-sight), and that all Scorecard metrics drive the KRAs and KPIs of the layer above.

7.1.4 Craft deployment process maps for quality assurance and training purposes. (See more on this topic in the Process Management section).

7.1.5 Use these same measures in the individual performance evaluations for consistency and alignment.

7.2 Recruiting and Staffing

Background

Effective recruitment is vital to ensure that a company or organization obtains the appropriate external talent to implement its corporate strategy and meet its business objectives. The recruitment process involves a systematic procedure that includes the steps of sourcing, attracting, screening, assessing, hiring, documenting, and even orienting new hires from the outside to carry out the work activities required.

Many utilities will lose 30-50% of their current workforce within the next 5-7 years, an unprecedented drain of knowledge from any organization.[585] As a result, the need to prepare to fill highly trained technical talent is a major challenge for all utilities.

Analysis

The Company uses communication boards throughout the Berlin buildings and on the Intranet to notify potential applicants of job postings. The Recruiting Source Listing of agencies, newspapers, and on-line contacts identified a broad range of diverse resources.[586]

Blue Ridge also inspected examples of internal and external postings, job applications, and upgrade forms to track the input of applicant data into the hiring system. A scan of interview preparation and the selection interview protocol identified the current skills of recruiting and staffing professionals needed for entering applicants into the hiring system. An inspection of screen shots and data request response descriptions demonstrated how HR entered, captured, changed, and protected applicant and employee data personnel data in the Human Resources Information Technology (HRIT).

Common industry metrics, such as interview vs. hire ratio, number of hires per year, number of days to fill an open position, average number of positions open over the last three years, and positions critical to the business and tough to find, provided additional perspective. All data pointed to a few skilled HR employees using innovative methods to fill many jobs that are difficult to fill in a reasonable amount of time.

The Human Resources Operating Plan of 2008 outlines a Target Hiring and Development strategy for 2008 in which they focused on bringing in and developing key hires for supervisors/managers, engineers, professionals/technicians, electricians, and IT/finance professionals.[587]

Blue Ridge also considered pre-hire screening, such as health, substance, and background checks, along with the New Hire Orientation materials. Finally, an interview with the executive Director of Human Resource's Customer Service team tied the data together while on-line and hard copy research highlighted best practices in recruiting and staffing.

The Human Resources Department section on the NU Intranet and in the policies section laid out employment policies on-line.[588] Current employees without access to a computer

[585] Blankenship, Linda and Bruek, Terry. (2006). Planning for Knowledge and Retention Now Saves Valuable Organizational Resources Later. *AWWA Journal,* August 2008, Vol. 100, No. 8, pp. 57-58.
[586] Response to Data Request BRCS-HR-07-016.
[587] Response to Data Request BRCS-HR-07-008.
[588] Response to Data RequestsBRCS-HR-07-012; 016.

can call the HR Service Center or the HR Partner to receive hard copies of the appropriate policy.

The Recruiting and Staffing team documented over 100 sub-processes in a step-by-step fashion by which any experienced HR professional could follow them immediately; conversely, new hires could follow the standards to make sure that they included all steps.

Development Dimensions International (DDI) trains interviewers in behavioral interviewing techniques and protocols to ensure that they interview, screen, and select the best candidates while treating them fairly and with respect.[589]

The HR community works closely with internal employment attorneys who review plans, new programs, and written materials. Employment attorneys also meet periodically with the entire HR professional staff to prepare them concerning new legal findings and guidelines.[590]

An orientation packet of informational materials informs new hires about Life at NU, a safe working environment, the Standards of Business Conduct and Business Ethics, expectations for Storm Duty, HIPAA (Health Insurance Portability and Accountability Act), Information Technology (IT) security rules, and the Flexible Benefits Plan.[591] Recently, the Strategic Employee Relations team completed an improved orientation program; they are waiting for the go-ahead from Operations before implementing.[592] To ensure that new hires are fit for duty before they start work, the Company completes substance and health screening.[593]

The HR Information System captures employee data. Employee data is further protected by placing the Service Center and transactional staff behind locked doors; only escorted or HIPAA-trained personnel may enter. The data are also encrypted and password protected.[594]

Findings

Blue Ridge found that the Recruiting organization thinks outside the box to locate candidates. For instance, the Recruiting Source Listing represented many non-traditional and creative contacts to draw minority groups into the recruiting pipeline (e.g., one contact was a minister of an Afro-American church) rather than depending solely on written communications, job fairs, and agencies.

The NU Intranet employment policies section is clear, concise and easy to navigate.

[589] Response to Data Request BRCS-HR-07-013; Response to Data Request BRCS-HR-07-014.
[590] Interview D. Cassella 9/16/08.
[591] Response to Data Request BRCS-HR-07-021.
[592] Interview E. Hammett on 9/29/08.
[593] Interview D. Cassella on 9/16/08, and Response to Data Request BRCS-HR-07-024.
[594] Interview D. Cassella on 9/16/08, and Response to Data Request BRCS-HR-07-082.

At CL&P, it is taking longer to fill open positions (the average amount of days is up 39% for exempt, 15% for non-exempt and 33% for hourly/craft since 2006) which may indicate that CL&P already is feeling the pinch of limited available skills.[595] As more Baby Boomers retire, those figures may rise even more.

Blue Ridge found that the Company uses impartial and non-discriminatory hiring procedures and tools. Both employment applications for the internal staffing and external recruiting demonstrated no bias by asking illegal or discriminatory information from candidates.[596]

Conclusions and Recommendations

As the Baby Boomer generation begins to phase out of the workplace, best practices indicate that proactive recruiting will be one way to ensure diversity, equal opportunity, and replacement of the work completed by the Baby Boomer generation. The competition for talent will make keeping staffing greater or equal to 98% even more difficult. The Company's programs to attract high school and college students may be one of the best means to help alleviate shortages of potential recruits in the long-term.

Blue Ridge recommendations:

7.2.1 The Recruiting and Staffing organization should continue to explore initiatives to support the recruiting process through collaboration with secondary and college level awareness initiatives (e.g., for example, eighth grade career fairs).

7.2.2 Continue to work with technical and engineering educational institutions to facilitate students pursuing utility related careers.

7.2.3 Northeast Utilities should consider offering a cooperative program within its summer intern program with an engineering school.

7.2.4 When creating performance measures for recruiting, explore changing the metric of Time-to-Fill (T2F) to Need Date. The percentage of those jobs filled at the time hiring managers need them mimics OTD or On Time Delivery on the manufacturing shop floor. A decrease in Time-to-Fill does not really measure performance since a decrease in the average may still not meet the customer's timeliness or deadline needs.

7.3 Compensation Programs

Background

Compensation, incentives, and perquisites (perks) which include cash payments and indirect payments, such as employee benefits, are employed by utilities to motivate employees. Although research in the human resources field indicates that compensation is just one motivational factor for employees (other factors such as security, enjoyment of work, and relationships with colleagues also effect employee motivation), the total

[595] Response to Data Request BRCS-HR-07-023.
[596] Response to Data Requests BRCS-HR-07-016; 017, and 019.

compensation package remains critical to the success of the organization in its quest to attract, retain, and motivate the talent requisite to grow and sustain the business.

Compensation is affected by factors as diverse as labor market forces, collective bargaining agreements, government legislation, and top management's philosophy regarding pay and benefits. Companies depend on HR professionals to study the driving forces and data to formulate and execute competitive pay policies that will help the company make more informed pay decisions to mitigate any negative influences of these factors.

The analytical outcomes are particularly important to utilities as the Total Compensation Package (salary, incentives, and benefits) usually comprise the major proportion of a company's overhead costs and operating budgets. As a result, the Total Compensation Package can have a direct impact on the ratepayer.

Due to the levels and types of compensation within an organization, Blue Ridge's analysis is divided into three parts: (1) Compensation for Non-executives, (2) Compensation for Executives and (3) Incentives and Benefits which are covered in separate sections.

7.3.1 Compensation for Non-executives (salaried and hourly/craft employees)

As economic and demographic issues impact business conditions, more companies will need to adhere to a clear compensation strategy based on the organization's, mission, culture, and core competencies in order to maintain competitiveness.[597]

Emerging and evolving compensation best practices identify the use of skill-based pay, career banding, and systems of job families as a way to be competitive in today's economy. Nevertheless, an industry survey found that use of these techniques still falls within the single digits. Variable pay, such as profit sharing, team incentives and lump sums still account for only about 5% of the base pay of non-exempt employees.[598]

Key to managing a compensation system successfully is the ability to develop employee remuneration and rewards that are equitable internally, externally, and individually. After crafting a compensation strategy and a current compensation or salary plan, compensation professionals need a standardized and methodical process and five basic tools to implement an effective system including

- Updated job descriptions
- A job evaluation method
- Pay surveys

[597] Berger, Lance A. and Berger, Dorothy R., eds. (2008).*The Compensation Handbook: State-of-the-Art Guide to Compensation Strategy and Design.* 5th edition. New York, New York: The McGraw-Hill Companies, p. 57.
[598] Berger, Lance A. and Berger, Dorothy R., eds. (2008).*The Compensation Handbook: State-of-the-Art Guide to Compensation Strategy and Design.* 5th edition. New York, New York: The McGraw-Hill Companies, p. 57.

- Pay structure
- A way to measure the system's performance to see whether it's working properly

Analysis

The analysis of the Company's non-executive and executive compensation programs began with data gathering via two interview with the Chair of the Board of Trustee's Compensation Committee and HR's Executive Director of Compensation. Auditors studied responses to requested compensation-related data requests. The data collection included on-site field work and a review of the current manuals of purchased market analyses. A visual survey of posting boards and job postings in the corporate campus finalized the review process. Blue Ridge reviewed the corporate vision, mission, objectives, on-line policies, procedures, organizational charts, and descriptions to gauge alignment between compensation and the overall strategy of the business. .

To ensure that CL&P employs standardized and repeatable procedures, Blue Ridge reviewed the compensation philosophy, strategy, annual plan, the annual compensation review and setting process, the compensation budget for the past five years, salary and wage program details, the job evaluation process, company job descriptions, the compensation structure (e.g., bands and ranges for assigning merit pay), the compensation sections of the bargaining unit contracts, and proxy statements. Blue Ridge, then, examined a group of key industry ratios for compensation, such as the Labor Cost Factor, High Performer Average Raise Percent, and Merit Increase Ratios.

A 2005 study indicated that 40% of technical personnel and 80% of supervisors were eligible to retire over the next five years from CL&P.[599]

The Northeast Utilities (NU) Corporate Total Compensation Strategy (which covers CL&P's employees) is: "Ensure that we [NU] can hire, motivate and retain a talented workforce, while controlling our overall cost. We endeavor to provide each element of pay and benefits at roughly the market median, within the constraints of labor relations and equity, and we vary pay among employees to recognize individual performance and level of contribution to the organization."[600]

Accurate, up-to-date job descriptions remain critical for the compensation, performance, and disciplinary systems. Job descriptions outline employee responsibilities, identify what the company should pay the employees, and provide documentation so disciplinary actions can stand up in court.

NU completes a Compensation Plan yearly with the intent of having a new structure so merit increases for the new year can roll out by the end of February or early March.[601] The 2007 NUSCO Index of Job Descriptions lists positions in both NUSCO and CL&P,

[599] Interview J. La Vecchia on 8/20/08.
[600] Response to Data Request BRCS-HR-07-027.
[601] Interview K. Coakley on 8/20/08; response to Data Request BRCS-HR-01-001, 028 and discussion with M. Newman during field work on9/29/08.

and written descriptions exist for those jobs indentified in the Index. CL&P has been involved in a project of updating key job descriptions (Hot Spots) over the last two years.

There is a standard job evaluation process if a determination has been made that a new job is needed, a job has changed, or a job level may be thought to be inappropriate. The Compensation section evaluates the new position for appropriate level and range.[602]

The Company employs a market-based pricing model in which exempt broad salary banding and the use of market tendency or the range of market median rates from a variety of survey sources identifies a best fit tendency of the job value based on market median pay is developed.[603]

The Company purchases many key and industry-respected salary and wage market analysis surveys from a variety of well known sources to address job evaluation needs, pay reviews, compensation, budgeting, and range adjustments; the internal compensation professionals design the compensation plan for non-executives (both non-union and union) with the guidance of Labor Relations and the parameters of the respective Collective Bargaining Agreements.

The Towers-Perrin surveys, consider a compensation industry standard, use median value (or the center of 50th percentile of the distribution) for their data. NU has adopted the same standard while other utilities have used the 75th percentile.[604] The advantage of median value is that the data are unaffected by individual extreme values (low or high); the disadvantage of median value is that the data are unaffected by changes in the entire upper and lower half of the distribution.[605] NU uses the middle of all ranges of salary data that they collect about specific jobs. In doing so the Company believes its salary structure is equitable and competitive with industry and general salary numbers.

Both NU and the compensation consultant employ data from the other general surveys (non-utility) whenever possible, but revert back to the industry version when jobs are so industry-specific that they would not be included in the general survey (e.g., Supervisor of Line Workers).[606]

Since September 2001, non-union employee salaries are based on a broadband structure whose bands' market tendency ranges encompass the range of medians for each position in the band. At that time, the compensation structure moved from 26 grades to 9 bands for exempt and non-exempt that help manage career growth. The band structure also eliminated the hierarchy associated with traditional pay structure which supports today's flatter, leaner, and more customer-focused organizations.[607]

[602] Interview K. Coakley on 8/20/08, and E. Hammett interview on 9/29/08.
[603] Interview K. Coakley on 8/20/08.
[604] CT Department of Public Utility Control, Docket No. 95-02-03, Decision to Petition of the Attorney General for an Investigation of Utility Company Executive Compensation, December 27, 1995.
[605] *US Compensation Database*: General Industry Executive Database, 2008 Descriptive Statistics Report, p. 48.
[606] Interview K. Coakley on 8/20/08.
[607] Interview K. Coakley on 8/20/08, and Responses to Data Requests BRCS-HR-07-031; 032; 033.

A Merit Matrix guides managers in calculating the yearly salary merit increase by level of performance and the employee's salary relationship to market tendency in their range. Managers complete Compensation Planning Worksheets for standardization and accuracy. The Compensation Planning Worksheets highlight those employees without a current performance appraisal.[608] NU uses the components of base pay, overtime, shift, productive time, and incentive pay to develop the compensation plan elements. Pay and benefit levels for union employees are the result of negotiations between the Company and each bargaining unit.[609]

The Compensation team measures the performance of the non-executive compensation system and reviews results with the vice president of Human Resources and other officers of the Executive Committee. They track the typical financial metrics, such as cost, increases, budget, and headcount, escalation, etc. They also employ other measures to define the success of the non-executive Compensation Program, including the Workplace Survey, and individual performance evaluations

Findings for Non-executive Compensation

NU uses broadbanding for their compensation strategy, a yearly plan, and compensation principles set the direction for the Compensation section. A group of expert and very seasoned professionals translate the strategies to well-thought out implementation tactics.

Due to the nature and details of compensation work, the compensation strategy is driven more by principles of Compensation and Benefits rather than business strategies and long range plans.

The 2007 Index of Job Titles (NUSCO)[610] did not include either a listing of Customer Experience/C2 positions (when customer experience is one of the critical strategic goals for both 2007 and 2008) nor did the hardcopy documents Blue Ridge received include the corresponding job descriptions.

Blue Ridge found that not all job descriptions use the same format, but they all include the same basic data elements and requirements. A few generic or commodity descriptions had been purchased from a human resource job description service.

The Compensation Team does not use a point system in which they examine job duties and responsibilities. (It is customary to use either a point system *or* a market pricing process.)

In the Index, many job titles (34%) noted "Nothing on File and/or Description from Posting." To determine which positions fell in that arena, Blue Ridge had to match these jobs against the company codes on the following pages in the Index. It was difficult to

[608] Interview K. Coakley on 8/20/08, and Responses to Data Requests BRCS-HR-01-031; 032; 033.
[609] Interview K. Coakley on 8/20/08.
[610] Response to Data Request BRCS-GR-01-008.

identify which CL&P job descriptions were missing. The Company had to confirm for Blue Ridge that all CL&P positions do have written job descriptions as a result of the formal project over the last two years.[611]

NU maintains an adequate number of survey manuals to provide the internal compensation team with substantial resources upon which to base their compensation designs and structure.

Over the last few years, NU has developed a set of core competencies for the different layers of the organization. These enterprise-oriented competencies combined with well-defined mission, goals, and employee performance measures poise CL&P for adopting the best practice model of Total Rewards (which aligns all rewards to the business strategy).

These NU competencies are adequate; however, they are more geared to the behaviors required to be a good citizen of the corporation. The Human Resource Department needs both the institutional behavioral competencies along with more specific competencies and domains that their roles require to deal with people, problem-solving, and business issues. For instance, every Human Resources professional should be competent in using questioning techniques to interview and solve problems.

Conclusions and Recommendations for Non-executive Compensation

Overall, NU's compensation program for non-executives is well planned and implemented. The team employs industry standard tools at a high level and has developed a clear, impartial, well-communicated, comparative market-based compensation programs. NU's Compensation Team manages non-executive Compensation at a best practice level. However, there are opportunities to enhance several aspects of the non-executive compensation program, including simplifying the Index of Job Descriptions, updating the list for the newly created Customer Experience/C2 positions and develop a balanced scorecard that identifies compensation.

Standardization would make the job descriptions easier to read and use for the uninitiated.

The job evaluation method of market pricing, pay structure, and practices is solid, well-documented, and explanations are easily accessible via three different avenues: Intranet, HR Service Center, and Business Partners. The Company's practice of using the median value of the compensation salary data ensures that customers are not overcharged for higher than competitor salaries.

Finally, although there are sporadic measurements for some of the transactional activities within the compensation system and Compensation employee performance, there are no real performance metrics for the Compensation system as a whole.[612]

[611] E. Hammett , director of HR (Strategic Employee Relations) validated via telephone call on 10/3/2008 that his section felt that all CL&P job descriptions have been completed.

Blue Ridge recommendations:

7.3.1.1 As part of the current project to update and standardize formatting for CL&P job descriptions, convert the Index of Job Descriptions to a simple matrix with the jobs listed on the left and the companies of NU across the top. Addition of the Customer Experience/C2 positions to the list would make the packet more complete.

7.3.1.2 Continue to update and evaluate job descriptions when the position is to be backfilled or is identified as a hot spot for a revamping project. Include the new company-wide and layer-specific competencies as they are updated.

7.3.1.3 Craft a Balanced Scorecard for the Compensation section that identifies and creates measures for what Compensation needs to do and at what level of performance.

7.3.2 Executive Compensation

Executive compensation continues to receive significant exposure and interest by the press, workers, ratepayers, politicians, utility commissions, unions, and governmental officials. The resultant spotlight now requires compensation committees of Boards of Trustees to take a proactive and leadership role in managing executive compensation.

Throughout American business, there is a prevailing concern whether members of compensation committees can remain objective in scoping pay, incentives, and perquisites for the people they work side-by-side with on the Board (as the CEO often chairs the Board and other executives staff the committees), and who are the very people who nominated them as candidates for their positions. The Congressional Research Service Report on excessive CEO pay states:

> Once on the board, directors are reluctant to press managers on pay because unless cordial relationships prevail, the board will find it difficult to function. (This would help explain why CEO pay never seems to fall even though polls show that significant numbers of directors believe CEOs are overpaid; no one wants to be the first to cut pay).[613]

The public questions whether board members feel obligated to reward those executives who chose them for their positions and who can often influence their remuneration for their board services. Again, the public wonders if the Board members maintain independence and rigor in making compensation decisions or whether they create small clubs for mutual benefit among themselves.

[612] Responses to Data Requests BRCS-HR-07-028, 030.

[613] Shorter, Gary *et al*. (2007). *Excessive CEO Pay: Background and Policy Approaches.* Congressional Research Service, The Library of Congress, February 13, 2007, p. 1.

The board and its compensation committee are supposed to protect the interests of ratepayers, shareholders, employees, and company by ensuring that the senior leaderships' performance is reflected in their Total Compensation package. As a result, compensation committees and boards need to document and follow industry standard policies and practice that ensure equity, integrity, independence, and transparency to the public.

Best practices for executive compensation suggest that greater transparency and detailed reporting about specific executives' pay, stock, incentives, pension, totals, and elimination of pay-for-failure embedded in pre-hire employment agreements are needed. They also indicate that companies should employ an executive compensation consultant who independently creates the executive compensation plan, who does not do work for other parts of the company, and who can be solely hired by the compensation committee without approval by the CEO. Executive pay should also be well correlated with company performance and shareholder returns.

<u>Analysis for Executive Compensation</u>

Blue Ridge completed the data gathering and analysis for executive compensation with the non-executive compensation; thus, the same method as described previously was used along with much of the same data.

Our evaluation also included a review of the process used by the Compensation Committee in creating total compensation for the Company's executives, an interview with the chairperson of the Board of Trustees' Compensation Committee, a review of current executive compensation best practices, specific executive compensation packages, the Compensation Discussion and Analysis (CD&A) of the proxy, the CL&P Annual Report, the Compensation Committee Charter, documents from the Connecticut Department of Utilities Commission and the Office of Consumer Counsel, and executive biographies..

The written philosophy about Executive Compensation is stated in the Management Discussion and Analysis document (MD&A) as part of the proxy.[614] The overall objectives of NU's Executive Compensation is

> …to motivate executives and key employees to support our strategy of investing in and operating businesses that benefit customers, employees, and stakeholders. As a holding company for several regulated utilities, we are also responsible to our franchise customers to provide energy services reliably, safely, and with respect for the environment and our employees, at a reasonable cost.[615]

The 2008 NU Proxy Statement outlines four design principles for executive compensation:

[614] Response to Data Request BRCS-HR-07-027-3

[615] From the NU proxy and Response to Data Request BRCS-DR-07-027-3.

1. Attract and retain key executives by providing Total Compensation competitive with that of other executives employed by companies of similar size and complexity.
2. Establish performance-based compensation that balances rewards for short-term and long-term business results.
3. Reward corporate and individual performance.
4. Encourage long-term commitment to the company.[616]

Under the guidelines of Northeast Utilities' Corporate Governance, the Compensation Committee of the Board of Trustees has a charter that identifies the purpose, membership, and meeting numbers, reporting requirements to the full Board, and authority and responsibilities.[617]

The purpose of the Compensation Committee is to establish and interpret NU's executive compensation and benefits programs for all of Northeast Utilities' executive officers and Trustees. They also are responsible for equity grants and retirement benefits plans for all NU employees. In this capacity, the Compensation Committee has the authority to hire and manage an independent executive compensation consultant who offers advice, market data, trends, and competitive compensation information. They also evaluate the performance of the CEO yearly.

The members of the Compensation Committee are reviewed annually and meet the independence requirements of the New York Stock Exchange, the Securities and Exchange Commission, and the Northeast Utilities Corporate Governance Guidelines.[618]

The designer of the Executive Compensation Plan, an outside consultant (the consultant) from Semler Brossy Consulting Group, reports directly to the Compensation Committee and more directly to the Chair. In August 2006, the decision was made to begin a search to replace the then incumbent consultant. At the time, it was felt that a change in consultants would benefit the process. After a rigorous and competitive search process, the chair of the Compensation Committee interviewed and chose the top candidates (with no involvement by the CEO). The chair presented recommendations of finalists to the Committee; several Committee members interviewed the top candidates to select the consultant who best met their screening criteria. The chair likened the selection process to the rigor of an audit.[619]

The consultant, who works directly for the chair of the Compensation Committee of the Board of Trustees, designs the Executive Compensation Program independently each year, using market data from a number of sources including data from Northeast Utilities.[620] The consultant prepares analyses of officer base or merit pay, annual incentives, long-term incentive, and share ownership guidelines. The Compensation

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[616] Response to Data Request BRCS-HR-07-027-3.
[617] From http://www.nu.com/investors/corporate_gov/charter_compensation.asp.
[618] From *http://www.nu.com/investors/corp_gov/trustee_independence.asp*.
[619] Interview G. de Planque on 11/5/08.
[620] Interview K. Coakley on 9/4/2008.

Committee receives comprehensive and well-described packets of hard copy and e-mailed data to prepare for each meeting.[621] To maintain impartiality even further the CEO may not contact the executive compensation consultant without reviewing the request with the Chair of the Compensation Committee.[622]

In 2007, the Compensation Committee delegated some responsibilities to executive officers. The Compensation Committee Chair and CEO were given the authority to negotiate compensation arrangements for several executive officers: strategic planning, transmission projects, engineering, maintenance, communications and financial planning. These officers, however, were not named in the proxy as Executive Officers.

To ensure that the compensation is reasonable and competitive to that of executives in similar companies, the Compensation Committee uses the median (at the center of the 50th percentile of the distribution for the blend of proxy peers and surveys from Towers Perrin, Spencer Stewart, and market data from other recognized sources) of comparative companies to guide in the setting of pay.[623] Executive base pay is a function of their success in meeting their yearly weighted Key Performance Indicators (KPIs) that link to Key Results Areas for the business on their Balanced Scorecard.[624] The incentive program document for executive compensation is provided to each officer at a meeting soon following the Compensation Committee meeting in February. The CEO then discusses the program, and sets specific officer performance goals in conjunction with each of them.[625]

The executive compensation consultant from Semler Brossy also independently prepares the compensation analysis for the Trustee Compensation. Using a similar procedure to assigning Executive Compensation, the consultant also produces a market analysis for Trustee Compensation. The Committee reviews Trustee compensation and compensation of the top five executives every year, and all other executive compensation every two years. They study a full market analysis regarding the Board of Trustees, meeting fees, retainers, and trends in Trustee Compensation design from the general and specific industries.

To maintain transparency, the CL&P 2007 Annual Report to the Connecticut Department of Public Utility Control contains a table for review of all the components of compensation for Named Executive Officers (NEOs) with salaries greater than $100,000. The Summary Compensation Table of NU Forms 10K and 70B Compensation of Officers identifies the rationale for adopted pay policies as well as specific pay actions for each named executive officer as do the executive performance evaluations.[626]

[621] Interview G. de Planque on 11/5/08.
[622] From *http://www.nu.com/investors/corporate_gov/charter_compensation.asp*.
[623] Interview K. Coakley on 9/4/08.
[624] Interview J. La Vecchia on 8/20/08.
[625] Interview K.Coakley on 9/4/08.
[626] Response to Data Request BRCS-GR-01-0019 and BRCS-HR-07-044.

In 2007, NU rose above the 75th percentile of corporate performance of proxy peers which was well above the median.[627] The chair of the Compensation Committee reported that her committee tests the Executive Compensation program to ensure that there is a correlation between pay and performance on both the qualitative and quantitative level. They measure to ensure that they have met the program objectives, and, for qualitative, they measure against proxy peers and performance pay.

The Connecticut Attorney General requested that regulated companies in Connecticut, including CL&P, provide additional data regarding executive compensation. In Docket No. 08-01-16, the DPUC required the utilities, including CL&P, to provide additional information to the Department regarding executive compensation. CL&P is in compliance with these additional requests.

The chair of the Compensation Committee reported that her committee tests the Executive Compensation program to ensure that there is a correlation between pay and performance on both the qualitative and quantitative level. They measure to ensure that they have met the program objectives, and for qualitative assurance, they measure against proxy peers and performance pay.

In the process, the chair of the Compensation Committee asks the consultant to prepare an analysis for the 30 officers regarding base pay, annual incentives, long-term incentives, and shareholder ownership guidelines. The Compensation Committee sets the corporate incentive program goal and senior management sets operating goals for each officer. Using the market data from general industry and utility surveys, the consultant prepares all the documentation independently from management and specifically for the chair of the Compensation Committee. The consultant also coaches the Compensation Committee on best practices, benchmarks, and innovations in the field to help add more rigor to the Committee's critical thinking about compensation.

Finally, the Compensation Committee establishes the annual long-term incentive programs and approves salary adjustments and incentive awards for all officers. TheBoard of Trustees approves the salary adjustment and incentive awards for the CEO.The Executive Compensation programs are then published in the proxy and the CL&P Annual Report.

The yearly study of trustee independence also identifies potential conflicts of interest. The Company reviews the Trustee Compensation Package every year,. Again, the Compensation Committee provides parameters for the consultant, and then charges her with looking at a full market analysis regarding Board retainers, meeting fees, and trends in Trustee compensation design. The consultant to the Compensation Committee generates the Trustee Plan based on analytical and impartial market data and general and industry benchmarks.

Once a Trustee's retainer base is established, he or she will receive that amount while on the Board. Some Trustees may receive more income as additional responsibilities are

[627] Interview G. de Planque 11/5/2008.

added to their roles; chair fees may vary, too, depending on their level of responsibility. Any additional income given to a Trustee is governed by management controls, approvals, and signatory requirements.

Trustee talent is evaluated to ensure that the membership provides a well-rounded resource to the Company.

Findings for Executive Compensation

The strategy for CL&P's (Northeast Utilities') Executive Compensation Program is the same as that for the Non-executive Program: attract, retain, motivate; don't underpay and don't overpay. Make sure that it supports the business strategy, and among officers, pay equity.[628]

Each NU Executive has job descriptions which helps incumbents know what they should do, but they are limiting relative to the large scope of an executive.[629]

The Compensation Committee of the NU Board of Trustees uses rigor and maintains independence by being responsible for hiring and managing the executive compensation consultant to design the Total Compensation Program for both executives and board trustees. The Compensation Committees' charter adequately outlines its role and responsibility for reviewing and approving executive compensation equity grants for non-executives and retirement plans and changes to those plans, and Trustee compensation.[630]

The Committee appropriately has the sole authority and responsibility to retain, terminate, and pay compensation consultants and other resources deemed appropriate and the Committee's consultant appropriately maintain independence from Senior Management including the CEO.

The chair of the Compensation Committee does not appear to be swayed by the relationships with executives. As a physicist, her training, decision-making, and leadership remain a function of solid, hard data.

The NU Compensation Committee follows such high standards that the chair of the Compensation Committee uses their standards as models for her work on other boards.

Most companies use only one metric for Long-Term Incentive Pay. NU, however, crafted four, making it even more difficult for the executives to achieve yearly goals.[631]

Some Northeast Utilities data regarding executive compensation is transparent to the public and the media via a variety of documents on the Internet (or in hard copy if requested). As prescribed in the proxy, the data are laid out in an easy-to-understand format in a table that includes all the different types of pay, incentives, and perquisites for

[628] Interview K. Coakley 9/4/08.
[629] Interview K. Coakley on 9/4/08.
[630] From *http://www.nu.com/investors/corporate_gov/charter_compensation.asp*.
[631] Interview G. de Planque on 11/5/08.

each of the Named Executive Officers. The tables cover multiple years so types of compensation can be compared by year.

By using a blend of industry and general surveys for market data whenever they can, the Company is diluting the pool of data that, if taken from only the utility industry, might cause a repetitive cycle of salary increases as companies seek to attract talent away from their competitors.

The Executive Compensation process and Standard Operating Procedures are documented and clear enough for an experienced, but new-to-the-company compensation professional to follow them.[632] NU has not documented a process for job analysis for officer positions.[633] Their positions should be evaluated in a manner consistent to other jobs in the company, and be documented for transparency, consistency, equity, and training of new Compensation professionals.

Conclusions and Recommendations

The Compensation Committee of the NU Board of Trustees utilizes industry standard procedures for developing executive compensation. The committee members are trained, analytical, experienced, and competent in translating the Company's business goals and objectives into a coherent and fair executive compensation plan that attracts, motivates, and retains executives for the long run. They tie the plan to the business strategy and study a myriad of data to ensure that there is equity among the officers both internally and externally.

The Compensation Committee appropriately hired an expert in executive compensation who was impartial, independent, and rigorous.

The external consultant follows industry standard practices for researching and producing both the executive and trustee plans. She bases her recommendations on extensive data of both industry and general market data. Her recent article on executive compensation and boards is featured as a flagship resource in a newly published, state-of-the-art compensation handbook, which demonstrates that her peers consider her an authority in her field[634].

The Committee evaluates the achievement of goals and the components of the executive compensation program every year.

The consultant and Committee appropriately base their findings on the median, no more, no less, of the blended data.

[632] Field discussion with P. Lewis on 9/29/2008.
[633] Response to Data Request BRCS-HR-07-041.
[634] Burchman, Seymour and Jones, Blair. (2008). The Compensation Committee and Executive Pay. *The Compensation Handbook: A State-of-the-Art Guide to Compensation Strategy and Design.* 5th ed. Berger, Lance A. and Berger, Dorothy R., eds. NY, NY: McGraw-Hill, pp 397-413.

The Compensation Committee does a professional job in defining a fair and equitable Executive Compensation Program.

Blue Ridge recommendations:

7.3.2.1 Identify the executive compensation consultant in the proxy and in the CL&P Annual Report, to whom he/she reports, yearly fees from the Compensation Committee, and fees from other parts of the Company.

7.3.2.2 Capture executive severance or walkway prices in the CL&P Annual Plan's Summary of Compensation (as CL&P executives do not appear on the proxy as Named Executive Officers).

7.3.2.3 Mirror the newly revised data display for the Summary of Compensation Table in the proxy in the CL&P Annual Report display. Make them parallel in format and type of data.

7.3.2.4 Document a process for job analysis for officer positions. Because the customers, the press, the Office of Consumer Counsel, the DPUC, and the Connecticut Attorney General are looking for transparency, especially in executive compensation, a standardized, documented process would add to the rigor and demonstrate that the same process is used for both executives and other Company employees.

7.4 Incentive Programs

Background

Incentives, such as bonuses and profit sharing, are one-time supplements to base pay awarded on the basis of performance towards goals. Short-term rewards, often measured over a period of 12 months or less can be the most effective form of compensation in building and maintaining a pay-for-performance culture. Better incentive plans are designed to tie directly to business objectives providing a direct-line-of-sight between employee performance and the success of the business, thus, ensuring compensation dollars are optimally utilized to drive specific company operational success.

The long-term incentive plan can consist of stocks in the company or stock options that give the individual the right to buy back stock at some future date, usually at lower prices than market. Other forms of executive pay include extra medical or life insurance, financial planning help, income tax advice, or other perquisites, such as memberships to luncheon or country clubs.

Analysis

The data gathering process for incentive programs for non-executives and executives examined information that told Blue Ridge whether the program is data-driven, equitable, transparent, competitive, tested, and approved by the appropriate officers of the Board of

Trustees. Blue Ridge also looked at the corporate vision, mission, objectives, on-line policies, procedures, and descriptions to gauge alignment between incentives and the overall strategy of the business.

A description of the program elements along with a breakdown list of layers of the organization that receive incentive compensation and dollar amounts helped put the program in perspective. Market data that drove incentives for all layers for 2004-2008 addressed both equity and competitiveness while copies of the results of an internal audit indicated whether the program followed general accounting practices. An onsite review of market studies/analyses provided an understanding of the quality of the available resource materials. Finally, interviews with the Director of Compensation and Benefits filled in any gaps about data and processes.

At Northeast Utilities every employee (except those with a performance rating of Unacceptable*)* is eligible for variable compensation, e.g., a performance-based incentive bonus. There are three basic annual incentive programs:

1. The Employee Annual Incentive Program for non-executives is based on the meeting of employee annual incentive program goal results and incentive program funding. Departments receive a pool of funds based on the percentage of their Officer's achievement of strategic and high-level financial goals plus an NU Consolidated ANI (Adjusted Net Income) Goal. Management, then, awards incentives from that pool by individual performance results and individual impact on the overall results. There are no dollars added to the pool for a minimum level of goal achievement. Other pool funds are dependent on achieving specific targets (minimum/target/maximum) with varying percentages of pre-set figures. Non-union incentive compensation is also set based on market medians for respective levels o the organization. The Company awards no discretionary perquisites to non-executive employees.[635]

2. The Safety Call to Action Program for those employees in safety sensitive positions. Payments are made quarterly for meeting approved safety goal results. Quarterly safety award payments depend on specific safety goals that are not tied to overall corporate performance.[636]

3. The Officer Incentive Program includes the annual (short-term) incentive program and long-term restricted share units (RSUs) and a three-year goals-based program called performance cash. Performance cash incentives are based on achievement of corporate goals (cumulative net income, average return on equity, average credit rating, and relative total shareholder return). The RSU grants reflect corporate performance during the preceding fiscal year as well as individual performance and contribution, but the ultimate shareholder value is based on corporate shareholder return.[637] Long-term compensation also compares performance relative to a group of comparable utility companies. In 2006-2007, the Long-term Cash Performance Plan

[635] Response to Data Request BRCS-HR-07-036.
[636] Response to Data Request BRCS-HR-07-036 and BRCS-HR-07-027-3.
[637] Response to Data Request BRCS-HR-07-036 and BRCS-HR-07-027-3.

paid zero to the executives as they did not meet the corporate goals.[638] The Company has not granted any stock options since 2002. The Deferred Compensation Plan for Executives, however, does allow Officers of the Company to defer, on a pre-tax basis, a portion of their base salary, incentive compensation, and/or option shares.[639] The Company awards no discretionary perquisites to executives and directors.[640]

The following chart demonstrates which layer of the organization receives which kind of incentives.

Table 28: NU Incentive Program Eligibility[641]

Layer	Annual Incentive	Restricted Stock Units	Performance Cash	Spot Awards	Safety Awards
Officers	●	●	●		
Directors	●	●		●	
Managers	●			●	●
Other Exempt	●			●	●
Non-Exempt	●			●	●

For most non-management jobs, base salary accounts for 85-95% of total direct compensation. On the other hand, a large proportion of executives' pay is tied to performance incentives and is at risk.[642]

Variable pay at Northeast Utilities can change dramatically each year.[643] As for other components of compensation, the Company employs formal market analyses of similar companies for competitive incentive program design and equity. When the Manager of Compensation works up the pre-market data for non-executive compensation, he also studies and lays out the proposed percentages of pay for target based on grouping market data for similar jobs for annual and long-term incentives, too. As mentioned in the non-executive compensation section, HR's Compensation team employ a blended mix of both general and utility industry data for all levels of comparison, and target the median of the market tendency.[644] In looking at the market analyses completed recently (below), the compensation consultant (like the internal Compensation team) examines peer groups and

[638] Interview K. Coakley on 9/4/08.
[639] Response to Data Request BRCS-HR-07-051.
[640] Response to Data Request BRCS-HR-07-036 and BRCS-HR-07-027-3.
[641] Response to Data Request BRCS-HR-048.
[642] Response to Data Request HR-07-030.
[643] Response to Data Request HR-07-030.
[644] Interview K. Coakley on 9/4/08.

proxy peer groups to ensure that both the executive and non-executive incentives are reasonable and competitive with those employees in similar companies.

In the last three years, the current and past compensation consultants completed eight executive compensation studies that drove the Executive Incentive Compensation Plan. These studies include:

2008

- Peer Groups and General Industry Pay Practices and Design (Semler Brossy, June 2008)

2007

- Proxy Peer Group Disclosure and Pay Program Practices ((Semler Brossy, June 2007)
- Competitive Pay Analysis for the Top 5 (Semler Brossy, August 2007)
- Long-term Incentive Program Design (Semler Brossy, August 2007)
- Follow-up to the Compensation Committee Questions from the June Meeting (Semler Brossy, August 2007)

2006

- Executive Compensation Market Review and Recommendations (Steven Hall & Partners, January 2006)
- Executive Compensation Trends, Issues, and Implications (Semler Brossy, November 2006)
- Officer Competitive Pay Analysis Summary of Findings and Conclusions (Semler Brossy, September 2006)

The Company formally documents incentive programs and ensures that they are approved by the proper Board committee and/or executive management. For instance, the Employee Annual Incentive Program includes an 8-page document that outlines the program, eligibility requirements, and customizes the specific dollar figures and targets for each Officer's individual weighted goals.[645] NU's Summary of Compensation in the proxy and for CL&P in the Annual Report list the different components and descriptions of executive incentives.[646] The Chair and the Compensation Committee of the Board of Trustees approves the incentives at the annual plan stage and at the final implementation stage (e.g., they review the actual grant amounts). For the Restricted Stock Units (RSU) grants, the Compensation Committee approves a total pool of RSU grants and delegates authority to the CEO to make RSU grants to the directors. After the annual plan for non-executives has been approved, the Department heads have the authority to advise HR to disperse the awards.[647]

[645] Response to Data Request HR-07-036.
[646] Response to Data Request HR-07-044 BULK.
[647] Response to Data Request HR-07-044 BULK.

Once the Executive Compensation Program (with the incentives portion) has been signed off by the Compensation Committee every February, the CEO shares it with the Officers. In turn, the President and Chief Operating Officer of CL&P shares it with CL&P Management.[648]

The Company communicates incentive programs to eligible employees in a variety of ways. First, the CEO introduces the topic, and the message is cascaded down the organization via materials to managers; they, in turn, explain the program to employees.[649] The 8-page document *Northeast Utilities Employee Annual Incentive Program* provides very specific data about goals, pool funding, weighting, etc.[650]

The Company, the Compensation Committee, and the compensation consultant analyze the success of the incentive programs by quantitative and qualitative analysis to determine what worked, how they can contain costs for the ensuing year, and what the rest of the industry has done. The Manager of Compensation does sampling and testing of payouts to verify the accuracy of the data and process.

The Chair of the Compensation Committee shared that they review the corporate goal for the Annual Incentive Program every meeting and review both the Annual Incentive Program (AIP) and the Long-term Incentive Compensation (LTIC). As part of their review process in 2007, the Committee found that NU corporate performance was above the 75th percentile with proxy peers and well above the median in industry. Where other companies utilize one metric to measure executive performance for their Long-term Incentive Program, the Compensation Committee has identified four metrics (Relative Total Shareholder Return, Return on Equity, Cumulative Net Income, and Credit Rating) as the way that Executives should be measured. Since then, Compensation and the Compensation Committee report the results of the analysis to the entire Board and executive management.[651]

Findings

The work completed by HR's Compensation team and the Compensation Committee is standardized, documented, methodical, analytical, and a best practice in itself. All involved take their role seriously and follow industry practices. They employ standard mathematical models to arrive at their results. They design the incentives program based on hard data from their industry and the general corporate population. They are accurate, but check and test to make sure the results are valid.

Both HR's Compensation Department and the Board's Compensation Committee follow solid procedures that are well documented with checklists and schedules. The Compensation Committee approves plan development of incentives for both non-executives and executives, but delegates implementation to officers.

[648] Interview K. Coakley on 9/4/08.
[649] Response to Data Request BRCS-HR-21-070.
[650] Response to Data Request BRCS- HR-21-036.
[651] Interview G. de Planque on 11/5/08.

The extensive market analyses of compensation and benefits supports the Company's position that incentives for all employees are reasonable and competitive with those of employees in similar companies.

The process does lack alignment between the cascading of the Scorecard metrics (Key Results Areas to Key Performance indicators to the Performance Enhancement System) down to the officers' metrics and, then, down to employee metrics for merit pay and for incentive compensation. The measures align from the officer level to the employee and to the performance management system but not to those of the Scorecard. In addition, incentives have different metrics. The Scorecard, the Performance Management, and Compensation are different systems; one was developed earlier, and the others were overlaid on top of it without Human Resources ensuring that the same measures were built into the Performance and Talent Measurement System.

On the 2007 Workforce Survey, both the general population and Human Resources reported positively on pay.

Conclusions and Recommendations

NU began using the on-line Performance and Talent Management System at the beginning of 2008, so the organization is just finishing the first full cycle of implementation in the field along with developing merit compensation and incentives and the requisite performance evaluations. The lessons learned will allow CL&P (as part of NU) to scrutinize the lack of alignment closer.
The individual's goals are linked to departmental and officer goals.[652] They appear to be aligned to overall organizational performance goals and Performance and Talent Management System Goals, but as discussed in the Performance Management section, they do not seem to be aligned to the Key Performance Indicators (KPIs) or MileMarkers of the Balanced Scorecard.[653]

Blue Ridge recommendations:

7.4.1 Align the Scorecard metrics with officer metrics, the Performance Enhancement System, and the Performance Management System (and measures) so that employees know exactly what and how they are being measured.

7.5 Employee Benefits including Pensions and OPEB

Background

Benefits packages, which include three major components, (1) security and health, (2) payments for time not worked, and (3) employee services, are used by employers to remain competitive in attracting and retaining a competent workforce. Generally, employee benefits do not enhance productivity, but improve the quality of life for employees and their families. As a result, most employers and employees consider

[652] Response to Data Request BRCS- HR-07-036.
[653] Response to Data Request BRCS-GR-01-001.

employee benefits as an important element of the total compensation package. As long as employees perceive that their total compensation is equitable and that their benefit options are fairly priced, benefits programs have met the strategic objectives set for them. The challenge for companies will be to maintain control over the costs of benefits while providing genuine value to employees in the benefits offered.

Benefits plans can be complex, but as the feeder pool for talented employees decreases, benefits and incentives other than cash base pay will become more vital to utility companies as a means to attract and keep employees happy for the long run. As a key component, benefits packages for utilities must remain competitive to ensure that they can attract and retain top talent.

Analysis

The data gathering process for employee benefits and pension section began with a study of the descriptions of Northeast Utilities' (NU) benefit programs that included Benefits and Other Pension and Employee Benefits. An examination of information from data request responses told Blue Ridge what the program entailed for non-executives, executives, and retirees. It also indicated whether the program was data-driven, equitable transparent, competitive, tested, and cost – effective. Then, Blue Ridge looked at the corporate vision, mission, objectives, on-line policies, procedures, and descriptions to gauge alignment between benefits and other post-retirement benefits and the overall strategy of the business. Interviews were conducted with the Vice President of Human Resources and the Director of Compensation and Benefits to discuss the elements of the benefit plans, costs, and drivers of the program in more detail along with cost containment strategies.

Blue Ridge reviewed the Self-Service section of the Flexible Benefits web pages on NuNet which provided a broad-based overview of the benefits available and how the self-service procedures work.

In addition, Blue Ridge reviewed CL&P's 2007 Annual Report for benefits costs. Common industry statistics, such as Benefit and Healthcare Factors, ratios of total benefits to total compensation, and dollars paid out in benefits, pension, and other retirement programs rounded out the picture. Blue Ridge reviewed a variety of current on-line and hard copy articles on best practices in benefits and pensions.

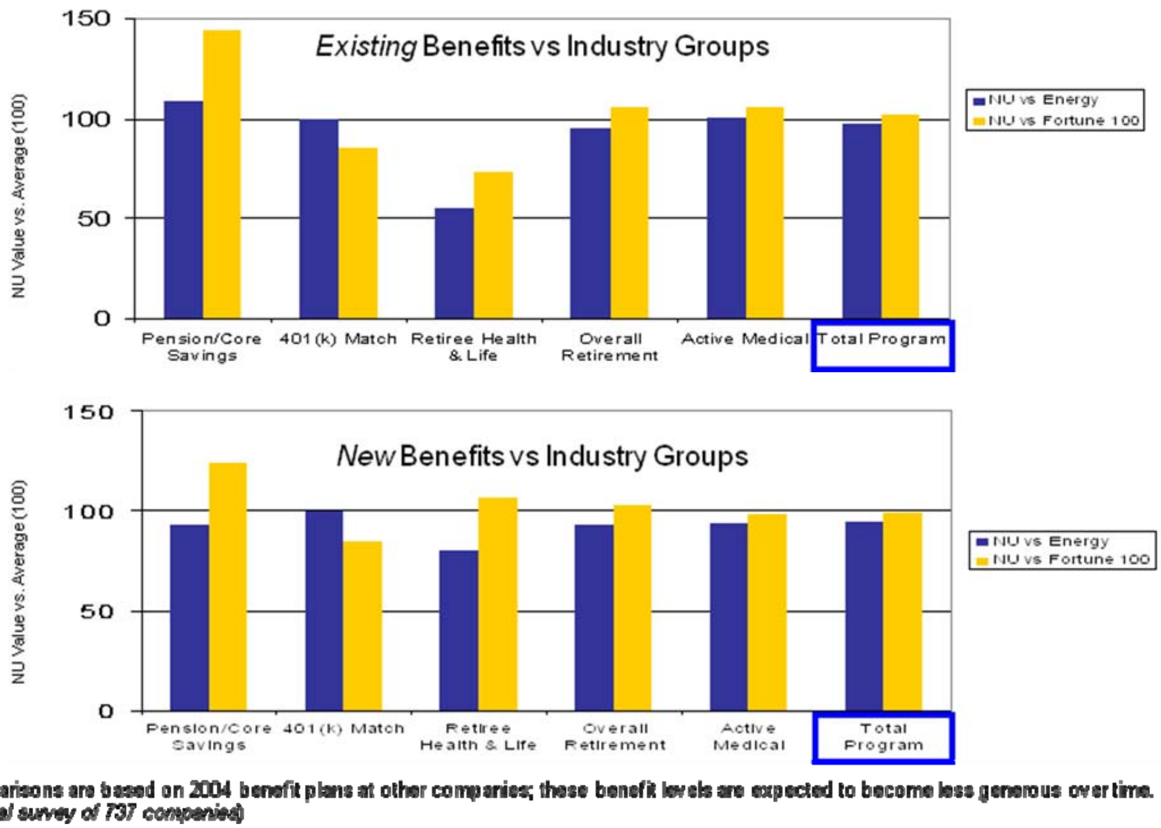
The NU integrated benefits strategy comprises the following activities:

- Provide competitive benefits levels in support of its near-term and long-term workforce management strategies
- Manage cost volatility and increases
- Engage employees in affecting their financial and physical health
- Take advantage of economies of scale and tax laws[654]

[654] Response to Data Request BRCS-HR-07-001 Bulk and Interview K. Coakley on 9/4/08.

Using benefits consultant Towers Perrin, Northeast Utilities reviews benefits and pension programs every year to determine cost effectiveness and whether they meet employee needs. They also study the components and the market more intensively every three years (2005 and 2008). Periodically, NU performs a complete evaluation vs. the market which usually drives major changes.[655] The data comparisons between Northeast Utilities and competitors drive changes to the program. This graphic shows how the benefit changes more closely align NU to competitive practices.

Figure 16: NU Benefits vs. Industry Groups[656]



The charts above demonstrate the before and after changes made in the NU Benefits Plan that were implemented in 2006 through 2008. Both charts compare the value of NU benefits against the average value marked on the vertical axis by 100. Both also compare the value of the components (pension, 401K match, etc.) of NU's benefits in relation to competitors in the energy industry (in blue) and companies in the Fortune 100 (in yellow).

The New Benefits chart shows a decrease in value (and costs to the Company and ratepayer) in all components (for both energy and Fortune 100) of the new Benefits Plan except in the areas of Pension/Core Saving and 401K Match. Blue Ridge would not expect either of those areas to decrease due to the increase in numbers of Baby Boomer

[655] Response for Data Request BRCS-HR-07-001 Bulk and Interview K. Coakley on 9/4/08.
[656] Response to Data Request BRCS-HR-07-001.

retirees and the new focus on 401Ks (Defined Benefit) vs. pension (Defined Contribution) for retirement. The auditors would expect, however, that all components of NU's benefits value would be lower than Fortune 100 companies, as NU is rated 419 on the list (larger and more profitable companies should have higher benefits value and costs).

Non-union and executive benefits are determined by targeting the total value of benefits at the median of a blend of similar utilities and local general industry companies.[657]

There have been cost containment efforts in healthcare costs, prescription drugs, third party administration, retiree premiums, Medicare Part D reimbursements, and retirement plan costs.[658]

The 2007 Workforce Survey reported that CL&P (and all of NU) respondents reported pay and benefits as positive areas. In comparing NU data to World Class Benchmarks, respondents favorably rated the question, *Your Pay* at 61% which was 20 percentage points higher than the norm and 4 percentage points higher than World Class. For the question, *Your Employee Benefits*, NU respondents also favorably rated it at 69, which was 6 percentage points higher than the normative data in the survey database. NU respondents rated benefits, however, 5 percentage points lower than World Class on this question. [659]

NU offers a range of benefits that offers flexibility to meet the changing and demanding needs of a diverse workforce.[660]

The Company currently provides both active and retired employees a myriad of subsidized benefits via a Flexible Benefits/ Cafeteria Plan. The Plan allows participants to pay for certain types of employee benefits through salary reduction on a pre-tax basis. Participants share in the cost of core benefits, and, if the coverage is not wanted, participants may be eligible to receive cash back from the Company.[661]

Active, full-time employees (who work greater than 20 hours per week) are eligible for the following:

- Active healthcare of medical, dental, prescription drug, mental health, vision, wellness programs, and disease management coverage.
- A company match of 3% for a 401K
- K-Vantage, a defined contribution retirement plan (401K) that replaced the defined benefit plan for those non-union employees hired after 01/01/2006 and other union employees, as negotiated

[657] Interview K. Coakley on 9/4/08.
[658] Response to Data Request BRCS-HR-07-054.
[659] Response to Data Request BRCS-HR-07-082.
[660] Response to Data Request BRCS-HR-07-027-1.
[661] Response to Data Request BRCS-HR-07-021.

- Med-vantage, a Health Reimbursement Account (HRA) for members of K-Vantage who are 40 years or older; the Company contributes up to a $1000 per year
- Long Term Disability
- Educational Reimbursement where the Company reimburses 75percent of the tuition for company improved courses
- Paid time off for vacations, holidays, illness and injury, bereavement, personal affairs, jury duty, and workmen's compensation
- SPOT Recognition Awards for immediate recognition to individuals or groups who exhibit exemplary performance (except Company officers)
- Service Awards for anniversaries of years of service
- Flexible Spending Accounts for funding of qualified medical expenses and dependent care on a pre-tax basis
- Employee Stock Purchase Plan to buy NU stock at discount after one year of service
- Safety Shoes and Glasses for certain classes of jobs
- Severance Program provides for the payment of 2 weeks' salary for each full year of credited service for employees who are involuntarily terminated
- Employee Assistance Program that provides counseling support for employees or family members for life and work issues
- Referral Service provides referral for support services, such as child care, schools, moving assistance, etc.;
- Travel Insurance for company-related business travel
- Basic Accidental Death Insurance provides insurance for employees who die from an accident on the job, and who have life insurance through the Company
- Incentive Pay Program that provides variable pay based on the financial performance of the Company and the individual departments
- Vacation Sell Program where the Company pays employees 75% of the value for up to one week of vacation time; Company Officers are excluded
- Shared Lease Vehicle that shares transportation costs for employees whose jobs require a frequent use of a vehicle[662]

Note: these programs are available to union employees based on their respective collective bargaining unit agreements.

Active employees also have an opportunity to purchase these additional benefits: life insurance, dependent life insurance, Accidental Death and Dismemberment, Long Term Care, Home and Auto insurance, and Fitness Center membership. Again, union employees' involvement is a function of their negotiated contract. [663]

Employees who attain at least age 55 with at least 10 years of service upon termination are eligible (except K-Vantage employees) for the following:

[662] Response to Data Request BRCS-HR-07-051.
[663] Response to Data Request BRCS-HR-07-051.

- Post-Retirement Health Care of medical, dental, prescription drug, and mental health coverage
- Post-Retirement Life Insurance where the company continues up to $40K of life insurance post-retirement
- Pension Benefits, a defined benefit pension plan for non-K-Vantage employees, that provides monthly income, based on the Final Average Earnings and Credited Service with the Company
- Post-Retirement Supplemental Health Insurance where retirees may continue to purchase up to 25% of the amount they had as active employees [664]

The additional and specialized company-subsidized benefits for executives are:

- SERP Benefits or Supplemental Executive Retirement Plan for Officers provides the benefits that would have been provided to them under the Retirement Plan if compensation and benefits were not subject to the limitations imposed by Sections 401(a)(17) and 415 of the IRS code
- Non-SERP Benefits provide specially negotiated benefits to Officers and other personnel[665]

All the Benefits and Pension Plans are documented and communicated to all employees at the data of hire, at date of eligibility, and other periods as appropriate. The Company also provides tools and a variety of delivery methods to allow employees to enroll, calculate future estimated pension benefits, and to be informed of updates/changes to the plans.[666] Upon hire, the Employment and Staffing organization provides employees with a three-inch packet of informational materials, enrollment sheets, program pamphlets, beneficiary forms, payroll deduction forms, Standard Business Conduct, Emergency Restoration guidelines, wallet and pocket cards of important phone numbers, the Diversity Calendar, and even a Northeast Utilities hand held calculator. The Employment staff and the Orientation program both review details of the benefits and the enrollment. An annual enrollment period offers employees an opportunity to sign up or change choices. The Benefits team also sends occasional announcements electronically and in print plus the Benefits Communications person distributes updates periodically.[667]

The Self-Service section on the Company Intranet help employees choose and sign up for benefits. Specific Life Events, such as getting married or divorced, newly hired, or retiring scenarios lead employees to the appropriate procedure and documents. If active or inactive employees need further help in calculating estimates or deciphering updates, the Human Resources Service Center is available.[668]

According to the Vice President of Human Resources, the flexi-benefits project, called Mount Everest, will be one of biggest challenges this year. As part of a three-phased

[664] Response to Data Request BRCS-HR-07-051.
[665] Response to Data Request BRCS-HR-07-051.
[666] Response to Data Request BRCS-07-021 and Interview D. Cassella on 9/16/08.
[667] Response to Data Request BRCS-HR-21-071.
[668] Interview D. Cassella on 9/16/08.

strategy in 2006, the Company changed the retirement offering from a Defined Benefit (pension) to a Defined Contribution (401K) plan for all new non-union employees. Current employees were offered a choice to change or stay with a pension plan.

NU designed a system that supported employees who had heart attacks, resulting in a 70% less incidence of repeat heart attacks; unlike most health programs, NU can document return on investment from these results. In fact, the health benefits and wellness (WellAware) program won the Gold Award last year, the Platinum Award this year, and the C. Everett Koop National Health Award. Next, they introduced a high deductible health plan and will now concentrate on short-term disability, life insurance, sick pay, and long-term care.[669]

Due to IRS limits of $225,000 on pay that can be used to calculate qualified pensions, SERPs have evolved as additions to qualified pension plans to allow executives to accrue additional pension benefit corresponding to levels of income beyond the $225,000. CL&P offers both SERPs and non-SERP Plans to executives as mentioned previously.

Findings

A scan of the most recent NU internal audits highlighted some areas for needed improvement. In the last three years, several internal audits checked various components of benefits, including HealthNet, Worker's Compensation, HealthNet Follow-up, HIPAA, Pension Administration, and Supplemental Executive Retirement Plan (SERP)[670]

The most common finding of those audits (as in this audit) is that processes and procedures are not standardized and documented so employees can follow them consistently. This is especially important if a solid portion of the employee population will retire over the next few years and new hires will backfill the positions and the responsibilities.

The Summary Compensation Table (NU 2007 FORM 10-K) of the CL&P Annual Report excerpt submitted to the Department of Public Utility Control did not break out SERP from other pension costs. It is very difficult to discern how much the executives actually receive and cost the Company.[671]

The Company does not design benefits on the basis of explicit cost reduction goals. However, the benefits strategy does include cost containment. While NU's benefit costs were up 4% for FY '09 while the national average increased to 9-10%.[672] It is in the Company's interest to keep benefits and health costs down.[673]

[669] Interview J. La Vecchia on 8/20/08.
[670] Response to Data Request BRCS-HR-07-003.
[671] Response to Data Request BRCS-HR-07-044 BULK.

[672] Interview J. La Vecchia on 8/20/08.
[673] Interview K. Coakley on 9/4/08.

Conclusions and Recommendations

The Company has created an award-winning, employee-pleasing, and cost saving benefits program based on helping employees and their families improve their health. It is a win/win for the company and its employees.

Because the benefits and other post retirement benefits are based on the median of the market analysis of similar sized companies and industry, until the entire group moves to a different scale, the Company will not be able to change its supplementary executive pension plan. If the Company's plan is disparate in the level and quality of its offerings, it will lose the ability to attract and retain executive talent in this hyper-competitive hiring marketplace.

Because of the pressures of the community and recent Wall Street executive compensation abuses and lack of Board oversight, however, there needs to be greater transparency in all the supplemental benefits that executives receive.

Blue Ridge recommendations:

7.5.1 Break out the Summary of Compensation Table of the NU 2007 FORM 10-K with more detail, so shareholders, customers, and the public can see exactly how much the executives cost: walk-away parachute price, Senior Executive Retirement Plans, non-SERP Benefits, etc.

7.5.2 Capture requisite procedures for Benefits and Pensions administration to prepare for trained employees retiring.

7.6 Employee Development and Training

Background

Training remains critical to the implementation of competitive strategies. Properly designed, developed, and delivered training and education improves individual, team, and organizational performance so that employees can carry out the competitive strategies and achieve business goals.

Besides the inherent danger in much of the work tackled by the technical workforce (requiring knowledge of how to complete the work methodically and safely), technical training remains crucial for utilities as "sixty percent of future jobs will require training that only 20 percent of the available workforce possesses."[674]

At Northeast Utilities, several organizations house their own decentralized training organizations (e.g., Information Technology, Environmental, Finance Academy, and Safety, etc.). However, the two with the most far-reaching impact are the centralized

[674] From *eLearningCouncil.com/content/2008-astd-state-of-industry-rep.*

Technical Training section under Utility Services and the Organizational Change and Learning section under Human Resources.

Analysis

Blue Ridge submitted data requests and interviewed both the Training and Learning Directors and reviewed the corporate vision, mission, objectives, on-line policies, procedures, organizational charts, and descriptions to gauge alignment between training/learning and the overall strategy of the business.

For both organizations, Blue Ridge reviewed how the groups assess needs for specific workshops/seminars/courses, implement “make or buy” decisions for courses and programs, deliver, evaluate, test for post-session grasp of skills or concepts, and follow up post-session. Auditors also reviewed the certification methods for those programs requiring that level of proof. Blue Ridge examined lists of various courses available to employees by department, layer of the organization, and by certification needs; the training process and record keeping; and the kind of documentation maintained in personnel files. The audit also considered descriptions of initial preparatory training provided to craft, non-exempt salaried, exempt, first line supervisors and newly promoted supervisors and forepersons.

In addition, for the Learning organization, Blue Ridge considered methods of tying training offerings to requisite business-driven competencies or gaps. Auditors reviewed the methods for developing talent, identifying successors, and involvement of HR professionals in the talent development and change processes.

In addition, Blue Ridge examined training/learning costs per participant and what the Training and Human Resources Learning organizations are doing to lower cost, improve processes, and help the business work more effectively.

Technical Training

The technical training organizations centralized their work and resources several years ago to a single strategy and sharing of common resources.[675] The Technical Training organization assesses future skill needs employing a Lotus Notes database to collect data on a continual basis. By using numbered and dated Request for Training forms, the Company can identify training needs, drivers, time frame, and potential costs and submit them on a regular basis. Then, with a DIF Analysis (difficulty/importance/frequency), the Training team can discern whether each proposal is actually a training need.[676]

Union members participate in the Curriculum Advisory Committee that meets periodically to choose training topics, assess training, and evaluate the completed training. The Just-In-Time training proposal system also allows for quick turnaround when special situation arise, such as the delivery of new equipment that requires operator training and redesigns to existing apprentice courses. In addition, union-sanctioned,

[675] Interview T. Burns on 9/2/08.
[676] Interview T. Burns on 9/2/08and Responses to Data Requests BRCS-HR-07-058; 065.

anonymous tests for experienced electricians, test technicians, and splicers also provide feedback on what concepts and skills need reinforcing. An audience response system for pre and post-session testing (Kirkpatrick Level 2) helps provide anonymous measurement of learning for experienced personnel as drivers for refresher courses. The Training Department utilizes 3 of the 4 industry standard Kirkpatrick Evaluation Levels.

Through input from the operating groups and the Curriculum Advisory Committee, Training identifies and delivers a variety of relevant training opportunities to meet those identified skill needs: supervisor training, apprentice programs, and Skill Enhancement Refresher Training (SERT). According to the Director of Training, the SERT changes every year as a result of the input from both the business needs and the employee Curriculum Advisory Committee. All these programs are geared to help employees perform their jobs.[677]

To prepare apprentice graduates faster for the operating companies, the team revised the apprentice programs to decrease time commitment from 4.5 years to 4 years. [678]

The Company prepares employees to perform their jobs by providing the appropriate training (approved by the Curriculum Advisory Committee and management) plus evaluates the effectiveness of it post-session. The Systematic Approach to Training (SAT) method used for their technical training includes an evaluation phase; therefore, evaluation takes place as a normal step of the process. Several methods, such as testing for grasp of concepts in the apprentice and compliance programs mandated by the Department of Transportation or OSHA, assess participant learning post-session. The Training Department also uses evaluation forms at the end of each course to ensure that the design, instructor, and materials have met the learners' needs (Kirkpatrick Level 1).

The Training Department also performs a training effectiveness survey periodically as part of the SAT Evaluation phase (Kirkpatrick Level 3) The Department also receives direct feedback on the effectiveness of some courses. For instance, all electricians must complete capacitor set ups after their course; if the electricians cannot apply the training, the program may not be driving the requisite learning.[679] Apprentice courses test for grasp of learning plus post results both in the Learning Management System and in personnel records (as passing of certain courses are a pre-requisite for apprentice raises in pay).

Courses in the technical area are not available for open enrollment as they are geared toward the provision of skills for specific job categories (that are audited). General training classes, such as First Aid, are offered for open enrollment periodically.[680]

[677] Interview T. Burns on 9/2/08 and Responses from Data Requests BRCS-HR-07-055; 057; 062; 066; 067.
[678] Interview T. Burns on 9/2/08.
[679] Interview T. Burns on 9/2/08.
[680] Interview T. Burns on 9/2/08.

The Training organization prepares new and incumbent managers for their leadership roles through *Leading from the Middle* and *Leadership Academy* (a collaborative effort between the two training/learning groups).[681] Although the leadership program, *Leading from the Middle*, includes no formal testing, all participants finish an application learning project as a result of which they receive feedback from officers about their results. Another group of officers review the leadership definition statement, the final product of each class in the *Leadership Academy*. Both programs employ a substitute evaluation format of how the participant learning impacts Company needs.[682]

The Organization Change and Learning[683] and Strategic Employee Relations Business Partners[684] design and deliver change initiatives to meet the needs of the internal client operating companies.

The Director of Training reported that the Company is poised to finance practical and necessary technical training and equipment. The Company built the "best training yard in New England" in which physical employees practice their craft.[685]

Organizational Change and Learning

The Organizational Change and Learning (Learning) organization offers a series of standalone workshops and courses. Most of their work is strategically focused on preparing employees to meet the skill needs of the Company.[686] Their goal is to raise current leadership talent at every level to grow the Company for the future. The Director wants to be both strategic and tactical in "pulling up the best talent;" in fact, she reorganized her department around it.[687]

The Director of Organizational Change and Learning listed her organization's customers as executives, the management community, directors, and other special populations such as high potentials, emerging talent, and critical people to the business. While the Technical Training group services the bargaining units and their supervisors, the internal customers of the Learning team are mainly exempt personnel except for supervisory training for those who manage union-eligible employees.

Most of the organizational development or change is informal with needs popping up from *ad hoc* requests. HR uses an informal process and data from workforce analysis, executive discussions, and Human Resources indicators, such as emerging management issues, internal HR discussions, and talent/succession planning data to identify needs. The one exception to the informality was the Leadership Workforce Gap Analysis in 2006.

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[681] Response to Data Request BRCS-HR-07-061.
[682] Response to Data Request BRCS-HR-07-061.
[683] Interview K. Sterrett on 9/15/08.
[684] Interview E. Hammett on 9/29/08.
[685] Interview T. Burns on 9/2/08.
[686] Response to Data Request BRCS-HR-21-008.
[687] Interview K. Sterrett on 9/15/08.

The Learning team builds organizational talent. Most of the educational and growth programs delivered by the Learning organization are geared toward the exempt population: supervisors and management, high potentials, emerging talent, and critical people.[688] They prepare supervisors and above to perform their jobs adequately by a layered approach targeted to each population. They moved from a Leadership Training to a Talent and Leadership Development approach as shown in the following graphic.

Figure 17: Talent Development[689]

The layered approach involves the following:

- Managers/supervisors attend *SuperVISION* and the *Leadership Academy* in which the curriculum is grouped by topics, such as coaching, teamwork, leading change, and team building
- Managers/supervisors have the option of registering for refresher courses that offer new ways to look at leadership, such as via assimilation and emotional intelligence training
- *Leading from the Middle,* the newly introduced manager program to rave reviews, built around key skills and themes, provides learning around business acumen,

[688] Interview K. Sterrett on 9/15/08.
[689] Response to Data Request BRCS-EM-03-024.

matrix collaboration, working across silos, power and influence, respect and inclusion, industry and business knowledge, and strategic thinking

- Directors and above identify personal needs that are met through either coaching or sending them away to professional learning and growth events

The supervisory curriculum was well-received this year, so the vice presidential level is targeted next, and then, the directors will follow.[690]

The Learning Organization devises development plans. The Director completes *touch points* several times a year to check on progress. In the future, the Learning team will create spreadsheets on talents for their client groups that will identify the ultimate job for each employee, what they need to get there, and which talents they need to move along. In this manner, they can identify and path requisite talent through the system. Identified talent/career development paths do exist for executives, directors, high potentials, and emerging talent. To shore up that strategy, the Company watches the pipeline for movement and the right movement.[691]

The Learning team complies with one out of four levels of the industry standards to measure and monitor the effectiveness of the training provided. They employ Level 1 of Kirkpatrick's Four Levels of Learning which measures the reaction of the students to the program.[692] As mentioned above, the leadership courses employ no testing for results, but *Managing from the Middle* and *Leadership* do require post-session action learning project, reviewed by senior management when they are completed.[693]

HR's Change Consultants tend to handle the large, organization-wide initiatives in which the Business Partners of the Strategic Employee Relations consult with specific operating groups within the companies. As a result, the Change Consultants are working on a number of corporate-wide large projects. For instance, they are implementing a 360 degree performance process. Another consultant worked with the Controller to diagnose and execute a financial management initiative to upgrade an old accounting system. Others are diagnosing issues and facilitating problem-solving teams around the 2007 Workplace Survey[694] and are also supporting extensive training programs for the various levels of the Customer Experience team; they also participated in the Customer Experience launch via the Customer Experience Steering Committee.[695] In 2006, they were also instrumental in helping the corporation develop five leadership competencies that have now been woven into all employee performance evaluations.[696] Next year, the team will help craft more specific Customer Experience competencies.[697]

[690] Interview K. Sterrett on 9/15/08) and Response to Data Request BRCS-HR-21-023.
[691] Interview K. Sterrett on 9/15/08.
[692] Interview K. Sterrett on 9/15/08 and Response to Data Request BRCS-HR-21-018.
[693] Interview K. Sterrett on 9/15/08 and Responses to Data Requests BTCS-HR-21-021; 022.
[694] Interview K. Sterrett on 9/15/08.
[695] Response to Data Response BRCS-HR-021-002.
[696] Response to Data Request BRCS-HR-21-004; 015.
[697] Interview K. Sterrett on 9/15/08.

The Learning organization files completion of course data in the Learning Management System. Employees may list completed courses in their personnel files if they wish, but it is completely voluntary.[698] The Learning organization prepares the managerial team to lead and manage the CL&P work in order for customers to receive dependable, cost-effective, and safe service.

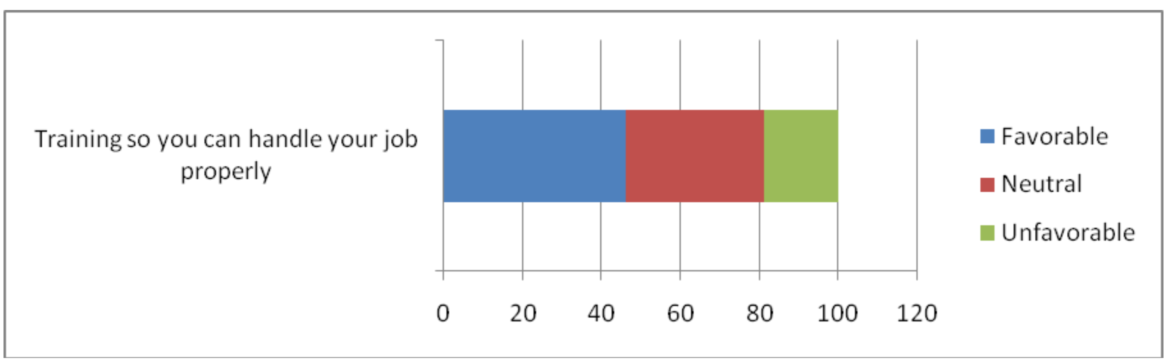
Findings

The Learning and Organizational Change initiatives and programs are relevant to employer and employee needs and jobs. Where this learning is part of a talent management system, the curriculum provides the required skills for identified employees to do their jobs accurately and safely.[699] Additional new programs such as the Financial Academy through UConn, the Mini-MBA, tailored to Northeast Utilities, and the Master's Degree in Power Engineering from Worcester Polytech infuse skills into the Company.[700]

The small core team of the Learning organization designs and delivers change initiatives to meet the needs of their internal client organizations. However, while both Technical Training and Learning Organization employ limited use of the industry standard Kirkpatrick Model Levels 1, 2, and 3, increased use of Levels 2, 3, and to evaluate the impact of the learning and behavioral change from the coursework on the organization is needed. This type of measurement is particularly important for the organizational change work, so the change agents can see how the culture has moved as result of the effort or intervention.

A question on the 2007 Workplace Survey (for all of Northeast Utilities) asked the respondents to "rate your organization on providing training so you can handle your present job properly." The results were as follows:

Figure 18: 2007 Workplace Survey Training Question Results[701]



Forty-six percent of NU respondents said that training prepared them to do their jobs properly, while 35% indicated that they were neutral, and 19% ranked their preparation

[698] Interview K. Sterrett on 9/15/08.
[699] Interview K. Sterrett on 9/15/08.
[700] Interview J. La Vecchia on 8/20/08.
[701] Response to Data Request BRCS-HR-07-082.

as unfavorable. Blue Ridge believes that a neutral rating of 35% is unfavorable because if the training had been memorable or helpful, respondents would have responded as favorable If the assumption that the 35 percent neutral rating equal is "unfavorable," then 54% believe that the training did not prepare them properly to handle their current jobs. Although these data belong to the entire NU organization in which CL&P survey respondents comprised almost one third of the corporation's returned surveys, the pattern corroborates previous findings.[702]

In that same report the 46% favorable rating was compared to both the norm and the World Class norm. The NU favorable rating fell minus 13 percentage points below the norm (of other companies in the database who were asked this question) and minus 22 percentage points below the World Class Norm. Again, these relationships will also impact those of CL&P as it comprises the largest portion of the NU population.[703]

The Director of Technical Training mentioned difficulty in recruiting supervisors due to the challenges of the job and the amount of overtime available for non-supervisory staff in the field.[704]

Succession Planning remains a key practice within the company. At Northeast Utilities, it is a very deliberate and prescribed process managed by the Director of Organizational Change and Learning, the Vice President of Human resources, and the CEO. Since its inception in 2003, the process has become more inclusive "to build a deeper leadership pipeline which allows for cross-company talent sharing for the long-term bench strength of the Company."[705]

Conclusions and Recommendations

Both the Technical Training and the Organizational Change and Learning departments strategically offer a broad aggregation of technical, professional development, talent management, and cultural change courses, programs, and interventions. The technical training involves the bargaining unit in planning, choosing programs, and evaluating them; both the Company and the unions collaborated to decrease the time it takes to train and put apprentice graduates in the workforce.

The program to begin recruiting and training high schools students to attract and train them with shorter lead-time is state-of-the-art. The Talent Management focus and system including succession planning, coaching, and 360 degree feedback remains innovative, methodical, prescriptive, and part of the yearly planning process.

The perception by employees of employee development and training is not favorable. They do not feel that they are being prepared to do their jobs. The reaction is both puzzling and troubling because if the Human Resource organization's mission is to "attract, motivate, and retain" employees, then employee development efforts and the

[702] Response to Data Request BRCS-HR-07-082.
[703] Response to Data Request BRCS-HR-07-082.
[704] Interview T. Burns on 9/2/08.
[705] Response to Data Request BRCS-EM-03-024.

perception of their value must improve to motivate and retain a cross-section of the organization.

Both training/learning organizations provide best practice training for the completion of specific jobs; however, they do not seem to offer training/learning for development opportunities or career growth for a broad slice of the organization.

Most of the technical training prepares apprentices to assume certain roles, skill enhancement, compliance, and refreshers, a best practice for technical training and key to the success and safety of the business. Learning places most of its emphasis on preparing managers as talent to run the business.

Both organizations do a solid job (with many best practices) in providing technical training, learning, cultural change, and talent management to their target populations, but apparently are not causing the general workforce to feel that they are being included and prepared.

Blue Ridge recommendations:

7.6.1 Complete a root cause analysis to determine why sets of respondents for the Blue Ridge and the 2007 Workforce Surveys rated training lower than we would expect with all the good activity going on.

7.6.2 Expand training opportunities to a broader section of the workforce. Where the technical training courses are not available for the general NU population and more technical skills are needed (and wanted for career growth by employees) explore the establishment of an After Hours Program.

7.6.4 Conduct a sample survey of employees to discover what employees and managers think are priorities to prepare employees to do their jobs and to grow within the organization.

7.6.5 The SuperVISION modularized format and topics do not match or support the strategic and Talent Management thrust of newer programs. Put this program on the revision list to bring it up to the standard of the other courses.

7.6.6 Enhance the training evaluation process by expanding the use of the Donald Kirkpatrick training evaluation model.

7.6.7 Create a cross-functional forum of all those who administer training in the organization. Meet with them monthly to share tools, techniques, successes, and failures so that everyone coordinates, collaborates, and plans together.

7.6.8 Investigate the creation of Supervisor Assessment Centers in which candidates are screened and trained in advance. When positions open, the prepared candidates may consider themselves more capable and, therefore, apply. The process also screens out those not prepared in advance so that they are not promoted to supervisory jobs.

7.7 Performance Evaluation/Management

Background

Performance evaluation encompasses the assessment of a company's performance at three different levels: business, process, and employee or team. All three levels should be aligned with the vision and business strategy and cascaded all the way down to the individual performance evaluation. In looking back up the organization, the employee should have a clear line of sight of how his or her own performance influences the elements of the business strategy (and scorecard). A performance appraisal or evaluation has traditionally been the document that described the job-related strengths and weaknesses of an individual contributor or a team.

Analysis

Blue Ridge reviewed responses to data requests and interviewed individuals within the Human Resource group. Blue Ridge looked at the corporate vision, mission, objectives, on-line policies,, organizational charts, procedures, and descriptions to gauge alignment between Performance Management and the overall strategy of the business.

To follow the cascading effect of the business strategy down to the employee, Blue Ridge reviewed the on-line Balanced Scorecard, the Key Results Areas, and the Key Performance Indicators of the various operating areas in the Performance Enhancement System (PES). Blue Ridge also reviewed the different documents on the sidebar of the web page, such as enVision 2008 for alignment. Then, auditors examined a variety of Human Resources interviews and data responses from other areas to identify the type of metrics employed for the HR department.

An examination of a description of the performance management process, the Performance Talent and Management System (PTMS), instructions for its use, its procedures, its timelines, and its involved personnel provided a well-rounded view of the process at CL&P. Blue Ridge, then, reviewed copies of the evaluation form and instructions for managers and employees. Next, auditors studied goal categories, performance goals, and competencies of the Performance Management planning stage.

In addition, Blue Ridge reviewed a description of the procedure used to help less effective performers improve their performance. Auditors inspected the process of how executive performance is evaluated.

The Company uses a customized Balanced Scorecard as a business measurement system with four Key Results Areas (KRAs): people, operational performance, customer care, and financial performance. Using Key Performance Indicators (KPIs) cascaded from the KRAs, the operating groups measure their performance monthly. Human Resources, however, do not employ a cascaded scorecard to measure HR performance or drive all the components of the corporate scorecard; they use the Vice President's own goals as metrics.[706] The Performance Enhancement System (PES) does report both safety and staffing KPIs, as does enVision 2008.[707]

Fourteen articles, descriptions, instructions, and how-to's describe both the performance management system and the relationship between performance management and the procedures for assigning compensation. In 2008, the Company introduced the new online Performance and Talent Management System (PTMS), which organizes and guides managers and employees through the three step annual process: planning, mid-year review, and year-end review.

The employee formal evaluations examine work objectives and performance standards via personal (or library) performance goals to which the manager may attach minimum and maximum measurements along with a target.[708]

The Organizational Change and Learning organization and the Strategic Employee Relations Business Partners are spearheading a company-wide 360° feedback implementation. Facilitated by the new Performance and Talent Management System, managers and supervisors can forward requests directly to other evaluators via the on-line system.[709]

The Company employs a variety of ways to train managers to use the Performance Management System. As the Performance and Talent Management System (PTMS) houses most of the process and walks managers through the different steps, training focuses on the use of the system.

Additional on-line resources outline annual changes, Performance Management Rating Definitions, Competencies, and Salary and Wage Review Details. Animated how-to sessions on-line also guide managers through the step-by-step process.[710] NU Policy (NUP 65 on-line) dated August 9, 2007, the Performance Management policy also guides managers and supervisors through the steps of helping less effective performers improve their performance.[711]

As with all other NU employees, the executives have their performance appraised. They undergo a goals review throughout the year and measurable reviews done quarterly with the Management Committee. In March, they match performance against goals, competencies, and development to get the final results. This performance evaluation leads to compensation.[712]

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[706] Interview J. La Vecchia on 8/20/08.
[707] Response to Data Request BRCS-EM-40-002.
[708] Response to Data Request BRCS-HR-07-069.
[709] Interview K. Sterrett on 9/15/2008.
[710] Response to Data Request BRCS-HR-07-069.
[711] Response to Data Request BRCS-HR-07-076.
[712] Interview J. La Vecchia on 8/20/08.

The annual executive appraisal form lists three main areas for review: overall assessment, development, and overall rating. The overall rating employs the same five-tier performance descriptions as non-executives.[713]

Findings

The Performance Management System for both non-executives and executives is formal, impartial, and organized. Detailed guidelines drive an on-line, step-by-step process to guide managers and supervisors through the evaluation process and the resultant annual Merit Pay increase for non-executives. However, the measures or metrics of the business (from the Balanced Scorecard) are not cascaded down to individual contributors, giving them a direct line-of-sight to how their performance goals influence those of the business as a whole.[714]

Employee evaluations are performed in a timely manner with subsequent feedback to employees.

The training materials on-line are clear, concise, intuitive, creative, and user-friendly. The other methods of training provide managers and supervisors many opportunities and venues to learn about the program and its use.

At the department level and at the process level, however, the procedure of measurement remains less than satisfactory. Instead of employing the cascaded Key Results Areas from the corporate-wide Balanced Scorecard (people, operational performance, customer care, and financial performance) for measures, Human Resources confines itself to people measures and those metrics of the organization's leader.

The Scorecard is intended to obtain a balanced view of financial metrics and those other elements that help grow the business.

Measures for process management are discussed in section 7.10 Process Management.

Conclusions and Recommendations

The new Performance and Talent Management System is included in the structure of the Performance Management System and tied closely to the annual Merit Pay process. The implementation/execution seems well-supported. The groundwork has been laid. The next step in improvement is alignment through measurement.

The team members should all have a direct line-of-sight from their own performance measures back up to those of the department and on to those of the business. As a result, the individual employees should also be rated on how they meet the Key Performance Indicators and Key Results Areas of their department.

Blue Ridge recommendations:

[713] Response to Data Request BRCS-HR-07-074.
[714] Response to Data Request BRCS-HR-07-069 and BRCS-GR-01-001.

7.7.1 Create an HR Strategy Map and develop measures that ensure that Human Resources work drives and/or influences the results of the Key Results Areas of the corporate Balanced Scorecard Measurement System.

7.7.2 Ensure that every member of the HR organization (and the NU organization, too) can follow the direct line-of-sight back up the chain to the Key Performance Indicators and Key Results Areas of the Balanced Scorecard. Measure HR on all four Key Results Areas: People, Operational Performance, Customer Care, and Financial Performance.

7.8 Labor Relations

Background

The union-management relationship has particular impact on a utility. Only through efforts of both management and the union to accommodate each other's needs can they both serve their commitment to the customer.

Although Corporate Safety and Health fall under Labor Relations, the topic is covered in a separate section (7.12 Safety and Health).

Analysis

Blue Ridge examined data responses and interviewed the Director of Labor Relations. Auditors reviewed the corporate vision, mission, objectives, on-line employee relations policies and procedures, Collective Bargaining Agreements, enVision2008, organizational charts, and descriptions to gauge alignment between Labor Relations and the overall strategy of the business. As part of this audit, Blue Ridge also interviewed Union Leadership.

Blue Ridge also explored CL&P's labor relations and collective bargaining history, grievance process and history, history of strikes, and contract issues to gain an overview of the collective bargaining/managerial climate. In addition, auditors considered specific labor relations responsibilities such as disciplinary actions, procedures for handling substance abuse, and methods for fostering positive relationships between the various unions and the Company. Demographics such as number of grievances, employee grievance and resolution ratios provided Blue Ridge with the volume and effectiveness of the Labor Relations team in dealing with bargaining unit complaints, a major responsibility of their work.

Northeast Utilities' Labor Relations goal is to create an environment of increased employee involvement and partnering.[715] Their goals for 2008 are to conclude negotiations of three labor contracts, continue to support pandemic planning, and support

[715] Interview B. Lizotte on 9/2/08.

customer service.[716] A corporate centralized section under NUSCO, the Labor Relations team provides traditional collective bargaining and Labor Relations activities to all the companies within the corporation. Their duties entail:

- Negotiating contracts and agreements
- Grievance processing
- Interface with union business offices. Correspondence with the union
- Recommendations for disciplinary action (written warning and above) to ensure consistency – in compliance with Federal Sentencing guidelines[717]

The Labor Relations team works with five Collective Bargaining Agreements (CBA) with IBEW (International Brotherhood of Electrical Workers) Locals 420 and 457, whose members number 1,272 in Connecticut.[718]

Since 2004, the Connecticut Locals have filed:

- 386 Grievances
- 10 Unfair Labor Practices (all of which are closed)
- 55 Arbitration requests (20 of which have been resolved or withdrawn)

Employee Relations policies and procedures cover generic treatment of employees, but there are none specifically for Labor Relations' activities as they are governed by respective Collective Bargaining Agreements. Also, no administrative procedures exist for Labor Relations to outline the steps to administer the Collective Bargaining Contracts; again, they are guided by the elements of the contracts themselves.[719] CL&P has not experienced a strike since the 1970s, although they were close in 2004 (they needed 3 rounds of ratifications before the vote due to new union leadership). In addition, for the 2004 to 2008 reporting period, there have been no work stoppages.

The Company enjoys a collaborative relationship with IBEW International Office and has embarked on a more comprehensive utility partnering effort as recently put forward by IBEW President Ed Hill. A similar partnering effort is in place with IBEW 457. Both major unions support safety initiatives at a 10 rating (on a scale of 1to10 with 1 low and 10 high), and there is a solid working relationship on operational issues with one union and an improving relationship with the other.[720]

To maintain consistency throughout the organization, the Labor Relations team manages the disciplinary process for the entire corporation.

716 Interview B. Lizotte on 9/2/08.
717 Response to Data Request BRCS-HR-07-077.
718 Response to Data Request BRCS-HR-07-077.
719 Response to Data Request BRCS-HR-07-077. BRCS-HR-07-078; BRCS-HR-07-084, 085.
720 Interview B. Lizotte on 9/2/08 and Response to Data Resquest BRCS-HR-07-077.

The Labor Relations team prepares front-line supervisors, managers, and other Human Resource professionals to manage bargaining unit employees and issues. A three-day training program by MARC (Management Associated Results Company, Inc.), a labor and employee relations consultancy, teaches labor, human resources, legal, line management, security, medical, and internal audit professionals tools and techniques to interact effectively with the unions.[721] The Director of Labor Relations also convenes teams of supervisors to walk them through the grievance and negotiation process.[722] In addition, a seminar on labor contracts, in which attorneys answer question on arbitration, has trained about 300-400 people in CL&P.[723] Labor Relations professionals also attend various seminars and specialty programs, such as at Cornell's School of Industrial Relations.[724] Membership in various Labor Relations associations keeps the team up to speed on new trends.[725] Finally, the Director of Organizational Change and Learning is assessing how her organizational development consultants can support front-line supervisors who deal with union Locals on a day-to-day basis.[726]

Findings

The Labor Relations Team administers the Collective Bargaining Agreements in a fair and equitable way.[727]

Labor Relations employ a consistent and equitable process to discipline employees via a standardized cause and effect Discipline Matrix.[728] The process consists of different steps: verbal warning, written warning, suspension, and, finally, termination.[729] A traditional three-step process of grievances for union members and a problem resolution process for salaried employees allow both union-eligible and salaried employees respectively to grieve their outcomes.

The Labor Relations organization uses no metrics of substance, but the Director is trying to develop them for next year. He would like to measure indicators, such as process duration. They currently monitor disciplinary actions and types, so they can look back to predict the future. The Director would like to expand the use of metrics to include performance metrics for the grievance process.[730] No line of sight is apparent from Labor Relations performance to the Key Performance Indicators of the CL&P business.

No administrative procedures exist that captures Labor Relations work step-by-step. The retirement of several of the highly experienced Labor Relations team members may require their positions to be backfilled in the future.

[721] Interview B. Lizotte on 9/2/08.
[722] Interview B. Lizotte on 9/2/08.
[723] Interview B. Lizotte on 9/2/08.
[724] Interview B. Lizotte on 9/2/08.
[725] Interview B. Lizotte on 9/2/08.
[726] Interview K. Sterrett on 9/15/08.
[727] Response to Data Request BRCS-HR-07-077, 079, 084, 085.
[728] Interview B. Lizotte on 9/2/08.
[729] NUP 66; Response to Data Request BRCS-HR-07-083, 100.
[730] Interview B. Lizotte on 9/2/08.

The presentation on the 2007 Workforce Survey to the Management Committee on December 18, 2007, highlighted that communication between immediate managers and union employees needed improvement. Union members consistently rated the communication they receive from their organization considerably less favorably than non-union employees, and their rating was consistently below the norm in double digits. A negative pattern continued throughout the union respondent data. It was recommended that communication and the communication vehicles from immediate and senior managers to union members be strengthened to produce a positive impact on union employees' engagement with the Company.[731]

Conclusions and Recommendations

The Labor Relations organization manages their part of the business at a level above industry standards. In fact, some of the work that they have completed in terms of strengthening collaborative ties between the Company and one of the Bargaining Units rates as a best practice. Nevertheless, the lack of written procedures for administrative work and metrics to run the business is not comparable to the other best practice work.

Blue Ridge recommendations:

7.8.1 Develop written standard operating procedures for the administrative processes in Labor Relations.

7.8.2 Follow the analysis and recommendations from the 2007 Workforce Survey to the Management Committee presentation about strengthening communication with the union.

7.9 Manpower Planning

Background

With the large number of Baby Boomers scheduled to retire, employers must confront the problem of sustaining a competent workforce to carry out their business goals. Often called Human Resource Planning, the practice is the strategic alignment of an organization's human capital with its business direction. It also provides the structure so that cross-functional teams of Human Resources professionals can methodically plan future staffing and skill levels by analyzing the demographics of the current workforce and by assessing present and future needs of the organization. By comparing the results to the present resources and the future predicted resources, the team identifies gaps. HR can then take appropriate actions to bring demand and supply into balance. By implementing solutions, HR can ensure that the supply of people and skills meets demand, thereby allowing the organization to accomplish its mission, goals, and objectives.

[731] Response to Data Request BRCS-HR-082.

This management tool effects the full life cycle and range of Human Resources activities, including recruiting and staffing, classification and compensation, performance management, and rewards and recognition.

Analysis

Blue Ridge reviewed the corporate vision, mission, objectives, on-line policies, procedures, organizational charts, PowerPoint presentations of Northeast Utility manpower plans, and descriptions to gauge alignment between Manpower Planning and the overall strategy of the business. Blue Ridge interviewed various managers that were responsible for pieces of the human resources planning process.

The auditors also reviewed employee demographics, headcount by layer, employee turnover, jobs tough to fill, and positions at risk for retirement. In addition, auditors reviewed information to assess whether sufficient information is captured and available regarding the Company's workforce.

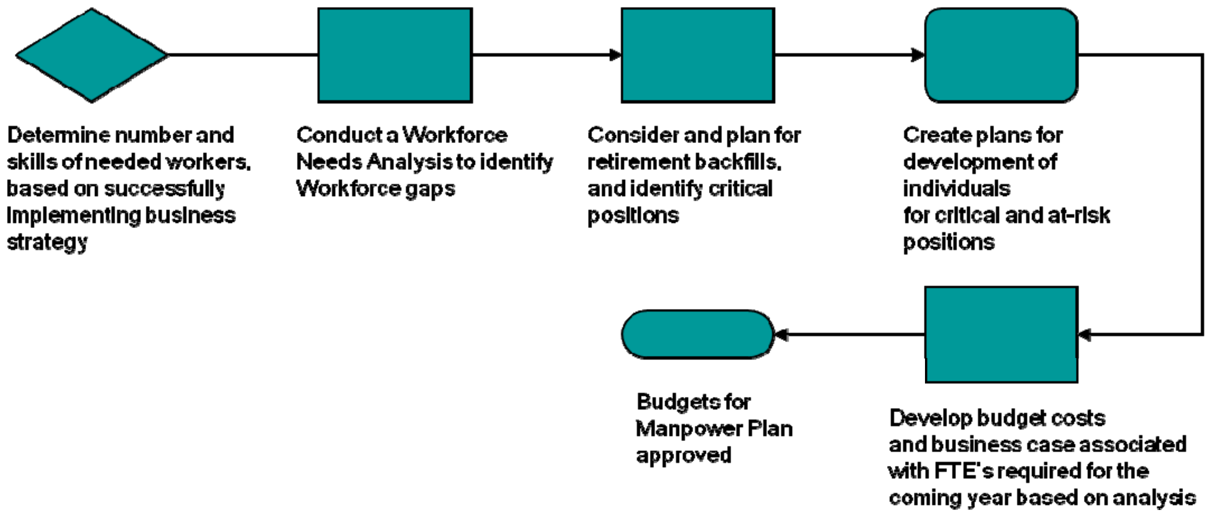
Manpower Planning is one of Northeast Utility's Six Strategic Priorities for 2008. In addition, one of the 3 Key Performance Indicators for the People section of the Company's Balance Scorecard measurement system revolves around human capital: Maintain Employee Staffing ≥ 98%.[732] Workforce Planning and Development makes up 60% of the 2008 goals of the Vice President of Human Resources.

Like most technically-oriented companies in the Northeast, the Company faces an aging workforce. Sixty-three percent of the general population (259) is 55 years old and has 30 years of service (Rule of 85), making them eligible to retire. In five years, 71% (530) will be at the Rule of 85. Incumbents in key technical positions may retire with no identified backfill from an industry in which it takes years to become fully competent to do the work.[733] Eighty-percent of supervisors are of potential retirement age, too.[734]

As a result, Northeast Utilities created a Workforce Planning Model. The NU Planning Model entails a common practice of identifying the demand for skills required to do business, assessing what skills are available, identifying the gaps in skills, and devising a method to close the gap. The diagram below lays out the model:

[732] Response to Data Request BRCS-HR-O&-045.
[733] Response to Data Request BRCS-HR-07-091.
[734] Interview J. La Vecchia on 8/20/08.

Figure 19: NU Workforce Planning Model[735]



Human Resources has tackled the challenges of resource planning with a myriad of efforts:

- An initiative to become the Employer of Choice
- Use of incentives to hire and retain
- Creation of a robust intern program for early training and recruitment
- Development of programs internally to create requisite skills
- Membership on state-wide higher education boards to guide the direction of technical education in the state
- Creation of multi-generational benefits programs
- Working with the NU Foundation
- Creation of retention agreements for potential retirees in key positions
- Development of understudies for key roles
- Reduction of apprenticeship years of training from 4.5 to 4
- Implementation of market-competitive engineering rates
- Recruitment from the military[736]

The Plan is documented on a variety of PowerPoint presentations (2006-7 and 2007-8) that lay out workforce analysis data, challenges, and recommended actions.[737] The Planning process takes place yearly during the strategic planning process, and therefore is integrated with other components of the Company's planning process.[738] During the planning process, the Company studies personnel inventory and forecasts the resultant requirements for replacement, new, and critical skills.

[735] Response to Data Request BRCS-HR-07-092.
[736] Response to Data Request BRCS-HR-07-091 and Int. with J. LaVecchia on 200808 and T. Burns on 8/20/08.
[737] Responses to Data Requests BRCS-HR-07-091, 092, 008.
[738] Interview J. La Vecchia on 8/20/08 and Responses to Data Requests BRCS-HR-07-008, 091, 092.

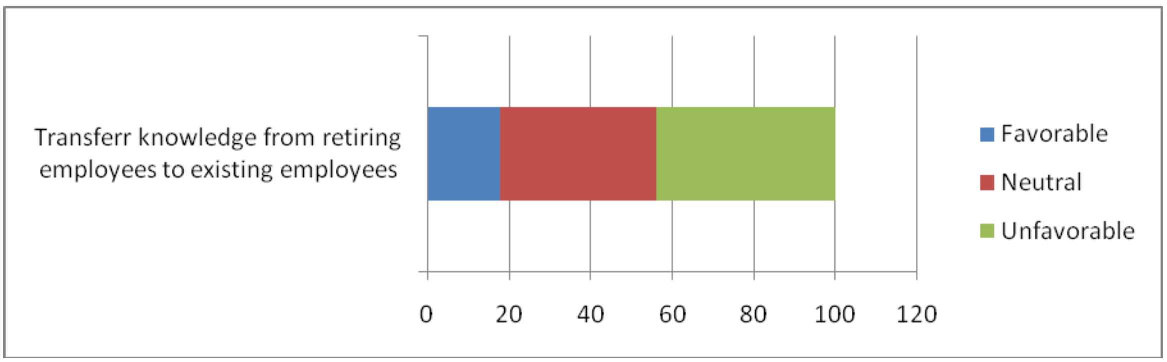
The headcount need is driven by the data from the Workforce Planning Analyses and identified skills gaps.[739] The Plan also identifies succession plans, training gaps, and growth and diversification strategies.[740] Succession and training plans, although often completed at different times, are rolled up into the strategic plan.[741]

Findings

The Workforce Plan does not include an assessment of the impact on compensation to fill the highly needed positions nor does it include a budget to identify how much the proposed manpower solutions will cost. In addition, the flowchart of the process indicates that pricing occurs in the last two steps, but costs were not included in the PowerPoint presentations that were called plans.

The 2007 Workplace Survey responses to: *rate your organization's ability to transfer knowledge from retiring employees to existing employees* resulted in the following results:

Figure 20: 2007 Workplace Survey Results Regarding Knowledge Transfer[742]



In terms of transferring knowledge from potential retirees to the current workforce, only 18% of those surveyed felt that the Company did a good job. Thirty-eight percent indicated that they were neutral and a full 44% indicated unfavorable. With the neutral and unfavorable added together, 82% did not feel positively about the Company's ability to transfer knowledge.

The Management Committee Report from December 18, 2007, lists a series of comments made by responders (on the Summary of Comments pages, pp. GG 24-25) when they answered the question, *What obstacles must your organization address in order to become better?* For the *Knowledge Retention area,* the responses may indicate that the

[739] Responses to Data Request BRCS-HR-07-026, 071, 092; see flow chart above.
[740] Responses to Data Requests BRCS-HR-07-011 and BRCS-CS-01-012 and Interview J. La Vecchia on 8/20/08, Interview K. Sterrett on 9/15/08, and Interview T. Burns on 9/20/08.
[741] Interview J. La Vecchia on 8/20/08.
[742] Response to Data Request BRCS-HR-07-082.

responders may have been considering the need for knowledge transfer (due to the large number of pending retirements) rather than knowledge from training[743]

There was a pervasive concern at all levels of the organization that the retiring baby boomers will leave a crevasse (vs. merely a gap) in both skills and manpower that has not yet been filled.

Conclusions and Recommendations

Although Human Resources employed a customary gap analysis method to gather data surrounding their future workforce needs, the resulting solutions were creative and innovative. Most companies treat only short-term needs, but the Company worked on all three: short, medium, and long-term. Most interesting was the long-term forays into molding the viewpoint and technical skills of children through the involvement on state boards of education and through internship programs at the high school level. Nevertheless, a plan is not complete without including an estimate of costs to implement the proposed solutions.

Blue Ridge recommendations:

7.9.1 Include with the Manpower Plan a sheet of costs for the recommended initiatives and impact on compensation to fill the critically needed positions.

7.9.2 Ratchet up the plan to backfill potential retirees and prepare them to backfill as this issue concerns almost the entire workforce.

7.10 Process Management

Background

Companies are studying how to improve the performance of their processes as a means of managing their businesses. Process management is vital to the success and future of any organization. A comprehensive practice of measuring the effectiveness of human resources key processes ensures that a utility can attract, retain, pay, terminate, and treat employees fairly.

Analysis

Any process improvement initiative, such as Continuous Improvement or Six Sigma centers around three major strategies: (1) process improvement, (2) process design/redesign, and (3) process management.

Process management entails several steps:

[743] Response to Data Request BRCS-HR-07-082.

- Identify a few key processes, and find out what Critical-to-Quality (CTQ) outcomes customers want and need.
- Create cross-functional (deployment) process maps for each key process, depicting which functions are responsible for which steps of the process and where the hand-offs fall.
- Write clear and concise Standard Operating Procedures (SOPs) that outline how the process should operate.
- Develop performance standards to define how you want the process to perform.
- Craft process (*leading*) and results (*lagging*) measures for the process.
- Train users in the steps of the process, what the measures and standards mean, how to use them, and what to do when the measures do not meet desired standards.

Blue Ridge reviewed the corporate vision, mission, objectives, on-line policies, procedures, enVision2008, the Performance Enhancement System and data, organizational charts, and descriptions to gauge alignment between Process Management and the overall strategy of the business. Auditors also included specific questions in the interviews to help clarify some of the responses.

Blue Ridge submitted Data Requests to the Company to discern how the various core HR processes were documented, measured, shared/trained, and used. Blue Ridge studied the responses for whether and how the following were handled by HR for each identified core process:

- Flow chart or process map depicting the process
- Standard Operating Procedure for use of the process
- User sharing/training in the process and standards on how to use it (SOP)
- Performance standards, e.g., how you want the process to work
- Outcome measures for 2004 to YTD 2008
- What the process owners do when the process is not performing as desired

The transactional areas document the step-by-step procedures regularly and follow them while the strategic areas may have pieces documented, but not the process as a whole. For instance, for the Recruiting and Selection process, each of the 14 sub-processes (from conducting internal and external interviews to relative authorization) have been captured individually on a user-friendly single sheet with steps in sequential order. The steps were labeled with who was responsible, the timeframe, and the processes. However, the standards and measures listed were really year-end results (vs. pre-identified targets). Other processes do have procedures, either company or via union contract. Any training is responsibility-oriented vs. process-oriented.

Findings

A varying array of the components of process management exists in the Human Resources organization. Clear and concise policies are easily accessible on the Intranet in Policy Central.

Only 3 of the 7 processes had flowcharts completed demonstrating the steps. None displayed a deployment process map that outlined the sequence and responsibilities of each function and the hand-offs between functions for performance analysis or process improvement.

All identified processes had some kind of sequential operating procedures. All easily accessible procedures were filed online in Policy Central, providing access to all employees. If employees do not have a computer, either the HR Service Center or the Business Partners will send a hard copy to them upon request.

The Standard Operating Procedures of the Recruiting and Staffing organization lay out necessary tasks in a step-by-step format. The auditors believed that they could take one of the Recruiting and Staffing procedures sheets and carry out the duties of the role immediately. Standard operating procedures provide an outline of the way the work is done at NU and how it should be standardized so that every customer (internal or external) receives a predictably positive customer experience.

NU trains the sequential steps and responsibilities of roles through On-the-Job-Training (OJT), Just-In-Time (JIT) Training, coaching, and monthly HR Peer Group meetings. This training, however, seems to be focused on the job and competencies rather than on the process itself. None of the processes employ performance standards. Only Recruiting and Staffing measures process outcomes, but then only after the fact rather than as prescribed predictive measures, targets, and standards.

Not one process owner discussed performance measures and what they do to counteract when processes do not meet performance targets.

The following table demonstrates which core Human Resources processes demonstrated elements of process management:

Table 29: Process Management Elements Captured in HR Core Processes

	Elements					
Process Name	Flow chart or Process map	Standard Operating Procedures	Training on use of process& SOPs	Performance Standards	Outcome Measures	What They Do When Process Does Not Perform
Recruiting, Selection, and Staffing[744]		X	X		X	
Dismissal/Termination[745]	X	X	X			
Grievance Process (Bargaining Unit)[746]	X	X				
Grievance Process (Salaried employees)[747]	X	X (CBAs);No admin.	X			
Assigning Compensation[748]		X				
Reduction-In-Force (RIF) and Downsizing[749]		X				
Affirmative Action/Equal Employment Opportunity[750]		X				

Conclusions and Recommendations

The Standard Operating Procedures of the Recruiting and Staffing organization vie for a best practice. The remaining sections of the organization have not outlined the steps in the processes or procedures for ensuring accurate usage, training new employees, or improving increments of the process.

Although the Northeast Utilities' Human Resources Team is an expert and successful organization, the team does not use process maps to manage their part of the business. Best practice Human Resources Departments map their processes, develop crisp Standard Operating Procedures, train their personnel to use them and craft measures that tell them how well their processes are performing.

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[744] Responses to Data Requests BRCS-HR-07-095; BRCS-HR-07-012; and nup 64.
[745] Responses to Data Requests BRCS-HR-07-100 to 104; and nup 65, 66.
[746] Responses to Data Requests BRCS-HR-07-105 to 109; BRCS-HR-07-083; BRCS-HR-07-083; BRCS-CS-01-004; and appropriate union contracts.
[747] Responses to Data Requests BRCR-HR-07-110 to 114; HR-07-084; nup 68; and procedural guide for HR Business Partners.
[748] Responses to Data Requests BRCS-HR-07-115 to119; BRCS-HR-07-010; BRCS-HR-07-028; BRCS-HR-07-029 to 041.
[749] Responses to Data Requests BRCS-HR-07-089; BRCS-HR-07-120 to 125; and appropriate union contracts on-line.
[750] Responses to Data Requests BRCS-HR-07-090; BRCS-HR-07-131; BRCS-HR-07-100; nup 60-62 and 64-67; and NU EEO Policy.

As the operating groups are ramping up for a Six Sigma initiative, Human Resources needs to learn, use, and apply the tools to their own discipline. As leaders of the corporate culture, they must model the new behaviors in order to develop and maintain credibility in the organization. Until HR embraces the business tools and technologies of Operations, it will always be in a staff role rather than a full-fledged strategic partner.

By certifying a few of the HR professionals who work in the change arena (especially those assigned directly as staff to Operations) in process improvement/Six Sigma technology (Green Belts as a start), Human Resources will be seen as leaders in this change initiative. All client-facing staff members should also be familiar with the basic philosophy and concepts of the initiative so that they can speak authoritatively about the subject.

Most importantly, the HR organization employs very few measures to test and monitor performance of their business processes. They do a great job in measuring individual performance and transactional processes, but they also need to move on to core HR processes.

All measurement at this level should be aligned with the Key Results Areas (KRAs) and Key Performance Indicators (KPIs) of the corporate Balanced Scorecard. As mentioned before, the metrics of the Scorecard should be cascaded all the way down to each individual employee, so he or she can have a direct line-of sight back up the chain to the corporate Scorecard to see the influence and impact he or she has on achieving the goals.

By process mapping the macro processes of the Human Resources Department, the Company will see all the steps entailed, repeats and overlaps, and ways to improve these processes even more.

Blue Ridge recommendations:

7.10.1 Begin to develop the infrastructure for process management and allow one of the newly trained Green Belts in Operations to facilitate the work sessions.

7.10.2 Develop process and results measures for core HR processes. Begin to measure and monitor them.

7.10.3 Certify 1-2 CL&P Strategic Business Partners as Six Sigma Green Belts, and then, Black Belts.

7.10.4 Volunteer Human Resources facilitators for process improvement teams. Arrange for them to co-facilitate with Operations and the newly minted Green Belts. It will strengthen Human Resources' process improvement skills and creditability in the field plus strengthen the advanced process facilitation skills of the Green Belts.

7.11 Ethics, Diversity and EEO (Compliance)

Background

The Human Resources Department usually helps manage the climate and environment of an organization. The chief executive sets the tone and the managerial climate, but the HR organization often coaches the implementation of changes to the culture, monitors the climate, and oversees any compliance activities related to people, the climate, and culture.

Both ethics and equal opportunity are molded by compliance to various federal laws and guidelines, but there are no legal provisos setting direction for diversity in the workplace. It is just good business to create an inclusive atmosphere in which every employee feels welcomed and valued.

By facilitating the creation of a Code of Ethics and helping communicate the ethics message down throughout the organization, HR has an important role and responsibilities in ensuring that the company achieves and maintains high ethical standards.

The mission of any human resource department should be to increase communication and understanding among the cultures that make up the diversity of the organization in order for employees to become comfortable with perspectives different from their own and work together as a team. Diversity becomes paramount to utilities (and other companies) with the impending scarcity of employees over the next 5–10 years and with the changing demographics of the workforce. Every employee will need to be valued on a level as never before.

Due to the people-oriented nature of the content, Human Resources (along with stringent coaching by Legal) is the keeper of Affirmative Action/Equal Employment Opportunity, ensuring that the company's policies and practices meet both the intent and spirit of the laws, thus, preventing expensive laws suits and a dispiriting environment.

Analysis

Blue Ridge reviewed responses to data requests and interviewed the Director of Ethics, Diversity and EEO. Blue Ridge reviewed the corporate vision, mission, objectives, on-line policies, procedures, organizational charts, and descriptions to gauge alignment between Ethics, Diversity, and Equal Employment Opportunity and the overall strategy of the business.

The auditors read the Northeast Utilities Code of Conduct for Connecticut, the Compliance Plan and the Standards of Business Conduct about conflict of interest. Blue Ridge, then, scanned the Facilitator's Guide for awareness sessions on ethics and conduct. Finally, auditors reviewed the number of employees sanctioned for ethics violations and the number of complaints captured by BEACON, the ethics hotline, alleging misconduct.

For Diversity, Blue Ridge checked the Company policy on-line and the Diversity web pages and reviewed different Northeast Utilities programs in place to maximize the potential of a racially, ethnically, gender, and age diverse workforce. In addition, auditors considered how the Company measures outcomes by the Workforce Survey.

In terms of Equal Employment Opportunity, Blue Ridge examined the Employee Claim and Resolution Ratios along with the cost per employee of discrimination lawsuits. The Company's sexual harassment policy (NUP 60) and a list of other human rights-specific policies were reviewed.

For Government Regulations and Compliance, auditors reviewed personnel and payroll retention compliance with laws, policies on the Intranet, and statistics regarding regulatory programs, such as Affirmative Action. Blue Ridge also reviewed copies of written materials provided to employees regarding Affirmative Action regulations.

Finally, a walking tour of the corporate buildings in Berlin identified sample bulletin boards with requisite federal and state laws and guidelines, and that matched the standard format.

The Ethics, Diversity and Equal Employment Opportunity (EEO) organization has several goals. The first goal is to meet compliance obligations with the government, complying fully with both the letter and spirit of the law. Another goal is to clearly define the concepts of respect and fairness for Northeast Utilities (NU), the requisite behaviors, and educate the community about them. Finally, an EEO goal is to keep the trust of the employees, regulators, shareholders, and public.

In support of these goals, the Company has a code of ethical conduct that is posted and easily accessible on-line at NUnet,[751] which is reinforced by communications and classroom and meeting-based awareness sessions facilitated by outside consultants.[752] Attendance is also mandatory for Standards of Business Conduct (SBC) training. To promote awareness, the Company also sponsored a calendar contest for employee children and relatives. The widely-distributed calendar displayed winning drawings for every month and a photo of both the artist and the NU family member. As a result, the Society of Compliance and Ethics published an article about NU's training efforts in their member magazine.[753]

Each year during the Conflict of Interest Program, all exempt employees and candidates for exempt positions must also disclose any potential conflicts of interest.[754]

With a standard format of where specific laws should appear on all boards, the bulletin boards are throughout the corporate campus. The most noticeable is located outside the

[751] Response to Data Request BRCS-HR-21-055.
[752] Response to Data Request BRCS-HR-21-057.
[753] Interview C. Armstrong on 9/17/08.
[754] Response to Data Request BRCS-HR-21-056.

Human Resources office area in the corporate office for both employees and applicants to read.[755]

Specific legal compliance to regulations resides with the Corporate Secretary and the Legal Department.[756] In addition, the Internal Audit Department has completed internal audits regarding compliance to regulations.[757]

Both the Standards of Business Conduct and the Northeast Utilities policy on diversity and inclusion provide clear and concise descriptions of the Company's expectations of all employees. The NU Vision also reinforces diversity by speaking to the core value of diversity. Finally, the Performance Management System measures employees on the core competency of *Living the Values* which entails treating people with respect and fairness. [758]

The Company translates those values into action by providing policies and programs that maximize the potential of a racially and ethnically diverse workforce. As part of NU's employee involvement initiatives, the Diversity Partners, comprised of the Diversity Council, Diversity Advocates, and the Executive Diversity Committee, guide diversity initiatives through regular meetings and feedback.

The Diversity and EEO Office team also works with the many interns to help inculcate a cultural and generational diversity perspective early in their working career and with diverse populations within the Company to create a support system to facilitate their success.[759]

All officers receive Affirmative Action goals, and their incentive compensation is influenced by maintaining and increasing minority representation and promotions.[760] The Company is addressing all protected classes under the umbrella of diversity. CL&P may need to reconsider its programs and procedures to support women. When Blue Ridge conducted its mini-survey of 83 director-level and up, 23 were women. Of that number, two women mentioned that they felt that more should be done to support women in this workforce.[761]

Several methods help the Company measure the outcomes of ethics, diversity, and Affirmative Action/Equal Employment Opportunity (AA/EEO). For compliance, the director checks whether the Office of Diversity and Ethics has provided what the agencies wanted and whether the reports are accurate and up-to-date. For hiring, the director sets demographic goals based on where the shortfalls are and what the Company needs to do to be compliant. To ensure that complaints are answered in a timely fashion, they use a target of 45 days for resolution. The director and manager of Ethics, Diversity

[755] Response to Data Request BRCS-HR-07-135.
[756] Interview C. Armstrong on 9/17/08.
[757] Response to Data Request BRCS-GR 63-001.
[758] Response to Data Request BRCS-HR-21-060.
[759] Interview C. Armstrong on 9/17/08.
[760] *https://webvpn.nucom/NUCorporate/Information/Diversity/nu/FAQs/*.
[761] Note: Not referenced to maintain confidentiality.

and EEO also sends "dental cards" as reminders and evaluations to complainants.[762] Another measurement tool, NU's Three Year Strategic Plan (At a Glance), provides a visual overview of the Diversity and Inclusion (D&I) progress on key leverage areas: Leadership and Accountability, Finance Management Processes, Embracing Four Key Behaviors, Engaging the Workforce, Develop/Retain/Attract Talent, and Strengthen Stakeholder and Community Partnerships.[763]

The Company measures compliance by reviewing the end-of-year trends regarding EEO and sexual harassment complaints. The director also examines hiring numbers to identify age, color, sex, etc. to ensure that the Company hires beyond the guidelines. A review of BEACON line, Title 7, and logs of phone complaints culls out trends for further study.

Findings

The Workplace Survey results remain one of the key measurement indicators of the diversity initiative. Five questions of the 2004 and 2007 Workplace Surveys centered on diversity. Through the efforts of the entire Diversity Team, ratings increased from 2004 to 2007 in all relevant questions except respect from supervisors; that score remained flat over the past three years. In spite of diversity training and the introduction of supervisory skill workshops, Northeast Utilities' employees still feel that they have not seen a difference in how they are treated.

Table 30: Diversity Responses on Workplace Survey (NU Data) [764]

2007 Employee Survey – Diversity Questions	Total Favorable	Difference from 2004
Discrimination is not a problem in my organization.	80	+9
Employees are treated fairly without regard to race, gender, age, national origin, religion, color, disability, and/or sexual orientation.	76	+5
People in my organization value and respect each other for their differences (e.g., style, nationality, religion, age, gender, disability, race, color, sexual orientation).	74	+2
My organization is dedicated to providing equal employment opportunities for all employees.	70	+4
Rate your immediate supervisor on: Showing you respect as an individual.	73	0

Although the table above demonstrates that the scores for these five questions have improved on average by 5 points in the last three years, when the score of 76% favorable for the question regarding employees being treated fairly is compared with the norm, it is equal, but when it is compared to World Class Benchmarks, it is 5 points lower. As this

[762] Interview C. Armstong on 9/17/08.
[763] Response to Data Request BRCS-HR-21-064.
[764] Response to Data Request BRCS-HR-21-064.

Human Resource organization strives for World Class excellence on many levels, it should target World Class outcomes.

The NU 2007 Survey Report Summary indicated that all NU employees rated their company as an ethical organization. They also rated their awareness of the BEACON line (the ethics hotline) positively. Respect and diversity fall under the "good, but could be improved area."

In examining the CL&P work place survey data, only 46% felt that their organization treats employees with respect and dignity; that feeling will be a real barrier to improving the inclusionary climate for ethics and diversity. At the same time only 61% of CL&P said that their organization is an ethical organization and worthy of public trust. Both include a neutral rating (33% and 20% respectively), but it is difficult to perceive people being neutral about respect, dignity, or ethics, so this finding does not take them into account.

In reviewing the Human Resources data about Ethics and Diversity, 75% felt that their organization was ethical and worthy of the public trust (about the same as all NU respondents). Approximately the same percentage felt that employees are treated fairly without regard to race, gender, age, national origin, color, disability, and/or sexual orientation (3 points lower that all of NU respondents). Although HR scored 3 points higher than all of NU about treating employees with respect and dignity, only 57% of HR respondents said that employees are treated with respect and dignity. As the Human Resources team observes a broad range of the Company and sees how the processes affecting employees work, they often maintain a fairly accurate perspective about what is going on.

Finally, one of the key measures of any compliance work is how well the programs are keeping the Company out of regulator hearings and out of the court room. Of the 11 formal Connecticut Human Rights Organization (CHRO) complaints filed in 2007 (out of a CL&P population of 1,797):

- 6 were closed as unsubstantiated (4 race; 1 age/race; 1 race/harassment)
- 1 disability complaint expired due to the statute of limitations
- 1 age/ADEA was closed as withdrawn

The Claim Ratio (claim-to-total employees) for 2007, the last full year of data, was 0.6%, which was minimal.[765]

Three unresolved complaints, remaining from 2007, revolved around race,[766] an important disclosure when the Company strives for an inclusionary atmosphere. The Unresolved Claim Ratio is less than one half of one percent (0.02 percent), which is inconsequential.

Only three employees filed discrimination lawsuits against CL&P since 2004.[767]

[765] Response to Data Request BRCS-HR-21-065.
[766] Response to Data Request BRCS-HR-21-066.

Of the 10 formal Connecticut Human Rights Organization (CHRO) complaints filed so far in 2008 (out of a CL&P population of 1,797), 3 were closed as unsubstantiated (2 harassment; 1 race/violation of Standard Business Code). The pending complaints include 4-disability, 1-age discrimination, 1- race/color/sex discrimination, and 1-race/color/harassment.

The costs for external counsel for all human rights-related lawsuits from 2004 to YTD 2008 averaged $1.17 per employee per year.[768] These limited complaints and minimal fees are an indicator that CL&P employees may feel that the management of the ethics, diversity, and Equal Employment Opportunity programs is providing them with a sense of justice and impartiality.

The Diversity section of the Northeast Utilities web-site states that Ethics, Diversity, and EEO are important to the Company as employees believe that if they are treated fairly and with respect, the Company acts ethically.

Conclusions and Recommendations

The Equal Employment Opportunity regulations mandate the outcomes and reporting requirements; therefore, the goal is to complete the reports accurately and on time. New Sentencing Guidelines influence how the Company handles ethics but still allows for some creativity in implementation. Diversity activities, on the other hand, remain unregulated, and are, therefore, open to many creative avenues and methods for increasing diversity and the benefits that come from a diverse workforce.

The Office of Diversity and Ethics has creatively embraced organizational development approach to diversity with support for employees including the employee advisory councils and management committees to help embed the philosophies, tools, and techniques of diversity perspective into the culture of the business. By emphasizing the inclusion factor of diversity (and EEO), it makes the concept more understandable to most people.

The CL&P workplace survey data would be more helpful if they were compared to the normative rating of other companies who had answered these same questions. Only by studying the change vs. the normative data can you gauge the impact on attracting new hires from the outside world.

The Company is addressing all protected classes under the umbrella of diversity. However, CL&P may need to reconsider its programs and procedures to support women considering the concern raised in Blue Ridge's mini-survey of interviewees.

Blue Ridge recommendations:

[767] Response to Data Request BRCS-HR-21-067.
[768] Response to Data Request BRCS-HR-21-068.

7.11.1 Compare the diversity survey data with the normative results from other companies in the survey consultant's database. The World Class differential data also creates stretch goals for CL&P's Human Resources organization as they strive for a high level of performance.

7.11.2 Create task or process improvement teams to find root cause and draft develop actions plans to increase the diversity and ethics-related survey scores for those identified as "good, but could be improved," such as diversity, respect, and ethical organization, and "needs improvement: openness and trust" for both the Company and for Human Resources.

7.11.3 Study developing a formal support system for women, especially for managers, as they work in a traditionally male-dominated industry.

7.12 Safety and Health

Background

OSHA guidelines along with the high cost of workplace injuries and illnesses have companies looking for ways to improve the safety and health of their employees. The resulting missed days of work due to injury and illness raise costs for customers and lower dividends to shareholders.

Analysis

Blue Ridge reviewed data responses and conducted interviews with the corporate Human Resources (HR) Director of Labor Relations and the CL&P Manager of Safety and Health. Auditors reviewed the corporate vision, mission, objectives, on-line policies, procedures, and descriptions to gauge alignment between Safety and Health and the overall strategy of the business.

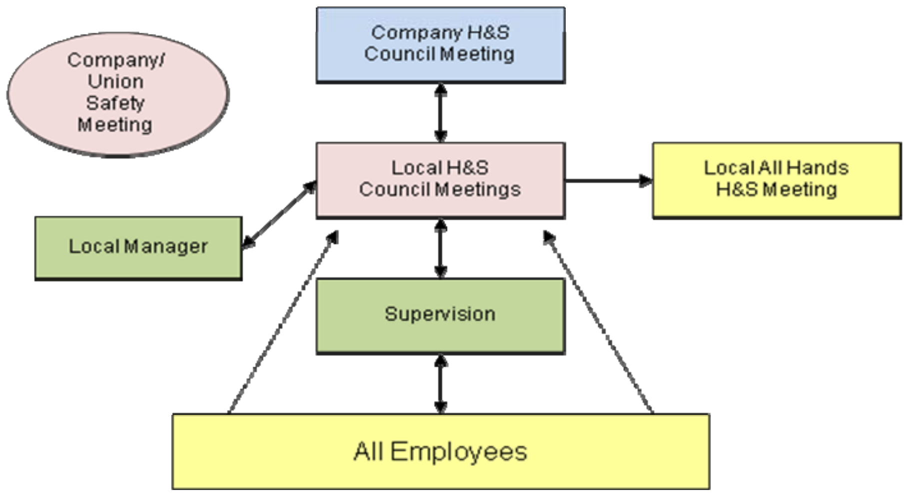
The HR Director of Labor Relations[769] indicated that health and safety is covered on two levels: the corporate manager of safety and health identifies corporate initiatives while the CL&P manager of safety and health focuses more on the operations side. The corporate manager of safety and health reports to the Director of HR (Labor Relations and Safety and Heath) while CL&P's (and Yankee Gas') safety and health manager reports to the Vice President of Operations. Both safety and health managers work dotted line to each other; the Operations Team interacts with the Corporate Team on the Labor Front and with safety issues.[770]

En*Vision* 2008 highlights safety as one of the six strategic business priorities for 2008. It also identifies the DART safety rate (Days Away Restricted Transferred) and the incidence of PMVAs (Preventable Motor Vehicle Accidents) as two of the three Key Performance Indicators (KPIs) for the People section of the Company Business

[769] Interview B. Lizotte on 020908.
[770] Interview J. DiStefano on 9/16/08/08.

Scorecard. The corporate strategy is to reduce illness and injury incidents by more accountability and employee involvement. The Company emphasizes responsibility, development of solutions, and monitoring of safety down into the organizations at the local level.

Figure 21: Health and Safety Committee Structure[771]



NU pushes safety responsibility down to the lowest level: a series of health and safety meetings at the local level deal with safety issues and concerns. Those issues that have not been resolved between employees and supervisors are reviewed by the Local Health and Safety Council at their monthly meetings. As the Council is comprised of a cross section of local employees, the local manager, and the local safety administrator, all those necessary to resolving a problem can provide input. If necessary, *ad hoc* problem-solving teams are chartered to resolve issues.

A one-hour Local Health and Safety All Hands Monthly Meeting shares information, resolutions, and ideas about safety to all location employees. A company-wide Health and Safety Council Meeting presents resolutions brought to the local council. Finally, the Company/Union Meeting reviews safety statistics, updates global safety initiatives, and shares resolutions to safety issues.[772] The committees handle their safety issues at the local level. They use this structure for identifying safety hazards and resolving them at all levels, while also receiving feedback from the field about issues and concerns. The Manager of Safety and Health for CL&P reports that he is not receiving as much negative feedback from the field due to the committee members taking pride and handling issues in their own areas.[773]

The CL&P Safety and Health Team's mission is to help obtain top quartile performance in safety by the end of 2009. Their goal is to reduce injuries and illness. Consistent

[771] Response to Data Request BRCS-HR-21-043.
[772] Response to Data Request BRCS-HR-21-043.
[773] Interview J. DiStefano on 9/16/08.

communication acts as the premier method to achieve both mission and goal. Currently, their incidence rate is 2.5 per 100 employees, and they would like to be at 2.15.[774]

The improved performance will be the result of implementing programs that keep the rate in the back of employees' minds and maintain consistency across the three states. A myriad of programs and actions are geared to help them meet their targets:

- Contractor Safety[775]
- Rewriting the Accident Prevention Manual (APM) with 50 Bargaining Unit employees[776]
- Focusing on particular areas of safety from incidences in previous quarters[777]
- Triple Zero Incentives in the Zero Incidents Program (no lost time, no restricted duty, no PMVAs --- Preventable Motor Vehicle Accidents)[778]
- Field Safety Observations or SAFERS[779]
- Slips, Trips, and Falls[780]
- Communications, such as the ZIP Safety Monthly Newsletter [781]
- Safety Call-to-Action and Safety Incentives [782]
- Job Safety Analyses before the start of every day[783]
- The SIRS (Safety Incidence Report System) database will help identify issues for follow-up as it currently documents and tracks safety and illness incidents. The database captures a description of the incident, injury/illness ranking, causes, consequences and actions taken.[784]

A review of the Safety section of the NU Intranet showed an overview of the employee resources, informational materials, and specific programs concerning safety, such as Safety Committee Meeting notes, Safety Alerts, Focus on Safety information, @ Work newsletters, Call-to-Action (CTA), and the Zero Incident Program (ZIP) as well as many other resources.[785] A similar review for health-related informational materials contained a link to a WellAware web-site.[786]

A walking tour of the corporate campus and buildings found OSHA and other Safety and Health bulletin boards and posters in a several places. Zero Incident Program (ZIP)

[774] Interview J. DiStefano on 9/16/08.
[775] Interview J. DiStefano on 9/16/08.
[776] Interview J. DiStefano on 9/16/08.
[777] Interview J. DiStefano on 9/16/08.
[778] Interview J. DiStefano on 9/16/08.
[779] Interview J. DiStefano on 9/16/08; Responses to Data Requests BRCS-HR-21-047 and BRCS-SS-06-007.
[780] Interview J. DiStefano on 9/16/08.
[781] Response to Data Request BRCS-HR-21-043.
[782] Response to Data Request BRCS-HR-07-036.
[783] Response to Data Request BRCS-HR-21-047.
[784] Response to Data Request BRCS-HR-21-042.
[785] Response to Data Request BRCS-HR-21-043.
[786] Response to Data Request BRCS-HR-21-043 and Interview B. Lizotte on 9/2/08 and Interview J. DiStefano on 9/16/08.

bulletin boards provided a wealth of safety and health information. In addition, a variety of safety-related posters, hung randomly in the buildings, reinforced current issues and concerns.[787] Likewise, a tour of the Technical Training area (Building 3333) indicated safety and health boards and posters there as well.

An investigation of the NU Intranet's Policy Central along with sections of the Safety and Health portion of the Intranet [788] outlined how NU translated OSHA regulations for use in daily operations.

As part of the self-help programs to attract employees and their families to a healthier lifestyle, Northeast Utilities provides four different programs: Employee Assistance Program (EAP), WellAware, FormFirst, and HealthLink. The Employee Assistance Program provides free and confidential counseling and other support to employees and family members during difficult times. WellAware, a health enhancement program, helps NU employees and family members adopt and maintain healthy lifestyles. Services, such as guided group stretching exercises, prevent tissue damage on the job. FormFirst raises awareness about the causes of soft tissue and cumulative trauma type issues. As a complementary service, physical therapists coach and treat employees confidentially on site.[789] And, finally, HealthLink requires a doctor's review and note after three days of absence plus nurse monitoring to help employees get the medical care they need to get back to work.[790] Prevention and preparatory training such as SERT (Skills Enhancement Refresher Training) are offered annually along with ergonomics, OSHA electrical safety, and WellAware. A major project is currently underway to develop a single Accident Prevention Manual for all companies and states.[791]

To enhance safety (and health) in an environment inherent with hazards, the Company completes drug and alcohol screening upon hire[792] and randomly after hire[793] with resultant standardized sanctions from a corporate-wide Safety Discipline Matrix, a product of the '03 Safety Summit.[794]

DuPont Safety, the Cadillac of safety teams and results, consults with NU. As part of the Safety Call-to-Action, NU benchmarked with other gas and electric utilities to identify leading safety performance. Public Service and Gas in New Jersey, a consistent top quality safety performer and a similar size utility in the Northeast, hosted the Company and union leadership. On their visit in 2006, the Company found that the New Jersey success stemmed from employee involvement and ownership of the safety process. As a result, CL&P established the Health and Safety Councils in late 2007 and implemented them in 2008.[795]

787 Response to Data Request BRCS-HR-21-044.
788 Response to Data Request Responses to BRCS-HR-21-043.
789 Response to Data Request BRCS-HR-07-132.
790 Interview B. Lizotte on 9/2/08.
791 Response to Data Request BRCS-HR-21-046.
792 Interview D. Cassella on 9/16/08.
793 Interview B. Lizotte on 9/2/08.
794 Interview J. DiStefano on 9/16/08.
795 Interview J. DiStefano on 9/16/08.

With the revamping of the Safety Call to Action Program in March of 2007, the manager of CL&P wants his people to focus more on consulting with the field rather than doing the actual problem-solving for them.[796]

Findings

CL&P has worked hard to develop solid health and safety programs. The preventive health programs have won awards. They follow best practices in both the safety and health area.

In spite of all the time and expense, however, safety still does not meet internal targets or industry top quartile limits for DART. The scores for DART, the Accident Severity Index, and PMVAs are all better than last year, but the September 2008 issue of *@ Work* stated:

> Completion of 2008 Safety Actions, particularly the ZIP Program are contributing to improving results. Strong safety performance in the 4th Quarter can result in near-target performance for the year…..While CL&P's PMVA results will not achieve our year-end target, we should strive to achieve our target during the final quarter.[797]

In reviewing the data about PMVAs in the September 2008 *Zero Incident Newsletter*, the number of incidents are down from 2007 (a decrease of 24% in reportable incidents); however, both the number and percentage of preventable incidents have risen (percentage of preventable incidents increased to 50% vs. 20% in 2007), which means that half of the incidents could have been prevented.

Table 31: Year-to-Date Safety Performance Comparison[798]

Year-to-Date Safety Performance Comparison		As of 8/30/08	As of 8/30/07
CL & P	Recordable Incidents	42	59
	PMVAs	21	12
	Percentage of Incidents as PMVAs	50%	20%

The disconcerting result revolves around incidents; although they have decreased to 47 incidents of restricted duty (from 62) so far this rolling year, 1 electrical contact/flash incident appears in the September 2008 Performance Enhancement System (PES) report (CLP- KPI Detail Report).

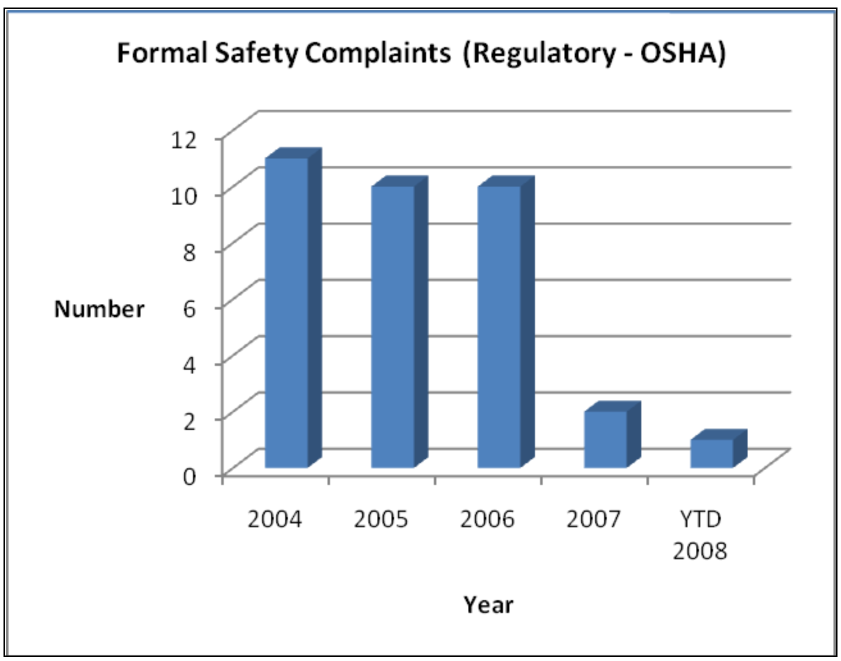
[796] Interview J. DiStefano on 9/16/08.
[797] *From https://webvpn.nu.com/apps/CorporateCommunications/empinfo.nsf.*
[798] Data adapted from *Zero Incident Program Newsletter*, September 2008, BRCS-HR-21-043.

Table 32: Restricted Duty Incidents: Rolling Year 9/2007-9/2008[799]

23	Sprains/strains
8	Slip/trip/fall
9	Struck by/contusion
6	Cumulative stress
1	Electrical contact/flash incident
47	Restricted duty incidents

On a positive note, complaints received from OSHA have decreased steadily from 2004 through Q2 of 2008. This may indicate that employees feel that their safety issues are being resolved more effectively or that union/management relationships are strengthening.

Figure 22: Formal Safety Complaints (Regulatory from OSHA)[800]



The 2007 Employee Workplace Survey Report of May 2008 indicated that safety gleaned moderate scores: good, but could be improved.

In the survey questions concerning safety:

[799] Data adapted from https://webvpn.nu.com/business/clp/depts/PES/.
[800] Data from OSHA Complaints BRCS-HR-21-041.

- 89% felt that the importance of workplace safety had been effectively communicated (6% neutral and 5% unfavorable)
- 82% indicated that they felt comfortable challenging their supervisor if they see unsafe behavior (11% neutral and 7% unfavorable)[801]

  (Note: these ratings indicate the overall scores; they do not identify the percentage of point difference between the norm from the Gelfond Group data).

The Blue Ridge survey of Directors and higher embedded in the interviews reported that the interviewees rated CL&P as an excellent (almost outstanding) place to work regarding safety. Setting the vision and mindset that safety remains paramount is a solid start; however, definitive actions are required to change the culture.

The CL&P Safety and Health Team brainstorm methods and learning channels to send messages most effectively to the workforce. They have tried a variety of traditional and creative ways to meet their internal customers' needs.[802] As a result, employees talk about safety as being critical.

Conclusions and Recommendations

CL&P's safety and health initiatives are solid. The preventive health program is innovative, exceeds industry standards, and saves healthcare and days not worked costs.

The safety initiative, although proactive, still misses internal targets, failing to reach best practice score for DART.

Blue Ridge recommendations:

7.12.1 Change from the current program approach in safety to a cultural change approach. Ask: what do we need to do to weave this safety custom deeply into our culture? (Do not eliminate the programs, but reframe them as part of a change process rather than a series of programs overlaid on the organization.)

7.12.2 Charter a cross-functional planning team to develop a strategic plan to improve the safety approach. Include operating people, Organizational Change and Learning, and Strategic Employee Relations Business Partners to help infuse the change management focus, methodology, and tools.

[801] Response to Data Request BRCS-HR-07-082.
[802] Interview J. DiStefano on 9/16/08.

8. CUSTOMER SERVICE

Objectives and Scope

The Blue Ridge audit of Customer Services included a review of the quality of customer service, meter reading, complaints and inquiries, credit and collections, service theft, and customer support systems. The Company is currently completing a multi-year customer service integration project called CustomerCentral (C2) which combines the customer service functions from four operating companies within the Northeast Utilities holding company structure and eliminates several legacy computer systems. Due to the C2 implementation timeframe, Blue Ridge conducted this review in a pre-C2 environment. CL&P requested (and the Commission agreed to) a delay of the C2 review until the first quarter in 2009 due to the planned implementation and roll out of the C2 system..

Today's emphasis in customer operations management has moved from customer service to customer focused organizations. Blue Ridge evaluated how well the Company is providing services toward this end. Factors considered included strategy, organization, systems, technology, practices and processes, performance, and costs. For example, advanced technology can enhance performance for the call center environment, including both the handling of incoming calls during routine and emergency periods as well as the delivery of outbound calls to customers concerning emergencies and planned outages or tree trimming. However, the cost of advanced technology must be balanced with the benefits gained.

Blue Ridge's review included the assessment of a number of specific areas for adequacy, usefulness, and effectiveness. Blue Ridge examined the consolidation potential of call centers. The customer service organizations were reviewed to determine the adequacy of customer policies and procedures. Customer service philosophy, training, performance, and plans were examined. The adequacy and effectiveness of the processes for new service connections and service changes were reviewed. Likewise, Blue Ridge assessed the usefulness and adequacy of customer information and accounting systems for use by customer service representatives. The billing, payment, and collection cycles were examined for maximization of cash and minimization of loss of revenue as well as for the timing from meter read to bill. Collection efforts must be standardized and adequately aggressive to protect against lost revenues and yet be sensitive to customer concerns in these tough economic times. Additionally, meter reading activities were reviewed for technology enhancements, timeliness, accuracy, and productivity of meter reader routes. Blue Ridge also evaluated whether programs and procedures are adequate for handling theft of service.

Overall Assessment

Blue Ridge found that NU's Customer Service organization is in transition. The Vice President-Customer Experience and Chief Customer Officer is a recent hire, and the Company promoted the Vice President-Customer Operations into his position earlier this year. Three of the Directors reporting to them are new to their positions in 2008. Reporting to the directors were several other employees new to their positions or, in some cases, temporarily filling those positions. These interim managers occupied positions vacated by others assigned to the C2 conversion project.

Attitudes were positive throughout the hierarchy. Some of the veteran employees expected 2009 to be a year of stabilization. New management, group consolidations, movement to the new Windsor facility, completion of the integration of all four companies served into one location, and the C2 conversion had caused considerable change in the organizations. Additional scrutiny by customers, the legislative body, regulators, and the media due to price increases, an economic downturn, meter and billing issues, and degradation of service quality had stretched resources.

Blue Ridge found the Customer Experience vision, mission, strategies, operating plans, goals, and tracking basics lacking, although a concerted effort is underway within the organization by the new management to shore up the fundamentals. In that regard, since the beginning of this review in July, an NU Customer Service vision has been rolled out, strategies are taking hold, goals were solidified, and reports and report data were more consistent. The Company was posting results which were also being shared in some workgroups. Goals and performance reviews for key players in Customer Experience were not available, but Blue Ridge did access that data at the higher levels in Customer Operations

Customer service levels for CL&P are lower than those in other NU companies, and call wait time needs improvement. The customer intelligence data is spotty, but plans are in place to evaluate and improve data quality and information flow throughout the Company. Process improvements are in their infancy, but the new management seems focused on making positive, significant changes in that area, including training selected personnel in Six Sigma methodologies.[803]

Meter reading poses challenges as they strive to ensure that readings produce accurate, timely bills without exception. Many projects and studies, some extremely complex, such as C2 and AMI (Advanced Metering Infrastructure), are multi-year efforts that stretch resources. The billing systems and changes to it will continue to present issues requiring correction or adjustment. CL&P has the talent and tools in place to perform in an exceptional fashion. Execution will be the key to the realization of success.

Background

Customer service has taken on new importance with the diverse vocal presence of today's customer base, increasing pressures from regulatory and investor communities, rising costs and prices, and a growing body of knowledge relating to the streamlining of processes and state of the art technologies. Outsourcing work to provide additional cost

[803] Six Sigma is a comprehensive and flexible system for achieving, sustaining, and maximizing business success. Six Sigma is uniquely driven by close understanding of customer needs, disciplined use of facts, data, and statistical analysis, and diligent attention to managing, improving, and reinventing business processes.

efficiencies, while not always easy to do in a union environment, has also become a growing practice, taking processes across company boundaries. In the past, customer service centers have often been considered cost centers simply due to the sheer size of the workforce within a customer service organization. A company that is customer focused takes advantage of the customer knowledge that resides in that organization, sharing the information about customers to add value across the entire company. That effort, in turn, can drive cross-functional process reviews to align operations behind customer requirements, reduce costs and eliminate barriers to encourage more control and decision making at lower levels.

To capture the necessary data to evaluate the effectiveness of CL&P's Customer Service, Blue Ridge assessed the operations and effectiveness of the Company's customer service, meter reading, complaints and inquiries, billing, payments and credit and collections, theft of service, and customer support systems. Within each area, Blue Ridge devised evaluation criteria by which findings were determined, and then developed conclusions and recommendations based on those findings.

Blue Ridge gathered data through the issuance and review of over 155 requests for documents, reports, flowcharts, spreadsheets, and narratives. The audit team accessed corporate websites and conducted interviews with 12 persons in key roles within Customer Experience and Customer Operations. Blue Ridge toured the Windsor facility and made observations by sitting with a Call Center Representative and by calling the Center while playing the role of a customer.

8.1 Quality of Customer Service

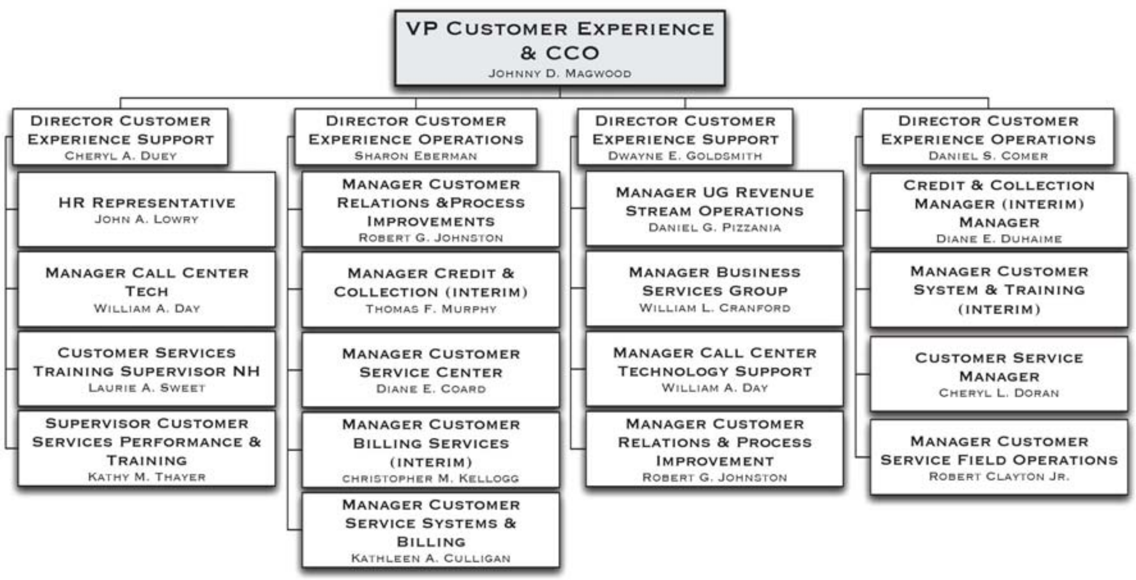
Background

Today's orientation within a Customer Operations environment should be clearly on the customer with a shared value and customer philosophy that encompasses all employees in an organization beyond those who have direct customer contact. This concept is often referred to as customer focus. It considers customers outside the company who purchase and utilize services as well as customers within the company—employees at various points within the service process chain whose work depends on output from previous employee work steps. Thus, a customer-focused customer service organization would need to have a common customer philosophy shared throughout the entire organization to educate employees and gain buy-in and to pay rigorous attention to identifying, examining, measuring, streamlining and improving processes over time.

Analysis

The responsibility for the customer service function is split between two vice presidential entities, one of which resides within NUSCO while the other belongs to CL&P. Key functions under NUSCO include the Customer Service Center, Customer Billing Services, and Credit and Collections. The Vice President of Customer Experience and Chief Customer Officer, a new position as of April of 2008 and structured by the company to address customer service issues, oversees NUSCO's Customer Service functions and reports to the Executive Vice President and Chief Operating Officer in NUSCO. Key functions within CL&P include Meter Reading, Assets, and Operations. The responsibilities relating to the CL&P functions belong to the Vice President-Customer Operations, who is also new to his role this year and who reports to the President and Chief Operating Officer for CL&P. The Northeast Utilities 2007 Annual Report shows that the latter was responsible for both CL&P and Yankee Gas. Below is an organization chart for the Customer Experience group. Blue Ridge noted that certain customer related services, such as final collections, are outsourced.

Figure 23: Customer Experience Organization Chart



Beginning in 2006, NU consolidated six customer service centers into two with facilities in Windsor, CT and Manchester, NH. The Windsor Operations Center opened in June 2006 and operates as a NUSCO location serving customers from all four operating companies. This location houses CL&P's Call Center, Collections Center, Billing and Bill Print, Remittance, and Customer Experience staff functions. Approximately 304 of the 468 full time equivalent NUSCO employees at this site are allocated to CL&P.[804] The Company also has a Walk in Customer Center in Berlin which provides the same full range of services for customers that are currently provided through the Company's Call Center. These services include payment arrangements, billing inquiries, commercial applications, disputes, disconnects, reconnects, service transfers, requests for meter tests, and credit issues. The Walk in Center is staffed Monday through Friday with two NUSCO representatives.[805]

Support groups within the Customer Experience (CE) organization and the new C2 system support group, which provide services to all operating companies, will either directly charge support time to a specific company if the support is exclusive to that one company, or allocate charges to all companies based on each company's portion of

[804] Response to Data Request BRCS-CS-01-001.
[805] Response to Data Request BRCS-CS-01-001.

customers to the total operating companies' customer base.[806] Having two centers allows the redundancy necessary to leverage resources, especially during power outages.

Regulators and other stakeholders have been increasingly scrutinizing the level of service provided to the approximately 1.2 million CL&P customers as billing errors and customer complaints have escalated over the past two years. In fact, the Company created the new Chief Customer Officer position to "fix the problems."[807] He, in turn, has recruited two key directors, hired from outside the Company, to address the issues. Due to the limited experience of key players with the Company and in their positions, Blue Ridge relied heavily on data available to answer key questions and analyze directions forward. Complicating the matter, however, was the group's transition to the new customer care system, referred to as CustomerCentral or C2. The system went live the week of October 12, 2008, for CL&P customers. Therefore, a void existed not only in reference to data history and research in some cases, but also in the ability to trend data forward given the impact of the C2 system on most key aspects of customer service. The C2 system planning, implementation, and execution will be reviewed in a separate audit to begin in January 2009. That review was delayed to accommodate a Company request to keep the C2 team focused on the implementation during the critical transition period.

Utility Group and NUSCO Operating Plans presented to the Board of Trustees in 2003 and beyond have highlighted customer service as key in some fashion.[808] Over time, pressure from stakeholders to improve customer service began growing to improve emphasis and clarity through reorganizations and movement of accountabilities. For this audit, Blue Ridge's focus is on the specific plans defined and actions taken as they relate to 2007 and beyond. However, Blue Ridge will present data points and studies that build on history, as appropriate, bringing the Company into today's environment.

In the 2003 Utility Group Plans presented to the Board of Trustees on January 13, 2003, the issue labeled "Customer Satisfaction" was listed as an "Operational Goal." The CL&P 2005 Operating Plan presented to the NUSCO Board of Trustees[809] on January 31, 2005, included a section titled "Customer Care" with the subtitle, "CL&P's relationship with policy makers and customers is important to its future success." A specific 2005 initiative was to "Enhance customer satisfaction/loyalty." In the Utility Operations 2008 Operating Plan presented to the NUSCO Board of Trustees on December 11, 2007,[810] priorities listed for "Customer Experience" (as Customer Care has now come to be known), were more specific and included "successful completion, phase-in and implementation of the customer service information (CSI) project (C2), realignment and implementation of a Customer Experience Operations Organization, and implementation of the Chip Bell initiatives as appropriate." In this latter presentation, as presented in the Plan's Appendix B, a "Strategic Risk Heat Map" ranked unfavorable regulatory

[806] Response to Data Request BRCS-CS-28-006.
[807] Interview J. Magwood 8/19/08.
[808] Response to Data Request EM-03-023 Confidential
[809] Response to Data Request BRCS-EM-03-015.
[810] Response to Data Request BRCS-EM-03-015.

decisions, CL&P's aging infrastructure, high energy costs, and high energy prices as high risks, raising the level of urgency.

The new Vice President-Customer Experience and Chief Customer Officer is responsible for the integration of the customer's viewpoint across the entire NUSCO system. He is an experienced and qualified individual.[811]

As discussed earlier, the Customer Experience and Customer Operations groups are split at Vice Presidential level. In July the new Vice President-Customer Experience and Chief Customer Officer presented his update to plans for 2009-2013.[812] In that presentation, the key objective of Customer Service was presented as excellent customer service will help build stakeholder confidence and is crucial to the success of our business strategy." The 5-year plan included 4 key components:

- Achieve a consistent high level of execution
- Leverage the C2 system optionality to improve customer service
- Implement a customer intelligence system, and
- Establish a clear brand identity and value added image with customers

In 2007, the Company commissioned the Chip Bell Group to perform a "Connecticut Light and Power Customer Satisfaction Assessment."[813] They finalized their report in February 2008. Their stated goal was the creation of a plan to provide "consistently positive customer experiences." In the report, they advocate a "Customer Centric" organization whereby organizations "hire the best, expect the best performance, treat their employees the best, and hold leaders accountable" to provide an environment in which "positive customer experience is almost guaranteed." The Company has adopted Chip Bell's recommendations as a way to move NU and CL&P ahead in customer service. As a result of this decision and to put past and current customer results into perspective, the review of some of the critical findings of that report as well as stipulated plans through 2010 is important.

The Chip Bell study cited many "key learnings,"[814] some of which include:

- CL&P lacks a clear, compelling service vision or strategy
- Inconsistencies in how service is delivered across the company. A lack of common standards, norms, metrics and processes
- Limited use of customer feedback for continuous improvements
- Performance standards are too often crafted around internal convenience rather than customer expectations
- There is no evidence of a deliberate and systemic involvement of customers in the design and implementation plan of C2
- Customer intelligence is largely non-existent

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[811] Interview J. Magwood 8/19/08.
[812] Response to Data Request BRCS-EM-03-015 Confidential.
[813] Response to Data Request BRCS-CS-01-007.
[814] Response to Data Request BRCS-CS-01-007.

- The concept of the "virtual" customer service representative is largely untested and unproven (except in outage situations) and appears to be on a path to customer disappointment
- How new employees are oriented and prepared for the CL&P culture and new job responsibilities, is not only inconsistent among the departments within the company, it seems to have missed a valuable opportunity for leaders to directly communicate vision, values and the importance of the customer
- Customer contact skills training is provided exclusively to call center employees
- The CL&P culture camouflages accountability in ways that make it sometimes difficult to assign responsibility or hold individuals accountable for providing service leadership

The Chip Bell study resulted in 10 recommendations which are now called the "Northeast Utilities Customer Experience Initiatives."[815] In addition, the Company has formed a Customer Experience (CE) Executive Steering Committee with key executives from NUSCO and CL&P to oversee the effort. Each initiative has subtending tasks, an executive sponsor, a team lead, and an implementation start and end date. The 10 initiatives appear in the chart below.

Table 33: Northeast Utilities Customer Experience Initiatives[816]

Initiatives	Start	End
1. Service Vision	04/10/08	12/15/08
2. Standards and Norms	07/01/08	03/30/09
3. Customer Intelligence Process	02/07/08	07/01/09
4. Assess Resource Adequacy	01/05/09	12/26/09
5. Assess Admin Support-Supervisory	01/05/09	12/26/09
6. Implement Walk Abouts	04/01/08	Infinite
7. Assess Organizational Alignment	10/01/08	12/20/10
8. Customer Complaint/Resolution System	03/01/08	12/29/08
9. Improve Service Recognition Process	07/01/08	12/27/08
10. Implement Training on Service Leadership	05/01/08	03/30/10

While onsite in the Berlin building during the week of November 2, 2008, Blue Ridge observed the "NU Customer Service Vision" posted on walls. The vision, which provides an early deliverable on the due date of 12/15/08, reads as follows:

> "We are an energized and accountable team that embraces every internal and external customer interaction as an opportunity to earn trust, build relationships and deliver effective solutions."

Expenses associated with the September 2007 Chip Bell NUSCO contract total $273,383, of which $254,186 was incurred in 2007.[817] Subsequent to the assessment, NUSCO

[815] Interview Magwood 8/19/08.
[816] Interview Magwood 8/19/08 and CS-12-01.

contracted with the Chip Bell Group in December 2007 for professional services to develop a Customer Intelligence Process Improvement Program and to provide Customer Service Leadership Training. As of September 2008 the expense associated with the Customer Intelligence Improvement Program is $308,608, and the expenses for the Leadership Training program are $191,945. Forecasted expense associated with these two programs is $1,600,000 to occur over the remainder of 2008 and through early 2010.[818]

Supporting the Chip Bell study was the 2007 NU Employee Workplace Survey conducted by the Gelfond Group. Employees' opinions about the climate for service provide a good indicator of organizational performance. When asked questions about the Company's focus, employees scored favorable percentages as shown in the following chart.

Table 34: 2007 NU Employee Workplace Survey[819]

Survey Questions	NU	CE	CT Operations
How well informed are you about NU's vision of Energy, Growth and Leadership?	46	46	37
Senior Management has effectively communicated NU's vision of Energy, Growth and Leadership	54	56	47
How well are you informed about NU's overall business goals	49	49	39
Importance of safety has been communicated	93	97	96
Safety rules and procedures are strictly enforced here	87	93	88

The positive feedback on safety, in contrast to the other results, would indicate that the Company is viewed as standing behind its message. Expenses paid for the NUSCO Gelfond study across the Company totaled $442,743.

With the posting of the new NU Customer Service Vision, the Company is clearly moving ahead. CL&P has also shared a draft of the Customer Service Strategy[820] and their plans for a Balanced Scorecard.[821] This is in line with the "Executive Incentive Program Goals"[822] revised on April 14, 2008. However, other dates provided in the 2008 Executive Incentive Program Goals have slipped in some cases by months or into future years. One critical initiative is "Create Customer Experience Intelligence Process," listed among the Program Goals with a measurement criteria of 2nd half 2008 versus the new date in the Chip Bell initiative of July 1, 2009. The key director driving that process was hired in July 2008.[823]

[817] Response to Data Request BRCS-CS-28-009.
[818] Response to Data Request BRCS-CS-28-009.
[819] Response to Data Request BRCS-CS-01-017.
[820] Interview J. Magwood 8/19/08and CS-12-01.
[821] Response to Data Request BRCS-CS-36-002-BULK Confidential.
[822] Response to Data Request BRCS-EM-03-014.
[823] Interview D. Goldsmith 9/17/08.

Objectives and goals below the Vice Presidential level are not well integrated in a cascading fashion and often either do not exist or are not written. Repeated requests uncovered numerous reports, but without linkages to business plans and accountabilities associated with performance reviews, they provide little operational insight. When looking at the Northeast Utilities intranet site called NUnet, Blue Ridge found KRAs (Key Result Areas) from 2005, but had difficulty finding current KPIs (Key Performance Indicators).

The proposed NU Customer Experience Balanced Scorecard was discussed at the Vice President's September 2008 offsite meeting. It includes seven elements and will be a significant guide when performance measures are cascaded down through the organization. The elements proposed include People, Customer Focus, Operating Performance, Process Improvement, Strategy, Safety, and Financial.

Key among the customer service performance reports[824] is the Customer Contact Survey, formerly referred to as "Customer Satisfaction." The Company compiles the results from mailed customer surveys. The Customer Contact Survey results reflect the percentage of customers responding "very good" and "excellent" to the "overall quality of service" question on the customer contact survey. The Company did not provide written copies of the results and some directors seemed unsure about results. On a positive note, over the course of the summer of 2008, the Windsor location[825] began posting results for each of the four companies served by their location. Targets and results differed significantly for each operating company. On the extremes were CL&P with a YTD target of 67% through August and results in August of 71.7%. For purposes of comparison, another of the companies served had a YTD target of 86.2% with a result of 86.1% in August.

By far, CL&P is the largest of the four companies served in Windsor. From 2003 through 2007, targets and results for CL&P were as follows:

Table 35: Customer Contact Survey Performance[826]

	2003	2004	2005	2006	2007	2008
YTD	79.1	79.8	74.2	68.2	69.2	72.4 (June)
Target	79.5	79.5	80.0	75.0	68.2	67.0 (June)

As shown here and in other performance reports, the Company lowers expectations and targets when results go down. For this measurement, targets are set at the lower level of previous performance in order to meet targets in the future instead of setting them as stretch objectives supported by a continuous improvement philosophy. In December, the 2008 target lowers to 62.6% by year end to accommodate potential C2 conversion issues.

[824] Response to Data Request BRCS-CS-02-020.
[825] Response to Data Request BRCS-CS-28-007.
[826] Response to Data Request BRCS-CS-01-014 and CS-01-020.

In 2007 customers returned 6,812 surveys and indicated higher levels of satisfaction with credit and power outage calls. The chart below shows results from other specific questions in the survey comparing 2007 with 2008 through June:

Table 36: Customer Contact Service Performance[827]

	2007	2008 YTD June
Courteous Service	78.0%	80.4%
Wait time for assistance	**48.8%**	**51.4%**

In 2007 courteous service was rated highest by customers, a fact the Company attributes to effective soft skills training. Wait time for assistance was the lowest of the ratings. Long wait times reflect ineffective call volume management. Long wait times can be due to high call volumes, longer call handling times, or fewer staff in place to handle the load. In 2008 through June wait time had improved. Though low, the improvement is significant over 2003 in which wait time for assistance was given a 60.7% customer rating and in 2004 in which the rating was 63.3%.

To address the poor long wait times, the Call Center implemented a new report in February called the Scheduled Adherence Report.[828] The formula used for schedule adherence is the representative's "actual signed in time" divided by the "scheduled signed in time" with a maximum value of 100. The productivity measure also carries a maximum value of 100 and is calculated by dividing "total productive time" by "total signed in time." The two scores are then added together. Monthly results through August are listed below:

Table 37: 2008 Schedule Adherence and Productivity[829]

Month	Productivity Ratio
March	167
April	166.7
May	166.8
June	165.3
July	164.4
August	162.4

The Company's performance target in 2008 is 160 out of a maximum combined score of 200.

The Company attributes the decline in wait time performance to date to the focus on C2 conversion with "go live" preparations for the October cutover. Once again, the Company has kept the target low to ensure that it can be met. The organization has no cost measure, such as a cost per call, which would assist in showing how much levels of

[827] Response to Data Request BRCS-CS-01-020.
[828] Response to Data Request BRCS-CS-28-005.
[829] Response to Data Request BRCS-CS-28-005.

service cost. Without that data, and in viewing overtime levels, it would appear that neither service nor costs are acceptable, but service is moving in the right direction.

Factors important to brand, service delivery, employees, company and customers, are all moving targets, influencing each other as time evolves. In brand research with customers or in frontline service encounters, getting valuable feedback "entails asking the right questions, giving customers more opportunities to give useful answers, aggregating and analyzing results effectively and sharing them throughout the organization on an ongoing basis."[830] As mentioned earlier, the customer intelligence process is under review with a date of July 1, 2009, for completion. CL&P has asked the Chip Bell group to assist in revising the customer satisfaction survey.[831]

Currently other measures used to assess service performance (KPIs) are shown below:

Table 38: First Contact Resolution KPI[832]

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
2007	70.3	69.5	68.5	68.8	69.0	69.7	70.7	71.1	71.0	71.4	71.0	70.6
2008	76.7	72.3	71.4	71.1	71.7	71.9	71.8	71.8	71.0			

CL&P's First Contact Resolution KPI is defined as the YTD percent of customer inquiries that had been answered and completed on the first contact. The data element for this indicator is customer contact survey question #3: "Did you contact us more than once before your question or concern was resolved to your satisfaction?" No target has been set.

Table 39: Telephone Service Level (%20 Seconds) KPI[833]

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
2007	61.9	67.4	71.1	73.2	74.5	74.5	73.8	71.2	70.0	69.0	68.3	68.5
2008	73.5	77.7	78.6	79.4	78.1	77.8	76.5	74.4	72.5			

CL&P's Telephone Service Level Performance KPI is defined as the percentage of total calls handled by a representative, voice response unit, or auto attendant within 20 seconds.

Total YTD call volume was 2,958,949, 1.6% higher than in 2007. Representative handled calls were up only .1% with technology handling 4.2% greater calls year over year. Credit calls represented 34.4% of the total call volume.

Current results compare unfavorably with 1999 results of 82.3%.[834] The current target is set at 70%, lower than any monthly result so far in 2008.

[830] Fogli, L. Customer Service Delivery, Research and Best Practices San Francisco; Jossey-Bass, 2006, page 110.
[831] Interview Goldsmith 9/17/08.
[832] Response to Data Request EM-40-002-RV-01 BULK.
[833] Response to Data Request EM-40-002-RV-01 BULK.

Table 40: IVR Customer Contact Survey KPI[835]

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
2007	66.9	69.1	70.1	69.6	69.8	69.1	69.5	69.6	69.1	68.8	68.6	68.7
2008	69.0	67.5	68.8	69.1	69.5	69.5	68.6					

CL&P's IVR (Interactive Voice Response) Survey is defined as the percentage of customers responding "very good" and "excellent" to the "quality of service" question on the IVR customer contact survey which is mailed out weekly. The percentage reflects the mix of call types handled by the system, including billing inquiry, payment arrangement, power outage, and meter read. In 2007, 3,122 responses were received.

Data history on this measurement indicates that "quality of service" was at 73.06% in 2003 and 71.23% in 2004. No target is currently shown.

Basic new hire training pre-C2 occurred over a 14 week period for the Call Center and a 10 week period for Credit and Collections.

Findings

In 2008, NU developed a customer service philosophy that is communicated throughout the Company. In addition, during the course of the audit, Blue Ridge found that the Company began to increase awareness of customer service and have recently begun to post their vision throughout the Company. In addition, NU engaged the Chip Bell group to assist them with a company-wide training effort that began with the Executives this year and will roll out to complete on March 30, 2010.

The current Customer Service Plan is compatible with Company plans and strategies. Operating Plans have recently become better defined and measurable. However, the pressures on customer service have risen as well. Dates for implementation of goals have slipped to adjust for new hires at the Director and VP level.

Although Customer Experience does have a customer satisfaction measurement, the organization, even with the new management, demonstrates little knowledge about results and has established a culture of setting low expectations. Although some results would indicate that performance often meets and exceeds those low expectations, stretch objectives could pull results from incremental creep and decline to much needed dramatic improvements and establish a culture of continuous improvement. The cost of service quality should be balanced with a cost measure to ensure that the Company addresses financial concerns.

Approximately $2.3M has been spent or is forecasted to be spent gathering information from employee surveys and the Chip Bell group to shape a new customer focus.

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[834] Docket No. 07-07-01, Application of CL&P to amend rates, dated 12/12/07, page 38.
[835] Response to Data Request BRCS-EM-40-002, RV. 01 BULK.

A Customer Intelligence Process is under review with a 7/1/09 deliverable.

The new Schedule Adherence and Productivity report includes different measures from those included in the 2008 Merit Packages for representatives and supervisors[836] in Credit and Collections. The measurement for availability is the percent of sign-in time an employee is available to external customers. This calculation is "In Talk Time+Out Talk Time+Hold Time+Position Talk Time+ACD Mail Time+Available Time" divided by "Total Signed in Time."

The organization has consolidated six NUSCO Service Centers into two which provide backup capabilities in emergency situations.

Although policies and procedures are in place, Blue Ridge was unable to assess policies and procedures in the post C2 environment. That review will be done as part of the C2 review in 1Q, 2009. New hire training in the past has occurred over a 14 week period in the Call Center, and 10 weeks for credit and collections.[837]

Adoption of Best Practices is a future initiative[838] as the Customer Experience organization has not performed any benchmarking or best practices studies since 2004.[839]

Conclusions and Recommendations

Since 2003, CL&P has sharpened its focus and gained specificity with regard to customer service planning. With the new clarity, the Company has begun implementation of the CSI project (C2), hired a new Vice President-Customer Experience and Chief Customer Officer, and approved the Chip Bell initiatives, including assigning executive sponsors and team leaders as well as dates for completion.

Blue Ridge concluded that the Customer Experience organization is in a state of transition, but moving in the right direction. The Company does establish plans and goals, although targets seem to be set within historical achievement rather than toward improving performance. A balanced scorecard is in progress, but currently no balanced approach exists for reviewing all of the elements that influence the organization and the service that is provided to the customer. Process improvements have been few pre-C2.

The concept on which CL&P base their service measurement results is in need of upgrade and underway. Measuring the execution and success of the Chip Bell and employee survey initiatives will be key to service improvements and to ensure that the $2.3M spent on the efforts provide expected value.

[836] Response to Data Request BRCS-FO-29-007 BULK.
[837] Interview Duey 9/17/08.
[838] Docket No. 07-07-01, Application of CL&P to amend rates, dated 12/12/07.
[839] Response to Data Requests BRCS-CS-36-010 and BRCS-CS-22-014.

Blue Ridge recommendations:

8.1.1 Dates and deliverables for the Chip Bell initiatives should be tightened and tracked with accountabilities clear. The new management team is capable of faster execution. Follow up on the Gelfond study should also be monitored and tracked to ensure value for money spent.

8.1.2 The balanced scorecard, operations plans, and goals need to be confirmed, reviewed, and cascaded down through the organization. Results against objectives should be tracked monthly at all levels.

8.1.3 Stretch targets should be set for all measurements to encourage a culture of continuous improvement.

8.1.4 The new management within Customer Experience needs to build a relationship with the DPUC based on a policy of setting stretch targets and meeting commitments while providing the optimum number of reports to keep the DPUC informed.

8.1.5 The cost of service quality should be balanced with a cost measure to ensure that financial concerns are addressed.

8.1.6 All measures used within the organization need to be reviewed collectively to ensure that they support the ultimate goals in the same way and with a common focus.

8.1.7 Best Practices should be pursued as a future initiative as the Customer Experience organization has not performed any benchmarking or best practices studies since 2004.

8.2 Meter Reading

Background

CL&P Meter Reading, Assets and Operations reports to the Vice President of Customer Operations.[840] This section will focus on the Customer Operations organization. The newly formed organization includes 96 people under a director who was promoted into the position in February 2008.[841] All management personnel from manager through vice president are new in their positions since February 2008.[842] Customer Operations has recently added a Quality Assurance Manager position to the group.

[840] NU's meter reading function is split between two functional areas, CL&P/Yankee Gas is with Customer Operations while PSNH is within Customer Experience

[841] Interview Kabfleisch 9/16/08.

[842] Interview Goldsmith 9/18/08.

Analysis

Meter Reading, Assets and Operations for CL&P reside within the Customer Operations group which is responsible for both CL&P and Yankee Gas. Customer Operations also manages field services which are discussed in a separate section of this report. Below is the organization chart for the Meter Assets and Operations group:

Figure 24: Meter Assets and Operations Organization Chart

CL&P selects metering technology based on a least cost to serve basis, which fulfills billing requirements for each customer class and rate.[843] The technology includes those locations in which load interval data both is and is not required. For those customers for whom interval load data is not required, CL&P utilizes meters equipped with mobile ERT (Electronic Receiver Transmitter) radio devices. The rate classification for these accounts can include residential, residential TOU (Time of Use), and small commercial applications and applies to any billing situation in which the requirement allows for a limited number of readings on a monthly basis.

The Company reads the accounts for which interval load data is not required monthly via the mobile meter reading process. The Company performs mobile AMR (Automated Meter Reading) through a traditional upload/download process in which monthly billing routes are electronically sent to the Company's mobile meter reading process MVRS (Multi-Vendor Reading System). The Company prepares and assigns routes to individual meter readers who load them into their mobile units. Each reader reads from 3000 to 10,000 meters per day, depending on the location of the route and the amount of territory required to be driven. Mobile meter reading routes combine electric and gas devices all within a single route. As the reader drives his/her territory, both electric and Yankee Gas meters are read and sent to the proper billing system. Mobile meter reading employs a 1st and 2nd shift operation. CL&P plans to re-evaluate routes in the first quarter of 2009.

[843] Response to Data Request BRCS-CS-01-081.

They are considering a study done by Federal Express that saved money and configured safer routes so that in making turns drivers would turn primarily to the right.[844]

For those locations that require interval load data, CL&P utilizes various telephone and wireless communication technologies which collect readings on a daily basis. CL&P currently has four different data collection engines which have been installed to meet specific metering communication requirements.[845] All four data collection engines gather data into a common data warehouse which provides parameters for billing. Customers with telephone and wireless metering data include all commercial TOU and special contract billing customers.

Reports provided by CL&P vary on the exact number of meters read,[846] which may be due to the fact that some meters are read manually monthly (approximately 600 to 4000) and are scattered throughout CL&P's territory. These accounts include locations in which the customer's service conditions have prevented the installation of mobile AMR meters or interval load data accounts in which the wireless technology has not yet been installed. CL&P reads these meters manually through the field service order system. Once in the service order system, the monthly read orders are incorporated into other service order requests, such as turn ons/offs, meter changes, etc., for the field services workforce within Customer Operations. Upon completion of the read, the process merges it back into the mobile meter reading file for monthly bill processing. All interval data collected through the manual reading process is sent to the data warehouse for processing of any accounts requiring interval data for billing.

The meter reading process loads all readings collected through mobile meter reading, data collection reading, and service order work onto a reading data base. Every day the billing department retrieves the required billing reads from the database and processes them for billing. In addition, a smaller population of meters is billed through an LPB (Large Power Billing) process. LPBs are generally accounts which are unable to be billed through the normal customer service billing process. Within the LPB process, CL&P personnel generally hand calculate accounts using data provided to them from the data collection areas.[847]

The Company's evolving plans call for increased use of meters employing digital Cell-Tel technology through which the CL&P has experienced declining costs. New AMI Cell-Tel meters have become commercially available in the last quarter of 2007. The Company is monitoring AMI deployment progress across the globe. In 2007, CL&P participated in a Chartwell Research Study on Advanced Metering. The 2007 Chartwell Metering Research Report shows metering trends for the utility industry and how utilities are planning and using new metering strategies.

[844] Interview Goldsmith 9/18/08.
[845] Response to Data Request BRCS-CS-01-083.
[846] Responses to Data Requests BRCS-CS-01-081, BRCS-CS-28-008, and Interview Goldsmith 9/18/08.
[847] Response to Data Request BRCS-CS-01-081.

The CL&P Smart Meter Rate Pilot Plan seeks voluntary commercial and industrial (C&I) customer volunteers who will have AMI meters scheduled for installation through May 2009. The residential customer enrollment campaign will begin in the final months of 2008 and extend through the spring with the installation of the AMI meters. The Pilot includes 8,000 residential customers on AMI meters and 2,000 C&I customers on Cell-Tel meters. The purpose of the pilot plan is to determine customer acceptance and response to time-based rates. Workforce impacts will be included along with analysis for the CL&P Smart Meter Rate Pilot in the final 2009 DPUC results filing.[848]

The Company is tracking the AMI project, along with key deliverables, as a KPI.[849] CL&P submitted the Smart Meter Rate Pilot plan, rate offering, and pilot costs to the DPUC in March 2008. The Company reported results of 500 Middletown and New Britain smart meters to the DPUC in July 2008. As of September 2008, implementation of meters to support the Rate Pilot is on target for completion on December 31, 2008. However, many outstanding issues associated with this project still exist. For example, CL&P will need to upgrade their Meter Data Management system. A second issue is that AMR has one data point and a scattered billing cycle allowing 7 days to receive the data. AMI has an exponential number of data points to accommodate for time-based rates. A third issue is that AMI readers have a current failure rate of 2.6%.[850] The business case and smart meter rate pilot results are due from the Company to the DPUC on December 31, 2009.

CL&P has decreased the number of Meter Reader personnel from 145 in 1998 to 23 YTD in 2008.[851] Average costs for both mobile and manual reads have also decreased from 2007 to 2008. In 2007, the average cost of a mobile read was \$.29 versus \$.28 YTD through August, 2008. Costs of manual read accounts have decreased from \$31.97 average in 2007 to \$26.77 YTD through August 2008.

Table 41: Costs of Mobile versus Manual Reads[852]

	Total Accounts Billed	Total Mobile Read Accounts	Cost of Mobile Read Accounts	Total Manual Read Accounts	Cost of Manual Read Accounts
Average 07	1,221,013	1,219,928	\$353,780.57	1085	\$34,686.19
January 08	1,222,790	1,220,459	\$339,114.99	1331	\$35,632.11
February 08	1,222,064	1,221,059	\$339,281.70	1005	\$26,904.78
March 08	1,223,728	1,221,659	\$339,448.42	1069	\$28,618.12
April 08	1,223,172	1,222,194	\$339,597.07	978	\$26,181.97
May 08	1,224,714	1,222,693	\$339,735.72	1021	\$27,333.12
June 08	1,224,277	1,223,267	\$339,895.21	1010	\$27,038.64
July 08	1,224,640	1,223,513	\$339,963.57	1127	\$30,170.84

[848] Response to Data Request BRCS-CS-22-003.
[849] Response to Data Request BRCS-EM-40-002 RV. 01 BULK.
[850] Interview Kabfleisch 9/16/08.
[851] Response to Data Request BRCS-CS-22-002.
[852] Response to Data Request BRCS-CS-28-008.

August 08	1,225,224	1,224,316	$340,186.69	908	$24,308.00

The Company tracks unread meters on the CL&P Customer Operations Monthly Scorecard.[853] They have decreased from 7.4% in 2003 to .9% in 2007. The Company target, however, is 1.0%,[854] which is higher than any monthly actual since 2006.

Table 42: YTD Annual Unread Meter Statistics[855]

YTD	Total Accounts	Unread	% Unread	YTD>1Mo. Unread	YTD%> 1 Mo. Unread
Dec 2003	1,180,771	1,038,651	7.4%	446,833	3.2%
Dec 2004	1,191,032	270,917	1.9%	139,068	1.0%
Dec 2005	1,201,598	153,816	1.1%	82,471	.6%
Dec 2006	1,121,236	138,527	1.0%	77,996	.5%
Dec 2007	1,221,013	131,666	.9%	73,907	.5%
June 2008	1,224,277	62,083	.8%	35,868	.5%

CL&P's focus to improve meter reading includes a review of missed meters and resolution of service related work. When the mobile meter reading group or billing reviews encounter either a missed reading, two consecutive missed reads for residential meters, or any single missed meter reading for commercial meters, they first determine whether any customer work is in progress. If not, a field investigative order is generated to determine the root cause of the miss and to read the meter manually. In some cases, the cause is the removal of meters by electrical contractors in order to upgrade customer wiring and service connections, requiring replacement of the meter. Other causes include the customer's main breaker being shut off, defective AMR modules, and meter tampering. The Company tracks common causes of missed reads.[856]

Of note during the first quarter of 2008, CL&P experienced software problems with its implementation of a new TOU rate calculation process. In order to avoid improper billing, the Company intentionally shut off the billing process until such time that the new TOU rate calculation process could be successfully demonstrated and documented. This event impacted 2,118 customers within this group of customers starting in January 2008, and billing was fully reestablished in May 2008. The discussion of this and other billing issues is included in Section 8.4 "Billing, Payments, and Credit and Collections" latter in this report.

A daily log is located within each mobile meter reading department, and the meter reader is responsible for recording missed meters and any reasons as to why they may have encountered more misses than normal. Supervisors follow a formal process to work with meter readers if a continuing performance issue emerges.[857]

[853] Response to Data Request BRCS-EM-40-002 RV. 01 BULK.
[854] Response to Data Request BRCS-EM-40-002 RV. 01 BULK.
[855] Response to Data Request BRCS-CS-01-088.
[856] Response to Data Request BRCS-CS-22-001.
[857] Response to Data Request BRCS-CS-38-009.

Findings

Meter readings are improving in accuracy and timeliness with the deployment of AMR. Considering technology currently in use, CL&P clearly has benefited from the introduction of AMR. Generally, mobile read accounts continue to increase while manual reads decline.

The meter to bill process has not been reviewed by QA to streamline the process and eliminate or automate handoffs from point to point and manual activities.

Performance measurements include missed but not inaccurate meter readings.

Meter reading routes are reviewed to maximize productivity. The next review is scheduled for the first quarter of 2009.

CL&P is currently involved in piloting the new AMI technology.

Customer Operations does review “Best Practices” studies, such as the Chartwell Research Study on Advanced Metering. More should be done.

A project with the potential impact of AMI in costs and operational savings will require a detailed testing plan that is both thorough and scalable. Customer feedback will be critical as the pilots proceed.

Conclusions and Recommendations

CL&P has benefited substantially from the introduction of AMR. The new management is focused and addressing existing issues associated with meter information that is being collected and reported. CL&P’s meter testing practices are in place, but process reviews of the entire meter to bill cycle need to be initiated.

Blue Ridge recommendations:

8.2.1 Set target goals on measurements to encourage continuous improvement over time.

8.2.2 Perform a QA review of the meter to bill process to streamline the process and automate manual activities.

8.2.3 Perform an organizational assessment to consider consolidating meter reading or other Customer Operations functions in NUSCO within Customer Experience to increase spans of control, eliminate conflicting objectives and assist the flow of information.

8.2.4 Seek out best practices and benchmark results with other companies.

8.2.5 Identify all manually read meters and develop a plan to convert them to electronic reads.

8.2.6 Include in the CL&P Smart Meter Rate Pilot Plan a detailed testing plan that is both thorough and scalable. Ensure that customer feedback is included as a key driver that shapes any conversions.

8.3 Complaints and Inquiries

Background

Organizations can utilize customer complaints as an indication of the quality of service provided. Without accurate data about customer complaints, decisions made to address service issues are likely to be of a poorer quality. Customer complaints and inquiries can assist a company in shaping policies, practices, and service strategies.

Analysis

Blue Ridge gathered data on complaints and inquiries by reviewing data requests, talking with those responsible for tracking complaints during a tour of the Windsor facility, conducting interviews, and observing a Company representative handling payment arrangement calls. Customer Experience tracks and measures its escalated complaints that were not handled satisfactorily by a first contact, in a database called Remedy.[858] Data was not available prior to 2006. Below is the data provided:

Table 43: CL&P Escalated Complaints[859]

Year	Executive	Commission	Attorney General	Total
2006	74	1503	2	1579
2007	79	1605	322	2006
2008 (YTD Sep)	74	908	85	1067

Typically the number of payment arrangements and termination complaints increases following the winter moratorium each May. However, comparing results year over year through September 2008, escalated complaints are significantly down this year by 550 complaints.

The number of days to resolve complaints varies depending on the complaint. According to CL&P credit complaints such as disconnects or payment arrangements are handled in the same day.[860] The Company has committed to resolve all complaints within a 10-day window, but if the cases require field work such as reliability improvements, resolution could take 15 days. CL&P states that they keep the CDPUC informed of the status until complaints are resolved. Blue Ridge was able to review the tracking available for individual reports. However, the Company did not provide actual data against the

[858] Response to Data Request BRCS-CS-36-012, Escalated Complaints, 10/7/08. The headings represent the source forwarding the compliant.
[859] Response to Data Request BRCS-CS-36-012.
[860] Response to Data Request BRCS-CS-36-012, Escalated Complaints, 10/7/08.

objective time commitment and has not yet analyzed complaints for root cause analysis. CL&P has recently initiated a process to require the identification of root cause "when applicable."

CL&P also has a Commission Contacts Performance KPI. This measurement is defined as the YTD number of Commission contacts as reported by the CDPUC divided by the December prior year Total Number of Customers divided by 100,000. As of June 2008, the KPI was at 37.86 with a target of 69.32 suggesting that CL&P had beaten the goal by 45.38% (1-(37.86/69.32)).

The Chip Bell initiatives tracked by CL&P include a "Customer Complaint Resolution System" with a delivery date of 12/29/08[861].

Findings

Customer information and accounting systems do provide useful and adequate information to the Customer Service Representatives to assist them in resolving customer complaints and respond to customer inquiries, although some interfaces were manual and time consuming. The manual calculation of payment arrangement options was time consuming and could result in several different representatives coming up with different arrangements.

Logs of individual customer complaints reviewed by Blue Ridge showed that the Company handled complaints in a timely and appropriate manner, but aggregate results on timeliness versus objectives were not available.

Service Representatives are trained and evaluated according to existing practices. However, when practices are lacking, representatives will find a way to handle calls.

Complaint tracking, root cause analysis, and use of complaints to improve overall service quality do not exist. The Chip Bell initiative is due December 29, 2008.

Conclusions and Recommendations

Blue Ridge believes that the complaint and inquiry area has much room for improvement. The attitudes of those working the issue are positive, however, and seem to be focused on the right issues. One of the interviewed directors commented regarding complaints that he "accepts and acknowledges that there may be more where those came from…."[862] Blue Ridge sees an opportunity to utilize complaints and inquiries as one more way to look at customer feedback in the quest to improve strategies, practices, procedures, and service quality.

Blue Ridge recommendations:

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[861] Response to Data Request BRCS-CS-01-007.
[862] Interview Goldsmith 9/17/08.

8.3.1 Use process reviews and representatives' input to improve and automate manual call handling procedures, such as customer payment arrangements.

8.3.2 Complete the Chip Bell initiative, ensuring that complaint data is consistently entered into the system, reports are prepared and utilized, root cause analyses performed, and results tracked. Set performance targets to encourage continuous improvement. Share results with critical stakeholders including representatives, those in other departments, regulatory interests, and executives.

8.3.3 Collect data from representatives regarding complaints received that are not escalated or logged. This could be helpful customer feedback that is not currently captured.

8.4 Billing, Payment and Credit and Collections

Background

Billing, payment, and credit and collections are core functions required to provide cash flow and revenue to operate a business. Rendering accurate and timely bills in a cost effective manner is a critical activity within CL&P and Customer Experience. The process, however, begins with the meter reading activity, currently in the Customer Operations organization and discussed in Section 8.2 Meter Reading.

Analysis

Billing and Payments

CL&P customers have a variety of options available to receive billing payments, including the Call Center, IVR (Interactive Voice Response), postal mail, and e-mail. Summary billing, budget billing, supplier billing, and EDI (Electronic Data Interchange) billing are also options for some customers.[863] The Company does not track postal mail returned or root cause, although Blue Ridge observed boxes filled with returned mail in the mail room.

The number of e-bills issued has increased from 298,916 in 2004 to 779,635 in 2007 with steady growth continuing YTD 2008.[864] A process is in place to handle invalid e-mail addresses. E-payments have grown from 18.2% in 2004 to 31.8% YTD through June 2008.[865]

Practices are in place to ensure that payments are posted during the same day in which they are received. Customers pay fees for EDI and credit card payments. Processing costs for mailed and debit payment types vary by month except for payment agencies which are under contract.[866] In June 2008, the cost for processing each mailed payment was $.224 compared to a steady $.45 for payment agencies and $.044 for June debit

[863] Response to Data Request BRCS-CS-01-043, Billing Options, 7/21/08.
[864] Response to Data Request BRCS-CS-01-045.
[865] Response to Data Request BRCS-CS-01-048, Electronic Payments, 7/21/08.
[866] Response to Data Request BRCS-CS-01-067.

payments. Prior to June, the Company processed mailed payments in 2008 for $.07 each or less.

CL&P tracks the number of days from bill to collection only as part of the revenue lag calculated in lead/lag studies included in rate case filings.[867] Therefore, data was available for only 3 years (years related to rate case filings). The data indicates a lengthening trend.

Table 44: Bill to Collection Cycle[868]

Year	Days
2002	39.64
2005	40.89
2006	41.39

From September 2007 through August 2008, CL&P pulled 56,060 bills for high or low out-of-range exceptions and were resolved within 7 business days.[869] Processes are in place to work out-of-range exceptions. Accounting Policies and Internal Controls exist for monitoring the Billing and Collection processes.[870]

CL&P has had a number of billing issues over the course of 2007 and 2008 of which some were caught during in-house operations. Two incidences discovered during in-house operations included a total of 900 May 2007 credit disconnect orders which were not auto-generated from the necessary orders into the CACS system; they were auto-generated the following day. CL&P provided Blue Ridge with complete explanations for each billing issue,[871] briefly described below.

CL&P TOU Changes
This issue, impacting 2,399 customers, began with the December 2007 billing. The software involved with adjusting hours for the new TOU on/off peak hours starting in January 1, 2008, for TOU customers and the associated data conversion caused meter readings to fail to transmit data to the billing system. Not until March 2008 was CL&P able to finalize a solution. CL&P has completed all upgrades and developed additional quality control processes to prevent this problem from reoccurring.

CL&P Federally Mandated Congestion Charge (FMCC) Update
Approximately 117,000 accounts were billed on January 31, February 1, and February 4, 2008, with an incorrect FMCC factor due to a system limitation. During February about 40,000 accounts received a credit adjustment to correct the billing. In early March, an explanation and apology bill message was placed on affected accounts. The new C2 system does not have the limitation encountered.

867 Response to Data Request BRCS-CS-01-042, Billing to Collections, 7/21/08.
868 Response to Data Request BRCS-CS-01-042, Billing to Collections, 7/21/08..
869 Response to Data Request BRCS-CS-22-005.
870 Response to Data Request BRCS-CS-36-007.
871 Responses to Data Requests BRCS-CS-22-006 and CS-28-004 and Interview Culligan 9/15/08.

CL&P Problems related to the Implementation of Multiple Pricing Changes

For the first time since January 1, 2000, two pricing changes effective June 21, 2008 and July 1, 2008, were implemented within a 30-day period. Due to a system limitation, approximately 16,000 accounts were impacted by under-collection and under-billing situations with adjustments on the August bills. Again, the C2 system does not have this system limitation.

CL&P Rate 55 kVa Billing

A new kVa component should have been prorated due to a pricing change that was effective on the same date, July 1, 2008. Approximately 380 Rate 55 customers were over-billed by approximately $200K due to the lack of proration. As of September 11, 2008, the Rates and Billing departments were still reviewing pre-implementation procedures to enhance controls going forward.

CL&P Rate 115 Streetlight Billing

On September 22, 2008, prior to the conversion to C2, an error made in a "workaround" to the legacy system caused 2,680 Rate 115 accounts to be under-billed after July 1, 2008, by a total of $53,341. Management decided not to backbill customers to correct the error.

Customer Services has a KPI[872] on "Percent Billing Exceptions/Errors" to measure the accuracy of bills sent out to customers.

Table 45: Number of Billing Errors Yearly[873]

	2007		2008	
Month	**Billing Errors**	**Billing Error Percentage**	**Billing Errors**	**Billing Error Percentage**
January	478	.04	512	.04
February	2776	.24	464	.04
March	633	.05	1261	.10
April	697	.06	441	.04
May	306	.02	308	.02
June	681	.06	307	.02
July	675	.06	562	.05
August	559	.04	448	.04
September	655	.06		
October	679	.06		
November	397	.03		
December	449	.04		

Comments provided by CL&P on their KPI analysis refer to Chartwell's 2005 Bill Presentment and Payment Study in which CL&P and 5 other utilities reported fewer than one-half percent of their bills contained errors. Sixteen utilities reported an average of

[872] Response to Data Request BRCS-CS-28-003
[873] Response to Data Request BRCS-CS-28-003

approximately .92% of bills sent out contained errors. Fifty-one utilities reported that fewer than 1% of bills contained errors. Ten utilities reported that between 1% and 2% of bills contained errors each month. CL&P maintains that their year-to-date results are "above average."

In the fourth quarter of 2008, CL&P is implementing a larger 8½ by 11 inch reformatted bill[874] in conjunction with C2 to standardize the bill statement size of all four companies. The larger bill will have a two-sided printing capability and potentially eliminate the need for some bill inserts. CL&P believes that operational efficiencies will result. The 2005 study performed in regard to the new size of bill/envelope indicated that 2004 costs of $2,326,138 would have been reduced to $2,157,500.

The trend in the number of manual bills prepared since 2003 is shown in the following chart. Billing issues have contributed to an increasing trend.

Table 46: Manual Bills[875]

Year	Customers Billed
2003	5,256
2004	6,440
2005	7,535
2006	8,846
2007	11,056
2008 (YTD Sep)	12,021

From the following table, the Company's 2008 Uncollectibles and 90 Day Receivables through September exceed 2007 levels by a 124% and 157%,[876] respectively. The 2008 performance as of the end of September was expected to be over budget by $2.4 million pre-tax with a $.7 million earnings impact. However, the 2008 target for Uncollectibles is .44%; no target is set for 90 Day Receivables. With the completion of the C2 project, CL&P plans to redirect focus to creating new collection strategies, such as new calling campaigns and credit bureau reporting.

[874] Response to Data Request BRCS-CS-01-051 and BRCS CS-22-008.
[875] Response to Data Request BRCS-CS-38-007, Manual Bills, 10/10/08.
[876] Uncollectibles calculation .61/.49 and 90 Day Receivable calculation 14.43/9.21.

Table 47: YTD Uncollectible Expense % of Revenue Monthly 90 Day Receivables[877]

2008	YTD Uncollectibles	90 Day Receivables	2007	YTD Uncollectibles	90 Day Receivables
January	.35%	9.76%	January	.33%	6.63%
February	.38%	10.14%	February	.32%	6.81%
March	.42%	10.63%	March	.34%	7.01%
April	.45%	11.17%	April	.34%	7.14%
May	.48%	11.85%	May	.35%	7.30%
June	.59%	12.62%	June	.49%	7.43%
July	.57%	13.36%	July	.47%	7.63%
August	.56%	13.91%	August	.46%	7.90%
September	.61%	14.43%	September	.47%	8.16%
October			October	.47%	8.45%
November			November	.47%	8.77%
December			December	.49%	9.21%

The Company provided information to show that the reasons for the degrading results include increases in electric rates to the highest in the continental United States, a small increase in the number of medical accounts that require a doctor's signature to prevent disconnection, and general economic hardships.

Accounts past due 90 days that are inactive are sent to an outside collection agency. An inactive account is one that has been final billed or had service disconnected. The process is to classify an account inactive, send pre-collection letters, and send the account to collections. Currently, CL&P utilizes three outside collection services which have different rates of recovery and commission structures.

CL&P, WMECO, and Yankee Gas have a total of 115 credit and collection representatives and 15 contracted NCO representatives in Michigan during the transition to C2 doing work for all three operating companies.[878]

Table 48: Bad Debt Write-Offs by Class[879]

	2003	2004	2005	2006	2007
Res and Com'l	$6,931,022	$5,952,556	$6,691,954	$10,138,237	$13,501,044
Hardship	$4,121,809	$4,162,092	$4,892,025	$8,484,313	$10,964,467
Industrial	$ 409,188	$ 382,299	$ 278,434	$ 193,740	$ 218,869
Total	$11,462,019	$10,496,947	$12,132,413	$18,816,290	$24,684,380

Write-offs continue to escalate in 2008 with June YTD at $13,465,078 total.

The Company indicated higher energy prices and a slowing economy are the primary contributors to the increase in write-offs.[880] Actual Uncollectible Accruals exceeded

[877] Response to Data Request BRCS-CS-40-002 RV. 01 BULK.
[878] Interview Murphy 9/16/08.
[879] Response to Data Request BRCS-CS-01-064.

budgets by 22% in 2006 and 17% in 2007 with budgeted amounts up 25% year over year.[881]

From January 2006 to January 2008, CL&P has seen a 25% increase in the number of active accounts in collections. During this time period, the associated delinquency increased by 80%. In 2006, CL&P's rates increased by 22% due to increases in generation charges and increased by another 10% in January of 2007. On January 1, 2003, the average rate for CL&P was 9.336 cents. As of January 1, 2008, the average rate was 17.055 cents. This calculates to more than an 80% increase in five years. These increases, coupled with higher oil, gasoline, and natural gas prices, are causing many customers to become delinquent, many for the first time. This is significant because increased active delinquencies lead to increased write-offs.

CL&P has also seen increases over the last several years in the number of customers participating in various protection programs mandated by regulations. These mandated protections are for medical illness, Winter Protection Program (WPP) for low income customers, and participation in the arrearage forgiveness programs known as the Matching Payment Program (MPP) and NuStart. Over 57,000 CL&P customers are protected annually under WPP.[882] These programs have a positive impact on reducing receivables but also delay collection efforts for customers who are not successful on these programs. Other social assistance programs include the following:

- Weatherization Residential Assistance Partnership (WRAP) assists limited income customers by making their homes more energy-efficient through conservation measures and provides energy conservation education. The program is funded by the Connecticut Energy Efficiency Fund with program expenditures of $7.6 million.

- Connecticut Energy Assistance Program (CEAP) provides energy assistance grants to qualified customers to help with their winter energy bills. The program is federally funded by the Low Income Home Energy Assistance Program (LIHEAP) block grant and administered by the Department of Social Services.

- Operation Fuel is a statewide, private, nonprofit energy assistance program that helps limited income families, individuals with disabilities, and seniors on fixed incomes with a one-time emergency energy assistance grant of up to $400.

A final decision on the Seriously Ill and Life Threatening docket was received in June 2008, allowing CL&P to resume legal action for their CL&P medical accounts. Medical accounts are the highest category of delinquent receivables.

CL&P is also investigating ways to increase recovery rate by identifying active customers who have unpaid balances from previous accounts. If these accounts can be

[880] Response to Data Request BRCS-CS-22-009.
[881] Response to Data Request BRCS-GR-01-024, CL&P Functional Distribution, 7/15/08.
[882] Response to Data Request BRCS-CS-01-026.

automatically identified, CL&P can initiate new collection efforts to increase collections and lower net write-offs. With field disconnects a last resort, this collection tool is essential in mitigating the escalation of accounts receivable. In 2007, there were 27,126 disconnects for non-pay.[883]

The Company utilizes a number of communication practices to promote social assistance programs that are available to eligible customers.[884] These practices include communication through customer call centers, bill inserts, newsletters, brochures, CL&P's website, media, company-sponsored workshops, community events, and outreach to customers through community-based organization partnerships.

Findings

CL&P has had a difficult time in 2007 and 2008 rendering accurate and timely bills.

The billing, payment, and collection cycles all need to be reviewed in a process oriented manner to maximize cash flow and minimize loss of revenue. Bill to collection operational measurements should be tracked on a regular basis and not just for Rate Case purposes.

The meter to billing process needs to be measured and reviewed for process improvements and streamlining.

The Company's collection cycles and use of outside collection resources need to be optimized by performing a process review to streamline work flow and ensure that outside collection agencies are delivering to a common expectation.

Controls are in place to protect against inappropriate handling of customer billings and collections.

The number of manual bills prepared has more than doubled since 2003 with YTD September 2008 already exceeding 2007.

Discussions for process improvements are informal and may not include lowering costs.[885]

Collection Agencies were last solicited and selected in 2005.[886] Evaluation studies were completed on all three in June and July of 2008.[887]

A variety of social assistance programs are available to low income families to help in the conservation and payment of bills.

[883] Response to Data Request BRCS CS-56-02.
[884] Response to Data Request BRCS-CS-01-027.
[885] Interview Murphy 9/16/08.
[886] Response to Data Request BRCS-CS-01-070.
[887] Response to Data Request BRCS-CS-01-071.

Conclusions and Recommendations

Due to workarounds, complexity of changes, system interfaces, and importance of accurate, timely billing, CL&P needs to undertake a complete quality review from meter to billing to collection, identifying ways to automate and streamline the process, as well as build in checks and balances and measurements to evaluate on-going results.

All billing changes need to be thoroughly tested before implementation. While the Company is always able to find resources to correct billing problems,[888] they need to be consistently on the front end to prevent errors and automate manual processes to ensure that repeatable, sustainable processes are in place over time.

Due to the complexity of the meter to billing process, resources need to be trained not only in the system mechanics, interfaces, and dynamics, but also in the performance process begun in the Company.

While C2 seems to bring enhancements for flexibility and scalability on the front end, the Company's CIS legacy system will continue in operation for up to an addition 12 months after C2 is operational. This is a 40 year old system that will continue to be relied upon by call center representatives thereby possibly delaying savings achievement associated with the new system (i.e., the legacy system will be operational and thereby incurring costs). With 4 companies on the same system, additional complexities will continue to challenge "accurate, timely" billing. Before implementation of AMI, billing issues need to be thoroughly researched.

Blue Ridge recommendations:

8.4.1 CL&P needs quality processes in place and rigorous testing of billing system changes.

8.4.2 The 2005 study to support the larger bill statement and envelope needs to be updated post implementation with postage costs and estimates for reductions in bill inserts.

8.4.3 CL&P needs to analyze the bill to collection process to identify opportunities to shorten the cycle.

8.4.4 CL&P should track returned postal mail and do root cause analysis on all returns to reduce levels over time.

8.4.5 Payment processing studies should be done to determine best practices and drive toward cost effective methods. No studies have been done since 2005.[889]

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[888] Interview Culligan on 9/15/08.
[889] Response to Data Request BRCS-CS-01-047.

8.4.6 Determine the reason Uncollectibles and 90 Day Receivables are trending higher and, if necessary, conduct best practice studies and/or implement controls.

8.4.7 CL&P needs to undertake a process review to optimize the use of in-house collection representatives.

8.5 Theft of Service

Background

In the utility industry, theft of service means tampering with or bypassing a meter in order to receive utility service free of charge. Stealing service from a utility is ultimately stealing from every conscientious customer because theft of service leads to increased rates and fees. Not only is electricity theft illegal, it is also very dangerous, and tampering with meters can result in serious personal injury. How a company deals with this issue to minimize theft of service is important to minimize the uncollected revenues which have to be borne by other legitimate ratepayers.

Analysis

Electric meter tampering and diversion of electricity is a felony crime. CL&P communicates with the public by two means to help minimize theft of service.[890] One way is an internet application called "Catch a Crook" which provides internal and external customers the opportunity to report conditions that are in question. Once an incident is recorded, a revenue protection investigator will follow up. The second public report capability is the Energy Theft hotline (800) number.

CL&P informs employees about theft via their Standards of Business Conduct, Section 6, "Protecting Company Assets."[891]

The processes used to follow up on thefts are well documented. It is not normal practice to seek prosecution for every case and few are ever prosecuted.[892] Since 2005, CL&P has had success in the prosecution of five cases in which the defendants were found guilty and received Accelerated Rehabilitation. Another person was found guilty and received jail time, but other issues were involved. The Company won one civil case, and two outstanding cases exist in which the customers have been arrested and are awaiting trial.

CL&P does not track the collection efforts for all cases, but they do track those that were billed greater than $10,000. Results since 2005 are shown below:

[890] Response to Data Request BRCS-CS-01-094.
[891] Response to Data Request BRCS-CS-01-100.
[892] Response to Data Request BRCS-CS-01-097.

Table 49: Payments on Accounts Over $10K[893]

Year	Accounts	Paid to Date	Percentage Paid
2005	36	$1,972,960.00	100%
2006	32	$1,403,958.00	100%
2007	25	$2,434,940.00	94.69%
2008	Incomplete data for comparison		

Theft training is conducted by the Revenue Protection personnel. Training efforts are focused on CL&P meter service installers, mechanics who perform field investigations, and their supervisors. The meter reading work force of mobile van drivers do not participate in theft training. Learning Central does not have this set up as mandatory training, and therefore records are limted to attendance logs.

Section 16-3-100 "Termination of Utility Service" of the DPUC regulations, which include provisions relating to disconnects for theft of service, were available at the Company[894].

Findings

The Company does have a defined Theft of Service Prevention Program. A set procedure exists for reporting suspected instances of Theft of Service. Trained Company professionals investigate theft of service using defined processes. The Company does make on-going warnings of the consequences of theft of service. Programs are in place to minimize theft of service by employees.

The Company has not evaluated its systems and practices against best practices. No formal benchmarking studies or best practices studies have been completed on theft of service since 2006.[895]

Conclusions and Recommendations

Theft of service training, programs, practices, and communication vehicles are available within CL&P. The Company tracks collection (and has a good record collecting payments) on those theft of service cases which involve amounts greater than $10,000. The Company should track all cases.

Blue Ridge recommendations:

8.5.1 Make theft of service training mandatory for meter service installers, mechanics who perform field investigations, and their supervisors. Keep training logs to ensure that required individuals attend the training.

8.5.2 Track the collection efforts on all cases of theft and measure results over time.

[893] Response to Data Request BRCS-CS-01-097.
[894] Response to Data Request BRCS-CS-01-098.
[895] Response to Data Request BRCS-CS-36-010.

8.5.3 Perform benchmarking studies or seek out best practices.

8.6 Customer Support Systems

Background

At the time of this review, CL&P was involved in the conversion to C2. The Company met is C2 October 2008 "go live" due date. As a result of the conversion, however, the front end processing of orders and handling of calls changed considerably from that which the Blue Ridge team observed prior to conversion. To spread out their workload, CL&P requested that Blue Ridge delay review of the C2 system until January 2009. A full report relating to the C2 project and its impact will be provided at that time.

This section will briefly address the fundamentals that were in place during the Management Audit timeline.

Analysis

The NUSCO Windsor, Connecticut facility, which opened in 2006, is an impressive environment with attention given to ergonomics. On August 20, 2008, Blue Ridge noted that in the lobby reception area the VOC (Voice of the Customer) bulletin board displayed 36 positive customer comments about representatives. One particular representative was mentioned in 8 of the 36 comments.

Blue Ridge reviewed the pre-C2 environment practices, procedures, and reports available at the time of the audit. CL&P conducted a tour of the Windsor facility for the Blue Ridge team. Blue Ridge also observed calls and placed random calls to the Call Center.

While observing calls, Blue Ridge noted that the representative would refer to CIS on her screen, a paper binder with Standard Operating Procedures, a notepad on the computer on which she recorded notes while speaking with the customer, a calculator on the computer, and various screens. Post-it notes were also stuck to her computer frame. During one call, the representative in the next cubicle came over to ask a question of the representative being observed. One customer was put on-hold for five minutes while the Representative manually computed payment options.

CL&P developed new Customer Experience Policies and Procedures as part of the C2 implementation. Revisions are to be filed with the Department during the first quarter of 2009.[896]

Since CL&P has undertaken a major transition to C2, reasonable assumption would conclude that the Company sponsored studies to determine that new technological advances were needed to provide a more customer oriented and cost effective environment. However, the Chip Bell assessment concluded that "there is no evidence of

[896] Response to Data Request BRCS-CS-36-011.

a deliberate and systemic involvement of customers in the design and implementation plan of C2."[897]

The ACD (Automated Call Distributor) does produce reports for review and work flow optimization. Factors to consider when looking at ACD reports are the number of calls handled by representatives, the number of representatives, experience levels, and the call handle time. Call wait time is high which is impacting customer satisfaction ratings on the Customer Contact Survey KPI. In addition, a new measurement, Schedule Adherence and Productivity, has been developed to improve productivity of the Customer Service Representatives.[898]

With the conversion to C2, many of the representatives have been diverted to training activities in preparation for the cutover. This has stretched resources and added to the high overtime levels. The chart below provides a history of Call Center overtime for what is currently the Windsor group.

Table 50: Windsor Call Center Overtime[899]

Year	Actual Overtime Hours
2003	24,005
2004	26,297
2005	28,295
2006	34,502
2007	38,185
2008 YTD July	28,059

Trending out the data to year end, overtime hours are likely to exceed 48,000, double the 2003 levels.

Employee turnover ratios in the Call Center were 1.68% in 2008 through June as compared to 1.83% for all of 2007. The volume of disconnects, connects, and change orders handled for the past three years is shown in the chart below.

Table 51: Disconnects, Connects, and Changes[900]

	2006	2007	2008 YTD July
Disconnects	178,292	169,375	92,170
Connects	270,601	262,787	136,792
Changes	36,200	37,824	24,839

[897] Response to Data Request BRCS-CS-01-007.
[898] Response to Data Request BRCS-CS-28-005.
[899] Response to Data Request BRCS-CS-01-009.
[900] Response to Data Request BRCS-CS-01-030.

Projecting out the numbers for the rest of 2008, disconnects and connects should continue to decline while changes will increase. Total inbound calls handled by a representative are also down from 3,075,243 in 2006 to 3,010,787 in 2007 with fewer estimated in 2008.[901]

In 2006 the Windsor Call Center had 235 non-exempt personnel.[902] That number decreased to 174 in August 2008..[903] In comparison, the Manchester, NH Call Center increased from 65 Representatives in 2006 to 136 in 2008. In total, call center staffing at these two facilities has risen from 300 in 2006 to 310 in August of 2008.

Findings

CL&P practices, policies and procedures pre-C2 were lacking effectiveness. Representatives had to augment automated processes with numerous manual work-arounds to make them manageable. Consequently, processes were not handled by all personnel in a consistent, sustainable fashion. The Company will file revisions to the practices and procedures associated with C2 with the CDPUC in the first quarter of 2009.

The upgrade to C2 is being done in part to provide to the representatives useful and adequate information that did not exist pre-cutover. Likewise, integration issues should be addressed in C2.

The Windsor facility is ergonomically sound.

The ACD (Automated Call Distributor) does track performance within the Call Center. However, the long wait time would indicate ineffective management of volume and staffing. Call Center representatives are down in number and overtime is up.

The Customer Experience organization has not taken advantage of best practices.

Conclusions and Recommendations

The customer support systems are in transition and will depend heavily on the new C2 system which began implementation in October 2008. Blue Ridge will be reviewing that system during the first quarter of 2009. Through the new automation and lengthy training provided, the new system should provide relief from the many former manual work-arounds. The Company should review staffing levels and overtime to determine requirements necessary to handle the new mix of calls in the C2 environment. Blue Ridge recommendations include the following:

8.6.1 Customer Experience personnel should review call volumes, call handle time and other relevant ACD data to determine proper staffing levels that will provide optimal service and call wait time while balancing costs and reducing overtime expense.

[901] Response to Data Request BRCS-CS-01-034.
[902] Response to Data Request BRCS-CS-01-040.
[903] Response to Data Request BRCS-CS-12-002.

8.6.2 Customer Experience should seek out, research, and potentially adopt relevant best practices on an on-going basis.

9. EXTERNAL RELATIONS

Objectives and Scope

Blue Ridge's analysis of External Relations included a review of regulatory relations and compliance, governmental affairs, investor relations, and public relations and communications. Other areas that were reviewed included Purchasing (focusing on supplier diversity), Claims (Third Party) and Environmental. These areas are covered separately within Blue Ridge's review.

Additionally, Blue Ridge reviewed the Company's relationship with the various stakeholders including regulators, government, investors, vendors, the public and other stakeholders. Auditors examined the strategies developed and implemented to develop and maintain positive relationships with all stakeholders.

Overall Assessment

A significant portion of the Company's External Relations are located under the Senior Vice President and General Counsel. The Company has determined that this centralization assures that communications and regulatory policy receive appropriate legal review and thus minimize the need for legal resources. Weekly departmental reports are provided to develop and encourage this coordination.[904]

The overriding principle of External Relations is that the Company observes both the letter and the spirit of the law.[905] This principle has been further expressed by a wide range of Company executives and employees.[906]

Findings and recommendations are included in the individual sections of the External Relations review.

Background

A utility has to address a wide range of external stakeholders including customers, regulators, government, investors, vendors, the general public and others. The utility has to appropriately communicate its plans and needs to those stakeholders to build a level of trust and understanding. These relationships benefit each party during times of stress such as a major outage, changing financial conditions, and regulatory, governmental and/or political change.

[904] Interview G. Butler 8/20/08.
[905] Interview G. Butler 8/20/08.
[906] Interview K. Kuhlman 9/19/08, Interview M. Morton 9/3/08, Interview J. Kotkin 9/17/08 and Interview L. Olivier 9/16/08.

9.1 Regulatory Relations and Compliance

Background

A utility by its nature is subject to a wide range of regulations at the federal, state and local level. These regulations include financial, environmental, customer service, safety and health, land use, and others. The utility must know what regulations govern their activities, set the standards for compliance, and communicate the responsibilities throughout the organization.

Analysis

Blue Ridge's analysis of Regulatory Relations and Compliance focused on Blue Ridge's proprietary evaluation criteria and developed specific data requests and interview questions based on those data requests. Auditors interviewed the Vice President Governmental and Regulatory Affairs, the Director of Regulatory Policy and Planning and the Manager of Regulatory Policy. In addition, interviews were done in related areas such as Legal, Public Relations, Communications, and others.

The Vice President Government and Regulatory Affairs reports to the Senior Vice President and General Counsel. The regulatory goals include timely, accurate and readable filings for regulators, customers, and the public. The Regulatory function is centralized under the Vice President Government and Regulatory Affairs. The Company uses a regulatory tracking system called TRACS (Tracking Regulatory Activities and Calendar System) to ensure that required regulatory filings are assigned to the proper individual(s), developed in a timely manner, reviewed and filed as directed by a docket and/or order.

Findings

The Company's standards of compliance are both externally imposed as minimum filing requirements,[907] FERC accounting,[908] and its own standard of readable, accurate, and timely filings.[909] To achieve this internal standard the Company uses a regulatory tracking system called TRACS (Tracking Regulatory Activities and Calendar System). TRACS is considered Sarbanes Oxley compliant[910] and is designed to track activities within a rate case including interrogatory responses and filings required of the Company through dockets and/or orders. TRACS fields include due date, docket#, title, order#, description, responsible individual(s) and frequency.[911] Blue Ridge's review of TRACS for the month of October 2008 indicated 30 required items.[912]

The Company's 2008 Corporate Communications Plan does not address the regulatory area.[913] However the annual goals for Communications do address regulatory matters.[914]

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[907] Interview J. Fletcher 9/17/08 and Interview J. Palmer 10/7/08.
[908] Interview J. Palmer 10/7/08.
[909] Interview L. Thibdaue 9/4/08, Interview J. Fletcher 9/17/08 and Interview J. Palmer 10/7/08.
[910] Interview J. Palmer 10/7/08.
[911] Response to Data Request BRCS-ER-50-001.
[912] Response to Data Request BRCS-ER-50-001.
[913] Response to Data Request BRCS-ER-10-001.

TRACS is designed to identify individuals responsible for regulatory matters in a clear and timely manner.[915]

The Company considers that it has allocated the needed resources to the regulatory process.[916] However there is a concern about turnover due to the level of overtime within the regulatory function.[917]

The Company considers regulators to serve an appropriate function and the Company's response is designed to respect this function.[918] The Company reviews the bills rendered for regulatory fees and has found no discrepancies.[919]

The regulatory function compares its performance to other utilities using EEI information, but the Company considers this mechanism to have limited value.[920]

Conclusions and Recommendations

Blue Ridge has determined that the Company has a detailed mechanism to track compliance with regulatory filings during rate cases and in response to dockets and/or orders. This mechanism is designed to identify the individuals responsible for responses. The Company's regulatory goal accords regulators an appropriate and timely response.

While the Company's regulatory and communications annual goals reflect the need to address the regulatory process, the latest version of the Corporate Communication Plans does not include a strong focus on the regulatory process.

Blue Ridge recommendations:

9.1.1 The next version of the Corporate Communications Plan should include a strategy that confirms the Company's existing attention to the regulatory process.

9.2 Governmental Affairs

Background

The utility is subject to a wide range of governmental actions that can assist or impede its mission of providing safe and reliable service to its customers. Communications with a wide range of governmental entities must be developed and maintained to ensure that the utility understands viewpoints and needs of governmental officials. Conversely, the

[914] Response to Data Request BRCS-ER-10-003.
[915] Response to Data Request BRCS-ER-50-001.
[916] Interview L. Thibdaue 9/4/08, Interview J. Fletcher 9/17/08, and Interview J. Palmer 10/7/08.
[917] Interview J. Fletcher 9/17/08
[918] Interview L. Thibdaue 9/4/08 and J. Fletcher 9/17/08.
[919] Interview L. Thibdaue 9/4/08.
[920] Interview J. Palmer 10/7/08.

utility must communicate the positive or negative impacts on its mission that will occur as a result of potential governmental actions.

Analysis

Blue Ridge's analysis of Governmental Affairs focused on Blue Ridge's proprietary evaluation criteria and developed specific data requests and interview questions based on those data requests. Auditors interviewed the Vice President, Governmental and Regulatory Affair and the Vice President of Government Affairs. In addition, interviews were done in related areas such as Legal, Public Relations, Communications, and others.

The Vice President Government and Regulatory Affairs reports to the Senior Vice President and General Counsel. The governmental function is centralized under the Vice President Government and Regulatory Affairs. The governmental affairs goals include working with elected officials including state legislators with a lesser focus on congressional work, holding the highest ethical standard and "doing it right, even when no one is looking."[921] For the past two years the focus has been on supporting the transmission efforts,[922] which are beyond the scope of this review (due to their regulation by the FERC).

Findings

The Company's standards of compliance are imposed both externally as lobbying requirements and as its own ethical standards.[923]

The Company's 2008 Corporate Communications Plan has limited ties to the legislative (governmental) area.[924] However the annual goals for Governmental Affairs do address the area.[925]

The Company's communications planning includes the engagement of senior management of CL&P as a key means of explaining the Company's positions.[926] The Company also has assigned an officer level individual as its Government Affairs representative.

The Company performs surveys to assess its stakeholders' opinions of the Company on key issues. Elected officials surveyed cite meetings with CL&P representatives as a source of information.[927]

Conclusions and Recommendations

Blue Ridge recommendations:

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921 Interview M. Morton 9/3/08.
922 Interview L. Thibdaue 9/4/08 and Interview M. Morton 9/3/08.
923 Interview M. Morton 9/3/08.
924 Response to Data Request BRCS-ER-10-001.
925 Response to Data Request BRCS-ER-10-003.
926 Response to Data Request BRCS-ER-10-001 and Response to Data Request BRCS-ER-10-003.
927 Response to Data Request BRCS-ER-10-005.

9.2.1 The next version of the Corporate Communications Plan should include a strategy that confirms the Company's existing attention to the various governmental and legislative processes.

9.3 Investor Relations

Background

The utility must maintain its access to the financial markets in order to ensure that capital needs for debt and equity can be met. Information must be provided directly to investors and to the rating agencies, financial analysts and regulators. The regulations governing the accuracy of and the timeliness of disclosure have increased substantially with the aim of greater transparency for all potential and existing investors.

Analysis

Blue Ridge's analysis of Investor Relations focused on Blue Ridge's evaluation criteria and developed specific data requests and interview questions based on those data requests. Auditors interviewed the Vice President, Investor Relations. In addition, interviews were done in related areas such as Legal, Public Relations, Communications, and others.

The Vice President, Investor Relations reports to the Chief Financial Officer. The information provided by Investor Relations is governed by the Securities and Exchange Commission regulations including Regulation FD (Fair Disclosure). The Company focuses on approximately 300 institutional investors and approximately 48,000 retail investors. Investor Relations also manages the costs of the Company's stock exchange listing fees, credit rating fees and the stock transfer agent fees. The Company's investor relations goal is to provide timely and clear information to investors.[928]

Findings

The Company maintains a formal Disclosure Committee with ten members including Investor Relations, Accounting, Legal, Regulatory, Risk Management, Taxes and operational areas. There is a formal charter for the Disclosure Committee that focuses on the accuracy and sufficiency of the information about the Company and its disclosures. The Legal Department is responsible for documenting the review process for each filing. The Disclosure Committee reports to and is charged with supporting the Company's senior management who are ultimately responsible for certifying to the completeness and accuracy of the Company's filings.[929]

The Company has a formal, confidential Investor Relations plan that in 2006 targeted transfer agent fees.[930] In 2006, the Investor Relations expenditures dropped markedly compared to the budget and 2005.[931] This drop resulted from the negotiation of transfer

[928] Interview J. Kotkin 9/17/08.
[929] Response to Data Request BRCS-ER-50-002.
[930] Response to Data Request BRCS-ER-10-026.
[931] Response to Data Request BRCS-ER-10-027.

agent fees.[932] Subsequent budgets and actual expenditures reflect the continuing savings.[933]

The Company has received a number of investor relation awards from external organizations. In 2008, the Company's annual report received the Institutional Investor award for Best Annual Report for Small to Mid-Cap Companies.[934] For 2006, the Vice President of Investor Relations was one of five IR Officers nominated for Best Investor Relations Officer by IR Magazine.[935]

The Company's Corporate Communication Plan does not include investor relations,[936] however the annual report is produced within the Communications group.[937]

Conclusions and Recommendations

Blue Ridge found that the Company has a detailed disclosure process, has formal goals for investor relations, and reviews costs and performance.

Blue Ridge determined that there is a formal process to ensure the accuracy of financial disclosures to the investment community.

The costs for investor relations have declined in 2006 and that savings has been reflected in the 2007 and 2008 budget (and actuals).

The Company's investor relations performance has been judged by its peers to be significant within the industry.

Blue Ridge recommendations: none

9.4 Public Relations and Communications

Background

The modern utility must address the needs of a wide range of stakeholders that are external to the Company. These external stakeholders include customers, investors, neighbors, suppliers (vendors), regulators and other governmental officials and the environment. Often these stakeholders have conflicting viewpoints and objectives, which must be addressed simultaneously.

Analysis

Blue Ridge's analysis of Public Relations and Communications focused on Blue Ridge's proprietary evaluation criteria and developed specific data requests and interview

932 Interview J. Kotkin 9/17/08.
933 Response to Data Request BRCS-ER-10-027.
934 Response to Data Request BRCS-IR-31-001.
935 Response to Data Request BRCS-IR-31-002.
936 Response to Data Request BRCS-ER-10-001.
937 Interview M. Van Luling 9/18/08.

questions based on those data requests. Auditors interviewed the Vice President Communications and the Manager, CL&P/Yankee Gas Communications. In addition, interviews were done in related areas such as Legal, Public Relations, Communications, and others.

The Vice President Communications reports to the Senior Vice President and General Counsel. The communications goals include establishing a key message that focuses on the value provided and defining the future view of the Company for its stakeholders. The communications function also monitors its performance using outside surveys and reviews of media coverage.[938] The Communications function is centralized under the Vice President Communications, but each operating company has its own communication team that is embedded within the operating company. CL&P communications includes media, employees, website, bill inserts, community relations, marketing and advertising.[939]

Findings

The Company has a detailed Corporate Communications Plan that is strategic in nature.[940]

The individual goals within the operating company (CL&P) form the tactical portion of the Plan. These written goals do not define the methods used to communicate with various stakeholders. The goals assign responsibility for communications within the Company with a primary focus on executive management. There is a written quarterly review of goal status, which in certain areas relies on a qualitative evaluation supported by some quantitative measures.[941]

While the overall resources available are considered adequate, the communications team is focusing on having the right skills and temperament to address the needs of various internal customers.[942] The communications budget has been relatively flat, which has been accomplished with the use of automation, templates and distribution lists.[943]

The Company's communications focus is to be open and communicate with its various stakeholders. The DPUC defines the requirements for bill inserts.[944]

The Company uses both surveys[945] and outside reviews of media coverage[946] to evaluate its communications efforts.

[938] Interview M. Van Luling 9/18/08.
[939] Interview D. Radanovich 10/24/08.
[940] Interview D. Radanovich 10/24/08.
[941] Response to Data Request BRCS-ER-10-003.
[942] Interview M. Van Luling 9/18/08.
[943] Interview D. Radanovich 10/24/08.
[944] Interview D. Radanovich 10/24/08.
[945] Response to Data Request BRCS-ER-10-005.
[946] Response to Data Request BRCS-ER-45-001.

To explain the outage restoration process the Company sponsored a Storm School for the media.[947] There is a defined process that covers a wide range of communications to notify customers of a potential storm, explain the outage process, and inform stakeholders by web, IVR, media, telephone and other means.[948]

To announce the expansion of CL&P's Operation Fuel participation the communications function took the lead and developed a coordinated plan for media exposure, advertising, employee information, and the monitoring of customer calls to CSRs.[949]

Conclusions and Recommendations

Blue Ridge determined that the Company has a detailed Corporate Communications Plan, which is strategic in nature and focused at a high level. The tactical elements are contained within the operating companies' goals.

The high level nature of the budgetary information provided does not allow Blue Ridge to evaluate budgetary performance.[950]

Blue Ridge recommendations: none

[947] Response to Data Request BRCS-ER-45-002.
[948] Response to Data Request BRCS-ER-45-003.
[949] Interview D. Radanovich 10/24/08 and CL&P Press Release 10/24/08.
[950] Response to Data Request BRCS-ER-10-002 SP01.

10. SUPPORT SERVICES

Objectives and Scope

The Blue Ridge audit of Support Services included a review of the Company's risk management, legal, facilities management, purchasing and materials management, transportation, information technology, and records management.

With regard to risk management, Blue Ridge reviewed whether the risk manager has clear definition of role and responsibilities. Effective policies and procedures addressing risk assessment, insurance, and safety should be in place. Liability should be clearly stated in contracts for major projects. Insurance specialists should inspect utility facilities and operations to identify risks. Written reports of safety inspections and corrective actions should be prepared and monitored.

In the area of purchasing, Blue Ridge noted whether the purchasing group conducts effective management of all aspects of the procurement process including vendor qualifications, contract negotiations, pricing, and adjustments. The split in responsibilities between materials management and purchasing should be well communicated and administered. Additionally, Blue Ridge investigated multiple company/division buying, multi-company contract administration, and any circumvention of the purchasing process.

Blue Ridge also examined several other areas. Standardization of vehicles and possible out-sourcing of routine maintenance are areas of concern in transportation. With regard to facilities, Blue Ridge reviewed the asset plan, extra space utilization, consolidation, and out-sourcing of functions such as janitorial and yard services. In the area of Information Technology, Blue Ridge concentrated on the efficiency, performance, and capabilities of the IT department as well as the coordination of budget, user needs, efficiencies, and processes.

Overall Assessment

Blue Ridge found that the Company's Support Service organization generally provides support services in an appropriate manner, managing functions through policies and procedures, ensuring knowledgeable personnel, developing and implementing plans coordinated with Company goals, and incorporating industry best practices.

Background

In any major corporation, sound and effective business practices dictate that duplicated functions across these organizations should be centralized to minimize costs and redundancy. This centralization allows the organization to take advantage of shared synergies, efficiencies, buying power from vendors/suppliers, standardization of processes and practices and many others. These support services form an essential core group of functions that can produce large scale efficiencies in a streamlined, centralized approach. However, care must be taken that in providing these services that the distance to the customer (both in physical and bureaucratic terms) does not result in a degradation of service either to the user or the end customer, the ratepayer.

Blue Ridge's review of the Support Services functional area encompassed the examination of the following seven sub-categories:

- Risk Management
- Legal
- Facilities Management
- Purchasing and Materials Management
- Transportation
- Information Technology
- Records Management

Since these functions are managed by a separate service organization, Northeast Utilities Service Company (NUSCO or Service Company) on behalf of Northeast Utilities operating companies including CL&P, it is important to examine how NUSCO manages and controls costs and how it measures its own performance against other similarly situated organizations.

10.1 Risk Management

Background

In this area, Blue Ridge examined those aspects of CL&P's ability to manage the legal and insurance claims made against the Company. The success of managing business, legal and insurance claims made against a company depends to a large degree on risk management—the identifying of risks, gathering of related information, defining characteristics of such risks, planning for them, and establishing contingencies or counter-measures when and where required. Risk management must constantly adapt to the changing business environment and potential business opportunities.

Analysis

NU does not manage risk as a separate activity within the operating utilities, including CL&P. Risk management is centralized within the NU organization with two functional business aspects. Business risk is managed as one function and legal and insurance claims are managed as another. NU's business risk management is overseen by a senior management risk committee called the Risk and Capital Committee (RaCC) which is responsible for ensuring the Company and all its subsidiaries are prudent in managing their business risks. Specifically, the RaCC (1) provides oversight for the development and implementation of Enterprise Risk Management and the NU Risk Management Policy, (2) provides oversight for Company risk assessments, (3) reviews and makes recommendations for NU CEO approval concerning capital programs and projects of

NUSCO and the operating companies (including CL&P) that exceed $10 million, and (4) provides reviews of completed capital programs and projects that exceed $10 million.[951]

The NU Board of Trustees has no committee whose exclusive function is to oversee risk management. However, two board level committees, the Finance Committee and the Audit Committee, do have responsibility for interaction with senior management concerning major financial risk exposures, risk management policies, and business continuity planning.[952]

In 2006, NU established the Enterprise Risk Management group led by a director-level position and reporting to the CFO.[953] Goals of Enterprise Risk Management include the following:

1. ERM Integration – Promote the advancement of risk awareness within the organization by continuing to embed Enterprise Risk Management into the company's processes and procedures and planning activities.
2. Risk Assessment and Reporting – Continue to work collaboratively with Treasury and Finance to develop more robust project modeling capabilities and financial risk assessment and mitigation analytics.
3. Risk Mitigation and Mapping – Leverage the risk management activities of existing functions/committees within the organization by assigning accountability for risk mitigation strategies and monitoring efforts.
4. ERM Administration and Processes – Refine NU risk policies and procedures. Implement a process to identify, assess and report on emerging risks and associated mitigation strategies.
5. ERM Literacy – Create more literacy around Enterprise Risk Management within the organization including the development and roll-out of an enterprise-wide communication plan on risk management.

With respect to legal and insurance claims, the Director of Claims and Insurance handles much of the day to day management of risk in regard to protecting Company assets from losses, defending the Company in damage litigation, and recouping damages to the Company by other parties. To meet these responsibilities, the department goals require claims settlement within 90 days and insurance procurement within 45 days of the end of the policy period.[954]

The NU Risk Management Policy and the Capital Project Approval Policy and Procedures provide global business risk management direction for the Company. The Claims and Insurance department has its own guidelines for operational performance. These guidelines provide direction for consistency without the more restrictive elements of procedural formality so that department personnel have the flexibility to settle claims based on the specific factors of each claim. The department director approves all claims

[951] Response to Data Request BRCS-SS-06-002.
[952] Response to Data Request BRCS-SS-06-002.
[953] Interview S. Weber 10/7/08.
[954] Interview J. Ireland 10/28/08.

under $1 million while the Treasurer approves those in excess of $1 million. Discussion of all significant claims occurs between the Director and the Treasurer.

Since the Enterprise Risk Management group is relatively new (2006), the evaluation against industry best practices is not part of the Director's current focus, although a best practices review had been performed in the Fall of 2007 and ways to obtain best practices information in this relatively new discipline were being explored by the Director. In the Claims and Insurance department, claims metrics are established based on industry standards.[955] On the insurance side, federal law prohibits insurance companies from providing certain aspects of insurance (e.g., cost per thousand of insurance and cost per vehicle) making comparison with the industry difficult.[956] The Director, however, does involve himself with industry organizations and serves a various industry committees, e.g., Insurance Advisory Committee and EEI (Edison Electric Institute) / AGA (American Gas Association).

The Company's process for identifying potential risks is both proactive and reactive. Claims and Insurance and the RaCC both operate proactively in identifying risks. Reactive activities, however, take place in which resolution of unanticipated problems forces situational risk identification and mitigation. For example, the Company resolved an issue regarding the danger or disturbance of vehicles backing up on to customer property with required measures by which identification and placement of cones for backup purposes to avoid potentially dangerous or hazardous obstructions or circumstances.[957]

CL&P's focus on safety includes a Safety Incident Reporting System database, a Safety Observation database, and safety committees that provide a venue for open discussion regarding safety and health concerns between management and labor. The director of the Claims and Insurance group characterized the Company's safety record as excellent.[958] For further discussion on safety, see Section 7.12 Safety and Health.

<u>Findings</u>

Blue Ridge found that NU adequately manages CL&P's risk. Both NU senior management and the Board of Trustees provide appropriate oversight for the management of risk. The Risk and Capital Committee, along with the support of the Enterprise Risk Management group, provides the necessary resources and policy and procedural direction to ensure proper attention on risk.

Department resources appear adequate as evidenced by the ability to meet goals and customer needs without requiring undue or excessive overtime.[959]

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[955] Interview J. Ireland 10/28/08.
[956] Interview J. Ireland 10/28/08 and response to Data Request BRCS-SS-46-024 in which the Company notes that case law, as in the US Supreme Court's decision in *United States v. Container Corp.*, 393 U.S. 333 (1969), rather than statutory law indicates limits to information that could be used for comparison.
[957] Interview J. Ireland 10/28/08.
[958] Interview J. Ireland 10/28/08.
[959] Interview J. Ireland 10/28/08.

The Company should keep a specific focus on industry Best Practices. The fact that the Director Enterprise Risk Management does not focus on industry Best Practices and the Director Claims and Insurance is limited by law in knowledge of some aspects of industry practice creates some concern for the Company keeping abreast of industry improvements in process of risk management.

Conclusions and Recommendations

The Company could benefit from conducting periodic reviews of industry best practices concerning risk management.

Blue Ridge recommendations:

10.1.1 The Company should incorporate guidelines for focusing on industry best practices to ensure continuance of industry improvements in the risk management process.

10.2 Legal

Background

The utility's legal function supports a wide range of the business functions of the utility. These functions include regulatory filings and issues at the local, state, and federal levels for the approval of rates; environmental permitting and compliance; financing and financial reporting; litigation for claims against the utility or against outside parties; business functions such as purchasing, human resources, corporate governance and compliance; and other issues as they may evolve.

Blue Ridge examined information obtained through data requests and interviewed the General Counsel and the Chief Compliance Officer. The auditors then reviewed the process that the Company developed to control its legal costs.

Analysis

The Company's legal function is centralized within the Legal Department of NUSCO under the Senior Vice President and General Counsel. The Company has designated Assistant General Counsels for each operating company including CL&P. The Vice President Regulatory and Governmental Affairs, the Vice President Communications, and the Vice President Corporate Secretary and Chief Compliance Officer also report to the Senior Vice President and General Counsel.[960]

NUSCO's legal department conducts weekly departmental staff meetings and provides monthly Major Legal Proceedings reports to monitor the department's activity. By

[960] Response to Data Request BRCS-GR-01-004.

Company requirement, external counsel provides a Matter Plan and Budget and works through an NU Contact Attorney to ensure cost effectiveness.[961]

The Legal Department focuses on the use of internal legal resources as opposed to the retention of outside counsel.[962] Legal costs include federal and state regulatory costs, which have fluctuated substantially in prior years.

The Legal Department compares its internal legal costs to peers using established benchmarks such as the Hildebrandt Law Department Survey. (Peers are departments with 21 to 40 attorneys and/or companies with $4-6 billion in revenues). The Company's inside counsel chargeable hours (utilization measure) are 4% higher than its peers, while its inside counsel hourly (cost) rate is 23% less than its peers.[963] Since 2004, the percentage of legal costs performed internally increased, while its outside counsel average hourly rate is 8% less than its peers.[964]

Other measures reviewed also demonstrate the efficiency of the Company's internal counsel.[965]

The department surveys Client Satisfaction and recent results are a 4.1 rating on a scale of 5.0.[966]

The Legal Department has a written policy in place to ensure that outside legal counsel is retained by the Legal Department.[967] This policy ensures that the Company appropriately controls retained legal services for both performance and cost. The procedure permits the retention of outside legal services on a sole source basis based upon measures such as subject matter expertise, prior experience, knowledge of relevant parties, available resources, and location. The procedure does not reject competitive procurement, but has made a determination that competitive bidding of outside legal services is not likely to result in substantial savings.

The Legal Department has a detailed written guideline for the management and control of retained outside counsel.[968] These guidelines detail the relationship between the Company and retained outside counsel, require specific coordination with a designated

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[961] Response to Data Request BRCS-SS-06-009, Attachment *Guidelines for Outside Counsel and Billing Conventions (2007).*
[962] Interview G. Butler 08/20/08.
[963] Response to Data Request BRCS-SS-06-010, Attachment *Legal Department 2007 Operating Plan* (11/15/06), p.17.
[964] Response to Data Request BRCS-SS-06-010, Attachment *Legal Department 2007 Operating Plan* (11/15/06), p.17.
[965] Response to Data Request BRCS-SS-06-010, Attachment *Legal Department 2007 Operating Plan* (11/15/06), p.18.
[966] Response to Data Request BRCS-SS-06-010, Attachment *Legal Department 2007 Operating Plan* (11/15/06), p.17.
[967] Response to Data Request BRCS-SS-06-009, Attachment *Legal Department Outside Counsel Retention Procedure (09/27/2006).*
[968] Response to Data Request BRCS-SS-06-009, Attachment *Guidelines for Outside Counsel and Billing Conventions (2007).*

internal Contact Attorney, require the development of a Matter Plan and Budget for cases meeting specific parameters, limit the paid attendance by multiple members of the outside firm at meetings and proceedings, encourage alternate billing arrangements, and detail records management requirements.

Notably the Company's guidelines include requirements to track and promote diversity within and by the Company's outside counsel. Similarly, the guidelines encourage community service by outside counsel in the form of pro bono legal services.

The Company manages its outside counsel billing using CounselLink to track billing rates and legal spending by requiring that all invoices be submitted through this external system.[969]

Attorneys within the Legal Department are expected to maintain their competence through a combination of in house and continuing legal education (CLE). This process is managed as part of the annual performance review cycle between the attorney and their supervisor. The Company conducts in house training on a variety of topics. Attorneys who are members of the NY and/or NH bars also have CLE obligations.[970]

Findings

Blue Ridge determined that the Company tracks its legal expenditures; has guidelines and procedures to govern the use of outside counsel; and reviews the costs, productivity, and quality of inside counsel against peer groups and outside counsel.

Blue Ridge has determined that the Company employs weekly and monthly staff meetings to track cases and uses a contact attorney concept to manage cases assigned to outside counsel.

Blue Ridge has determined that the Company has a program for inside counsel training and development that is managed as part of the performance review process.

Conclusions and Recommendations

The Company reasonably manages and controls its legal function through the use of guidelines and procedures. The Legal Department establishes goals annually as part of the budget process. They compare costs and productivity to outside peer groups using established data sources. A clearly expressed decision exists to use inside counsel when appropriate to achieve cost savings and utilize better knowledge of the Company.

Blue Ridge recommendations: none

[969] Response to Data Request BRCS-SS-06-009, Attachment *Guidelines for Outside Counsel and Billing Conventions (2007).*
[970] Response to Data Request BRCS-SS-46-020

10.3 Facilities Management

Background

Blue Ridge evaluated the efficiency and effectiveness of the Company's facilities management function and how it maintains its buildings and grounds. An effective facilities management process includes the documenting of services, planning of strategy, and monitoring compliance to provide realization of expectations and a holistic view for continuous improvement.

Analysis

The Company's facilities management is organizationally within the responsibilities of the Vice President of Field Maintenance. The facilities management function contains the responsibility for ensuring that internal customers have safe, clean, and effective facilities within which to conduct business.[971]

Facilities Plan

Blue Ridge reviewed the Company's current Facilities Plan which was implemented in June 2006. The Plan includes tracking of studies performed from 1999 through 2005 concerning facility consolidation, sales, rentals, and purchases. Although details are not included, the Plan provides overall direction for plan approval, financing, and progress monitoring.[972] The Company uses the Plan for overall strategy in the control of facilities, but conducts cost benefit analyses on a project by project basis.[973]

Facility supervisors provide basic control for monitoring Company needs with regard to facilities. They obtain input from various sources, including Division Directors' monthly meetings, building mechanics, local Health & Safety Committee meetings, and audit reports. The Company incorporates the needs within the current year's work plan (monitored twice per month or more) or the five-year forecast plan (updated annually). The Facilities Manager incorporates and prioritizes immediate (emergency needs) as they arise.

Facilities Management employs two methods in determining proper space needs.[974] The first is an annual strategic planning review that analyzes the impact of the Company's Strategic Plan on building space requirements. The other method consists of individual department reviews to gather specific facility need information. Facilities Management then incorporates this data into the Facilities Consolidation Plan. The Facilities Manager reviews the Plan annually with the Vice President of Field Maintenance. The Risk and Capital Committee (RaCC) must review and approve any project requiring a significant investment. The Company forms an Operational Review Team for large space planning projects to develop the project plan, coordinating operational needs with an organized work environment that is both safe and within environmental compliance regulations.

[971] Interview W. Quinlan 2nd Interview 10/27/08.
[972] Response to Data Request BRCS-SS-06-012, Attachment *Consolidation Plan – 2008*.
[973] Interview W. Quinlan 2nd Interview 10/27/08.
[974] Response to Data Request BRCS-SS-06-014.

Senior management reviews and approves the Operational Review Team's recommendations.

Based on facility needs, Facilities Management also notifies Corporate Property Management if market investigations and/or real estate transactions are necessary. Corporate Property Management is responsible for working with independent brokers and appraisers from the local real estate community to perform investigations, carry out site searches, determine valuation estimates, and conduct negotiations. Facilities Management personnel meet periodically with Corporate Property Management personnel to review and discuss planned facility projects and initiatives.

Blue Ridge asked several questions of a survey-type nature during each audit interview in order to obtain general impressions concerning basic Company functions (e.g., Compensation, Training, Safety, Accounting, etc.).[975] Based on the survey conducted, interviewees appeared pleased with Facilities Management with over 80% rating it Excellent and/or Outstanding (4 or 5 respectively on a 5 point scale).

In 2008, NU embarked on a major renovation of the executive offices of its New Berlin offices. This project included a major renovation to the CEO, CFO, COO, the Board of Trustee's room and several other officer offices and conference rooms. The cost of this renovation is estimated at $1,453,648.[976]

On September 16, 2008, NU announced its intention to purchase an office location in downtown Hartford. Concerning the impact on CL&P, the Company stated,

> The purchase of the 56 Prospect Street facility will provide the opportunity to establish a customer care walk-in center for CL&P customers that is located on a bus line in the heart of the capital city. In addition, the Connecticut Valley Exchange (CONVEX) is planned to relocate from their current location (3333 Berlin Turnpike, Newington, CT) into space vacated by the Hartford move. This will allow CONVEX to alleviate space congestion currently experienced and make necessary enhancements for NERC compliance in order to maintain security of grid operations.[977]

The Company indicated that the estimated cost of the acquisition and relocation of various NU corporate functions including the executive staff[978] is $27,000,000. However, it is anticipating that this move will save the Company $5.25 million over the current facilities plan that needed to address the CONVEX congestion issue.

[975] The survey conducted was informal and not statistically valid. Any results obtained were used for investigative and general impression purposes only.
[976] Response to Data Request EM 35-001 (sum of outside contract $1,018,639 and NU internal costs $435,009)
[977] Response to Data Request BRCS EM 35-001.
[978] The Company is estimating 180 employees will be effect by the move.

Security

The Company controls access to facilities through an NU electronic distributed access control system.[979] System Security, a contract company, administers the system for Connecticut and Massachusetts locations. The system not only controls access but provides building monitoring through security and environmental alarms. The 24/7 contract security guard force on the Berlin, CT campus provides central monitoring for the entire system. The system records access transactions in the Windsor data center.

Each employee has a photo ID card programmed for access. The system groups employees according to access profiles (access needs). The Company issues cards for contractor and vendor access as well.

Access levels include High (required for IT, CONVEX, Human Resources, Corporate Planning, System Security, Health Unit, Executive Offices), Medium (Storerooms, Transmission Planning, Transportation), and Low (all other areas). The Company performs periodic reviews of authorized access lists to ensure need, control, and legal requirements (certain reviews required for Sarbanes-Oxley).

Most security problems concern equipment theft (mainly, copper); however, no significant security breaches have occurred over the last several years. Facilities Management works with the security group in alarm installation and monitoring and also with police investigations into any thefts.[980]

Environmental Programs

The CL&P Facilities Management organization achieves environmental compliance through five major mechanisms.[981]

1. Employee Training
   Facilities' employees receive training from the Environmental Performance Management and Training group. Topics in this training include Environmental Management System, Spill and Hazard Awareness, Pollution Prevention/Waste Minimization, Hazardous Waste, PCB Regulations & Policies, PCB Safety, Incidental Spill Response, Materials of Trade, and SPCC Training & Discharge Prevention Briefing.
2. Utilizing the Facilities-specific Environmental Screening Tool
   Facilities' personnel must identify projects and activities requiring environmental permits and monitoring or reporting.
3. Established Relationships with CL&P Environmental Coordinators
   Environmental Coordinators are responsible for required inspections.
4. Environmental Remediation and Audit Group Audits
   The Environmental Remediation and Audit Group conduct audits on area work centers and activities managed by Facilities. They also track and monitor corrective actions until completion.

[979] Response to Data Request BRCS-SS-06-015.
[980] Interview W. Quinlan 2nd Interview 10/27/08.
[981] Response to Data Request BRCS-06-018.

5. Area Work Centers are ISO 14001 Certified
   ISO 14001 certification requires an annual review of aspects and impacts to the environment. Based on identified Facilities' processes that have an environmental impact, the Company implements operational controls, including procedures and work instructions. ISO 14001 certification process required benchmarking with industry. Benchmarking revealed Company practices were state-of-the-art.[982]

Budget

The Company's O&M costs for CL&P Facilities Management for the last three years ranged from $6.308 million to $6.669 million. The costs for these three years reveal a consistent level of expense.

Table 52: CL&P Facilities Management O&M Costs[983]

	2006	2007	% change	2008		% change	% change
			2007 over 2006	(Jan - May)	Adj for 12 mos.	2008 over 2007	2008 over 2006
Budget	$7,026.8	$6,960.8	-0.94%	$3,005.1	$7,212.2	3.61%	2.64%
Actual	$6,664.2	$6,308.4	-5.34%	$2,778.8	$6,669.1	5.72%	0.07%

Findings

Blue Ridge found that the Company's Facilities Management Consolidation Plan addresses facility consolidation, sales, and rentals appropriately. The Company's use of the Plan, security system operations, environmental maintenance and monitoring, and compliance and training with all processes is adequate. The Company's Facilities Management expenditures appear relatively consistent from year to year.

Blue Ridge found that NU's renovation of the executive area at its Corporate Headquarters may have been unnecessary. With the announcement of the corporate move to downtown Hartford and the estimated benefits from that move, Blue Ridge finds that the Company's facility plan for these offices may have been short sighted.

Conclusions and Recommendations

Blue Ridge concludes that the Company's Facilities Management operations is adequate and appropriate in effectively accomplishing its intended goal of providing internal customers with safe, clean, and effective facilities within which to conduct business.

The costs associated with the NU executive area renovation may not have been necessary.

Blue Ridge recommendations:

[982] Interview W. Quinlan 2nd Interview 10/27/08.

[983] Workpaper *10.3 – Facilities Management Costs.xls*, data source: Response to Data Request BRCS-GR-01-024, Attachment CLP Mgmt Audit GR-01-0024 Pgs 2-7.xls.

10.3.1 Blue Ridge encourages Staff to evaluate this issue more fully in the Company's next rate requests.

10.4 Purchasing and Materials Management

Background

An integral and necessary part of a utility's ability to provide adequate service to its customers in a safe and reliable manner resides in its maintenance and capital programs. Additionally, the utility must be able to respond to its customers and its system outages in a timely and efficient manner. To accomplish these requisites, operating personnel rely on the purchasing and stores (materials management) functions to procure the necessary materials and services and then store them for available use and/or disseminate the materials as needed. Customers expect a utility to procure needed materials and services in the most economical manner possible and keep only those materials on hand that are the type and quantity appropriate for the business. In order to address all the key functions in the supply chain adequately, the company must have an adequate system of policies and procedures to procure goods and services, to provide strategic inventory and availability of materials, and to ensure that only the necessary material is kept in stock.

In this area, auditors evaluated the Company's supply chain function to determine whether the Company is effectively and efficiently meeting the supply needs of the workforce and, in particular, CL&P's field crews.

Analysis

To evaluate the effectiveness of the Company's supply chain, which includes both procurement and materials management, Blue Ridge issued data requests and interviewed several key Company personnel involved in those functions. Included in those interviews were the Vice President - Shared Services,[984] Director Purchasing,[985] Manager Stores,[986] and the Vice President Field Maintenance.[987] In addition Blue Ridge auditors toured the central storeroom to gain an understanding of how material is stored and issued and of the security surrounding the material.

[984] Interview P. Clarke – 2nd Interview 10/07/08.
[985] Interview E. Maldonado 10/27/08.
[986] Interview H. Costello 10/27/08.
[987] Interview W. Quinlan – 2nd Interview 10/27/08.

Figure 25: Berlin Central Warehouse (BCW)[988]

Figure 26: BCW Floor View[989]

The Company has extensive procedures surrounding the strategic procurement function, including procedures outlining the various levels of approval authority.[990] The Risk Management Council (RMC) reviews and approves competitive contract values in excess

[988] Response to Data Request BRCS-SS-46-017.
[989] Response to Data Request BRCS-SS-46-017.
[990] Interview P. Clarke – 2nd Interview 10/7/08.

of $5 million. The Executive Risk Management Council (ERMC) reviews and approves contracts over $25 million. The sourcing committee reviews the same for contracts in excess of $250,000.[991] Those managing the procurement and stores functions have a clear understanding of the major capital and maintenance projects projected for the future in order to provide the material and/or services to support those projects.[992]

The Company utilizes a central stores approach for certain types of material and also uses several small storerooms throughout the Company service area in which material is either directly stored or transferred from central stores. In addition, the Company has trailers that are stocked with material that would be used for restoration efforts.[993] Those trailers can be delivered directly to the job sites or staging areas so that crews have immediate access to what they need on site during storm restoration. This method facilitates how crews receive material, alleviating concern about supply availability. A stores employee, who understands the material and also how to account for the issuance of that material, mans the staging area.

The capital replacement program and the plans that senior management has for the replacement of the Company's aging infrastructure figures into the Company's procurement function.[994]

The Company takes advantage of strategic outsourcing, e-based initiatives, and warehouse management. A centralized approach to purchasing and materials management allows for enhanced supply chain practices. Examples of those practices are E-catalog, Frictionless, and Greybar.[995]

The function of the supply chain process resides in the Materials Information Management System (MIMS). The system is a vendor provided suite of products called Passport.[996] This system provides integrated modules for, among other things, the Inventory Management and Procurement functions.

The Company uses a method called "reorder point identification" to maintain the appropriate level of material. Too little material impedes the operations of the Company while too much costs the Company money that could be used elsewhere.[997]

The Stores group both conducts and participates in surveys designed to gauge how effective they are relative to other storeroom facilities. Because of personnel turnover in Central Stores over the past few years, the Manager–Stores has hired full time employees from outside the Company that have specific expertise in material handling. Those individuals have helped the stores function considerably.[998] Purchasing performs various

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[991] Response to Data Request BRCS-SS-06-021.
[992] Interview P. Clarke – 2nd Interview 10/7/08.
[993] Interview H. Costello 10/27/08.
[994] Interview E. Maldonado 10/27/08.
[995] Interview E. Maldonado 10/27/08.
[996] Response to Data Request BRCS-SS-06-040.
[997] Response to Data Request BRCS-SS-06-041.
[998] Interview H. Costello 10/27/08.

utility benchmarking studies such as with Oliver Wyman and Utility Purchasing Management Group to gauge where they stand relative to other companies.[999]

The Company's O&M costs for CL&P Purchasing for the last three years is shown in the following table.

Table 53: CL&P Purchasing O&M Costs[1000]

	2006	2007	% change	2008		% change	% change
			2007 over 2006	(Jan - May)	Adj for 12 mos.	2008 over 2007	2008 over 2006
Budget	$555.5	$271.5	-51.13%	$138.4	$332.2	22.34%	-40.21%
Actual	$486.1	$272.7	-43.90%	$154.1	$369.8	35.62%	-23.92%

Findings

NU has established a cohesive purchasing function and stores function that provides the appropriate support to operating personnel. The purchasing function utilizes state-of-the-art web based procurement practices whenever possible to secure the best product at the lowest evaluated cost. The centralized store function, with the daily deliveries to the various outlying storerooms, maintains control of materials and supplies. The central storeroom also utilizes storage towers (shown below) that make the best use of storage space and also allow personnel to fill orders easier.

Figure 27: BCW Storage Towers[1001]

[999] Response to Data Request BRCS-SS-06-025.

[1000] Workpaper *10.4 – Purchasing Costs.xls*, data source: Response to Data Request BRCS-GR-01-024, Attachment CLP Mgmt Audit GR-01-0024 Pgs 2-7.xls.

[1001] Response to Data Request BRCS-SS-46-017.

The purchasing and stores functions currently operate in a cohesive manner. Each department has a different reporting structure; therefore, communication between the groups is important for continued success. In addition the Department of Energy (DOE) is changing the environmental requirements for distribution transformers effective in 2010.[1002] Those changes will have a major impact on cost and will also require more storage facilities.

Conclusions

In order for Purchasing and Materials Management to work cohesively in the future, frequent, meaningful, and comprehensive communications between each group will be required. The form of that communication should be whatever works the best for both groups and should continue to focus on senior management's goals and objectives relative to customer service and Company assets. In addition, future storage facility requirements will change as a result of the DOE required distribution transformer changes effective 2010.

Blue Ridge recommendations:

10.4.1 Future communications should focus on senior management's goals and objectives relative to customer service and company assets.

10.4.2 Stores should develop a detailed plan, on a cost benefit basis, that addresses the future storage facility requirements and the impact to the customer relative to additional cost resulting from the DOE required distribution transformer changes effective 2010.

10.5 Transportation

Background

In this area, Blue Ridge reviewed the Company's management of its fleet operations within CL&P.

Analysis

The Company's transportation function is under the responsibility of the Vice President of Field Maintenance. The department controls 1584 vehicles (cars, trucks, cranes, trailers, forklifts, etc.) amid 18 garage facilities spread out within the service territory.[1003] The Transportation staff includes 80 people, including one manager and five to eight supervisors.[1004]

[1002] Interview H. Costello 10/27/08.
[1003] Response to Data Request BRCS-SS-06-045.
[1004] Interview W. Quinlan 2nd Interview 10/27/08.

The NU intranet (NUNet) website for transportation provides employees and managers with transportation policies, procedures, detailed inventory and usage information, and other information necessary to maintain effective control. According to the Vice President, compliance with the policies and procedures is not a problem and he is unaware of any violations of policies.[1005]

The Company does not have an overall transportation strategic plan, although pieces of transportation plans are strategic.[1006] The Company also has not performed an overall, companywide fleet study. Managers maintain knowledge and control of the fleet through annual needs assessments.[1007] Replacement guidelines also exist to ensure proper balance between need and current vehicle condition. The decision to buy versus lease is made by the Treasure and Financial departments.

The Company employs key performance indicators to monitor such data as vehicle usage. They assign an hourly rate based on vehicle class and determine an expected usage cost. Variance reports track actual usage compared to expected usage.[1008] The work center of a particular group will receive a charge back for any under-utilized vehicles. This provides managers with an incentive to retire, replace, or reassign under-utilized or obsolete vehicles.[1009]

All drivers of Company commercial vehicles with a Gross Vehicle Weight of greater than 10,000 lbs are tested and then qualified to receive an in-house certification. These employees are then eligible to receive a Commercial Drivers Licenses.[1010]

The Company records information concerning its transportation fleet and equipment. Each garage maintains spare parts inventory. Reports display turnover rate per garage. The department tracks accidents involving Company vehicles. CL&P averages approximately 158 accidents per year as shown in the following table.[1011]

Table 54: CL&P Vehicle Accidents[1012]

	Accidents	Rolling Average
2004	**154**	154
2005	**157**	156
2006	**170**	160
2007	**151**	158

1005 Interview W. Quinlan 2nd Interview 10/27/08.
1006 Interview W. Quinlan 2nd Interview 10/27/08.
1007 Interview W. Quinlan 2nd Interview 10/27/08.
1008 Response to Data Request BRCS-SS-06-047.
1009 Interview W. Quinlan 2nd Interview 10/27/08.
1010 Interview W. Quinlan 2nd Interview 10/27/08.
1011 Response to Data Request BRCS-SS-06-052.
1012 Workpaper *1110.5 – Transportation Accidents.xls*, Source: Response to Data Request BRCS-SS-06-052.

The Company performed a survey of its employees at the various Company locations, requesting information regarding satisfaction with transportation services. The survey included 11 questions. Company personnel appeared to be most satisfied (93.5%) with both the quality of repairs and the courtesy and responsiveness to needs. Personnel were least satisfied (66.6%) with the Vehicle Replacement Process.

The following table provides summaries by location of overall satisfaction with transportation services.

Table 55: Transportation Survey Results by Location[1013]

Locations	Very Satisfied	Satisfied	Somewhat Satisfied	Dissatisfied	No Response	Total Responses
Berlin	17.7%	48.4%	15.2%	7.6%	11.1%	407
Cheshire	27.3%	33.3%	16.7%	9.8%	12.9%	132
Danielson	13.6%	18.2%	63.6%	4.5%	0.0%	44
East Hampton	34.1%	26.5%	18.9%	18.9%	1.5%	132
Hartford	27.3%	42.9%	10.4%	5.2%	14.3%	154
Madison	22.1%	55.8%	14.3%	7.8%	0.0%	77
Middletown	46.5%	21.2%	16.2%	13.1%	3.0%	99
New London	12.1%	69.7%	12.1%	6.1%	0.0%	33
New Milford	13.6%	63.6%	18.2%	4.5%	0.0%	22
Newtown	38.4%	33.3%	17.2%	5.1%	6.1%	99
Norwalk	31.8%	38.0%	14.0%	11.6%	4.5%	242
Simsbury	36.4%	40.9%	11.4%	6.8%	4.5%	44
Stamford	36.4%	37.5%	13.6%	5.7%	6.8%	88
Tolland	48.2%	29.1%	13.6%	4.5%	4.5%	110
Torrington	45.5%	47.3%	7.3%	0.0%	0.0%	55
Waterbury	27.6%	40.6%	14.3%	6.3%	11.2%	286
Willimantic	33.7%	46.0%	13.9%	4.3%	2.1%	187
TOTAL	**29.6%**	**40.1%**	**15.5%**	**7.8%**	**7.0%**	**2211**
Satisfied v. Dissatisfied		**85.2%**		**7.8%**		

The following table shows satisfaction results by specific question on the survey.

Table 56: Transportation Survey Results by Question[1014]

Questions	Very Satisfied	Satisfied	Somewhat Satisfied	Dissatisfied	No Response	Total
Q1 The Vehicle Replacement process?	17.9%	31.8%	16.9%	22.9%	10.4%	201
Q2 Fleet Availability --- are your vehicles available when you need them?	24.4%	49.3%	18.9%	4.5%	3.0%	201
Q3 The vehicles provided? Are the vehicles provided adequate to perform your job?	19.4%	46.3%	18.9%	11.4%	4.0%	201
Q4 The overall quality of service provided by our garages?	40.3%	39.3%	12.4%	2.5%	5.5%	201
Q5 The quality of repairs provided by the garge mechanics?	43.8%	40.3%	9.5%	0.5%	6.0%	201
Q6 The timeliness of repairs provided by the garage mechanics?	39.8%	34.8%	11.4%	7.0%	7.0%	201
Q7 The garage mechanics courteousness and responsiveness to your needs?	53.7%	33.8%	5.5%	0.5%	6.5%	201
Q8 The Transportation Supervisor in your area? His responsiveness to your needs?	38.3%	36.3%	12.4%	7.0%	6.0%	201
Q9 Fleet Costs in relation to the quality of service provided by the Transportation Dept?	14.4%	45.8%	17.9%	8.0%	13.9%	201
Q10 The reliability of the fleet vehicles?	22.4%	49.8%	15.9%	6.0%	6.0%	201
Q11 The Transportation Advisory Group's (TAG) process of Vehicle standardization?	10.9%	33.8%	30.3%	15.9%	9.0%	201

[1013] Workpaper *11.5 – Transportation Survey Results.xls*, Source: Response to Data Request BRCS-SS-46-003.

[1014] Workpaper *10.5 – Transportation Survey Results.xls*, Source: Response to Data Request BRCS-SS-46-003.

Blue Ridge asked several questions of a survey-type nature during each audit interview in order to obtain general impressions concerning basic Company functions (e.g., Compensation, Training, Safety, Accounting, etc.).[1015] Based on the survey conducted, interviewees appeared very pleased with the transportation management with over 93% rating of Excellent and/or Outstanding (4 or 5 respectively on a 5 point scale).

Findings

Blue Ridge found that the Company's transportation services department is adequately staffed and appropriately controlled. Through survey and management, the transportation department appears to have sufficient focus on stakeholder concerns. Management balances needs with cost concerns appropriately, employing policies such as the under-utilization charge back to ensure the focus throughout the organization. The Company appears to monitor equipment, technology, and best practices appropriately.

While the department does not have an overall transportation strategic plan, the annual needs assessment coupled with policies and performance indicators that enforce a savings approach to management appear to provide effective control.

Conclusions and Recommendations

Blue Ridge concludes that the Company adequately and appropriately operates its Transportation Services organization. Policies, procedures, and practices are effective and suitable.

Blue Ridge recommendations: none

10.6 Information Technology

Background

In this area, Blue Ridge examined the Company's information technology function. The review examined whether current systems applications allow the Company to implement its strategic objectives effectively. Auditors reviewed the processes that led to the decision to acquire/develop a new system based on sound business practices. Note: Blue Ridge's review of the CustomerCentral system (C2) will be addressed in a separate report.

Analysis

Organization and Strategy

The Information Technology (IT) group is part of the Shared Services organization headed by a Vice President Shared Services who oversees IT, Purchasing, and Environmental/Property Management. The IT group is divided into five director-led

[1015] The survey conducted was informal and not statistically valid. Any results obtained were used for investigative and general impression purposes only.

areas. These include Infrastructure, Strategy and Planning, Technical Support, Applications and Software Development, and Special Projects.

Currently, IT strategy is focused on several specific projects, including consolidating the Customer Information System (C2), creating a single meter data management system, developing a single work management system, improving financial analysis through a corporate performance package, developing server virtualization, and upgrading the radio system across the NU system.

As mentioned in Section 3.5 – Corporate Objectives, the Company designs its goals in a top down approach so that department direction coalesces with overall corporate leadership. The Shared Services VP, IT's Executive Director, and each IT area director monitor goals closely and update them quarterly.[1016]

CL&P holds an IT Council meeting at least bi-monthly in which they discuss, review, approve, and fund IT projects. According to its charter, the primary role of the IT Council is to ensure that CL&P's and YG's technology strategy is aligned with its business strategy.[1017] The VP Shared Services and the Executive Director of IT are members of the Council and regularly attend.[1018]

The IT department addressed about 4,000 hardware/software modifications in the August 2007 to July 2008 timeframe.[1019] About one-third of these related to software applications.

The IT department plans for personnel needs based on several factors. A first step is understanding the needs of the business organizations that the IT department serves. Needs criteria that the department continually keeps in focus include required compliance work, necessary business needs, and backlog levels. Current backlog in IT is about 1.5 years of backlog, which the department deems as appropriate.[1020] IT overtime has increased over the last five years rising from about 3.5% to 5.5% in 2007. So far in 2008 the rate is 5.2%. However, this rate increase resulted over a time period when the employee count decreased from a high of 413 in 2005 to its current level of 370.[1021]

According to the Acting Director, IT work demand is consistently greater than budget and resources.[1022] However, the Company formed two groups to address demand. One group is the Enterprise Technology Counsel made up generally of vice presidents from the various NU companies. This group maintains a check on backlogs and the processing of high, medium, and low prioritized work. The second group is actually several small groups from each business area (16 throughout the Company).[1023] These Business Area

[1016] Interview G. Millerd 10/09/08.
[1017] Response to Data Request BRCS-SS-06-058.
[1018] Response to Data Request BRCS-SS-06-065.
[1019] Response to Data Request BRCS-SS-06-060.
[1020] Interview P. Clarke 09/18/08.
[1021] Response to Data Request BRCS-SS-06-063.
[1022] Interview G. Millerd 10/9/08.
[1023] Interview E. Peczynski 10/27/08.

Control Groups (BACG) prioritize the work for their business area based on value and according to specific criteria.[1024]

IT measures performance primarily by how well goals are met. The department tracks performance by goals and other metrics.[1025] Additionally, the department incorporates qualitative feedback from clients (end users).[1026]

The IT department maintains a Disaster Recovery program formally documented in its Disaster Recovery Runbook, last updated on August 4, 2008. The plan addresses a broad range of business interruption risk exposures. The plan includes an outline of the criteria for declaring a disaster, notification steps, and identification of systems that support crucial processes. The plan tracks the restoration of NU's production systems, provides recommendations for plan administration, and offers rationale and suggestions for incorporating disaster recovery into Change and Configuration Management. The plan also addresses the business process and IT recovery procedures. It provides the recovery detail for systems by crucial processes and recovery time objective (RTO) IT recovery procedures.[1027] NU has had no disaster recovery incidents in the last five years.

Process and Procedures

The Company reviews IT policies and procedures regularly every few years. According to the department management, IT policies are currently in line with necessary function.[1028] Typically, changes need to be made because of continuously emerging security threats in the evolving security environment as well as technology changes in general to balance draconian perception with the cost structure.

IT customers appear to complain most about the length of time for the phase-in of hardware. However, IT management must balance needs with cost. Therefore, hardware phase-in is normally conducted in association with asset renewal.[1029]

Employees

The IT department had a relatively low turnover rate in 2008 (3%). The turnover rate for the past five years averaged about 5.7%.[1030] About 10 years ago, the turnover rate was consistently about 10%. The department conducted a market assessment about six years ago and determined that they had to restructure the department based on marketplace definition of positions and then coordinate compensation to these industry-based positions (while maintaining budget constraints). New hires in the Company have affirmed that NUSCO's IT processes are now among the "best they've experienced."[1031]

[1024] Response to Data Request BRCS-SS-06-057.
[1025] Response to Data Request BRCS-GR-63-001.
[1026] Interview P. Clarke 09/18/08.
[1027] Response to Data Request BRCS-SS-06-068.
[1028] Interview P. Clarke 080918 and Interview G. Millerd 10/09/08.
[1029] Interview P. Clarke 09/18/08.
[1030] Response to Data Request BRCS-SS-06-062.
[1031] Interview G. Millerd 10/09/08.

An aging workforce does present a problem to the NUSCO IT organization as it does to NU as a whole. Each organization within NU works with HR to manage its succession planning. The average retirement age is about 60. The Company had been expecting more interest in retirement, but found that that interest has slackened off recently. Company management keeps focus on the monitoring and management of attrition.

In IT, the intern program has worked well. Last summer (2008), the Company had 17 interns from various area schools (mostly, the University of Connecticut) working with the IT department. The best of these are offered positions upon graduation. The Company allows IT a certain amount of latitude in maintaining their full time equivalent (FTE) employee count, depending on perceived need and the number of quality interns available. The department maintains focus on the FTE count over a three year cycle rather than from year to year.

Communication

The IT department communicates new IT policies, major initiatives, software patches, and educational sessions primarily through the Company's biweekly newsletter, *NU Today*. Additionally, the department has begun issuing a Help Desk newsletter that notifies employees of such items as software patches and mainframe maintenance windows.[1032] Besides the newsletters, the Company provides procedures, contact information, and educational materials on the Company's intranet site NUNet.

The Company involves end users in its system development. In the Company's Project Management methodology, a Resource Identification Document identifies all participants at the project's outset, including end users. End users often take an active role in the system design, testing, and implementation in the role of Business Analyst, Business Expert, or Business End-User.

During two phases of application development end users become especially involved. They participate heavily in requirements gathering often in focus groups, facilitated sessions, surveys, interviews, or in the evaluation of vendor proposals. During the testing phase, end users participate in the design of test plans and in the testing itself. Business clients sign off on the major deliverables of a project (e.g., requirements, documentation, test plans, and implementation plans). For those applications which the Company considers as SOX-Critical (critical concerning Sarbanes-Oxley requirements), end users sign off at various control points, attesting to proper review of requirements.[1033]

Besides application development, the IT department reviews end user concerns in the normal routine of business. The department began a new survey plan in 2008 designed to survey one twelfth of employees each month. According to the IT Executive Director, the employees have ranked IT consistently as 4 or 5 on a 5 point scale.[1034] Additionally,

[1032] Response to Data Request BRCS-SS-06-070.
[1033] Response to Data Request BRCS-SS-06-059.
[1034] Interview G. Millerd 10/09/08.

the IT help desk conducts a survey based on IT's provided assistance to callers. Customers rank the quality of IT's assistance consistently high.[1035]

The IT department also provides its own employees with the opportunity to voice concerns and raise issues through a survey process. Additionally, employees engage in policy and process improvement through Employee Action Teams. The recommendations of these teams have resulted in changes in telecommuting and flexible work schedules.[1036]

Blue Ridge asked several questions of a survey-type nature during each audit interview in order to obtain general impressions concerning basic Company functions (e.g., Compensation, Training, Safety, Accounting, etc.).[1037] According to the survey conducted, about two thirds (67.1%) of interviewees rated Information Technology as Excellent and/or Outstanding (4 or 5 respectively on a 5 point scale).

Technological Sophistication

The Company attempts to balance the needs of the organization within budget limitations. The Company incorporates necessary software and hardware updates for security and other high priority concerns. However, the Company also weighs the incorporation of new systems with revisions and enhancements to old systems. The IT department is in the process of moving toward more virtualization, a process that has the advantages of keeping technologically sophisticated while actually reducing cost at the same time. For example, the MIB (Management Information and Budgeting) system is an older financial batch application which the Company uses. However, the update to a new fully coordinated ERP (Enterprise Resource Planning) system would not bring enough value at present to offset the costs. Therefore, the Company is implementing a front-end or top layer to the financial systems to provide updated benefits without the cost of an entirely new system.[1038]

The IT department constantly keeps abreast of industry Best Practices through ITIL (Information Technology Infrastructure Library). It also uses the Gartner Group for end of year evaluation and comparison within and without the industry for cost and efficiency.

The Company's O&M costs for CL&P IT services for the last three years ranged is shown in the following table.

[1035] Response to Data Request BRCS-SS-06-066.
[1036] Interview G. Millerd 10/09/08.
[1037] The survey conducted was informal and not statistically valid. Any results obtained were used for investigative and general impression purposes only.
[1038] Interview G. Millerd 10/09/08.

Table 57: CL&P IT O&M Costs[1039]

	2006	2007	% change 2007 over 2006	2008 (Jan - May)	2008 Adj for 12 mos.	% change 2008 over 2007	% change 2008 over 2006
Budget	$18.003	$22.258	23.63%	$9.401	$22.562	1.37%	25.33%
Actual	$17.799	$22.038	23.82%	$9.360	$22.464	1.93%	26.21%

Findings

Blue Ridge found that the IT department's focus on special projects and application monitoring and maintenance correlates to the Company's strategic plan. Most IT departments bear some of the greatest company struggles in weighing perceived need and technological sophistication against budget constraints. The Company's IT department displays a firm knowledge grasp on these elements and appears to operate circumspectly in maintaining proper balance.

Blue Ridge has also found that IT department management ensures that they review end user views and incorporate them as appropriate. Both employee management and processes and procedures receive adequate and appropriate attention and control.

Conclusions and Recommendations

Blue Ridge concludes that the Information Technology function of the Company operates effectively in performing its strategic objectives, balancing need, risk, and cost.

Blue Ridge recommendations: none

10.7 Records Management

Background

In this area, Blue Ridge reviewed the company's policies, procedures and practices related to document/records management including effective use of technology and protection of sensitive/confidential documents.

Analysis

Policies and procedures

NU is in the process of revamping its Records and Information Management (RIM) system. The Company established a project team in August 2006 to revise the RIM program in order to automate the management of electronic records along with the previously established process for managing paper records. According to the Director of IT Technical Services, the change was necessary to incorporate new federal rules of civil procedure that came out in 2006, especially with regard to Rule 26 that addressed new legal implications concerning disclosure. Other minor updates were also needed.[1040]

[1039] Workpaper *10.6 – IT Costs.xls*, data source: Response to Data Request BRCS-GR-01-024, Attachment CLP Mgmt Audit GR-01-0024 Pgs 2-7.xls.

[1040] Interview J. Lapienne 10/07/08

The Company updated the policy for Records and Information Management (NUP Policy Number 38) based on the revised system and implemented it on August 9, 2007. The updated policy provides information and guidance on records and information management, records retention schedule, and legal hold orders. According to the policy, the records retention schedule is the foundation of NU's Records and Information Management Program.[1041]

The new system provides for declaring documents into the repository based on record type for a specific business function. The system locks the document so that revisions or changes are not allowed and destruction takes place upon the retention period expiration (except for documents upon which a litigation hold order has been applied). The Company rolled out the new system on a per department basis. Currently, NU implemented the technology and provided training to Purchasing, Information Technology, Corporate Communications, Internal Audit, Security, and Legal. The rollout schedule continues through the first quarter of 2010.

Paper documents are physically stored at NU's Record Center which is located at the 3333 Berlin Turnpike building. Additionally, third party record storage companies, Iron Mountain and Dupont, also hold documents.[1042] Besides the long term storage, departments also maintain records in specific, segregated areas.

With regard to electronic documents, the new system maintains record identification and the owner information so that managers may ensure through a department by department review that employees are declaring records and the identification is accurate as to placement and type.[1043]

After the rollout of the new system is complete, the Company will undertake a two-phased compliance task. The first phase includes a self audit facilitated by the RIM team which will correct any gaps in corporate record identification. The second phase will allow Internal Audit to begin auditing the system based on their regular schedule of audits.[1044]

The Company processes destruction of documents through the record center tracking system called Corporate Records Management System (CRMS). Records Center personnel review a monthly report listing those records up for destruction that month. These personnel issue emails to the record owner identified in the report (or the current Director overseeing the department) asking for approval to destroy the specified records. Once approval is received, personnel send the documents to the shredding vendor from whom they receive certification after the documents are destroyed. The Company keeps all destruction approval email.

[1041] Response to Data Request BRCS-FO-04-014, Attachment *Records and Information Management Policy*, p.3.
[1042] Response to Data Request BRCS-FO-14-010.
[1043] Response to Data Request BRCS-SS-06-072.
[1044] Response to Data Request BRCS-SS-06-072.

The new policy states that electronic documents should not be kept for more than two years. The Company is also developing a "clean drive" process which automatically deletes aged documents on a periodic basis.[1045] Approval policies for electronic document destruction are the same as for hard copy documents.[1046]

The Company treats confidential paper documents in one of two ways. Departments may send confidential paper documents to the Records Center for storage in the Records Center vault, or they may maintain the records within the department in locked storage.[1047] The individual departments decide on the disposition of the confidential records which is usually based on the need for access.[1048]

CL&P maintains confidential electronic documents through encryption as confidential and password protection. Additionally, the Company restricts access to confidential documents through access controls in Lotus Notes and Local Area Network environments.[1049]

In the new system, the Company maintains email documents according to NU Policy 35, implemented in August 2007.

Communication
The Company maintains the document policies on the Company intranet site. Since NU changed the policies in 2007, these new policies were the subject of an internal news release from the senior executive responsible for the program. During rollout of the new system, training personnel also ensured emphasis reinforcement of the new policies.

Training
The Company has had training on the revised RIM program. Each group or department receives training as they implement the new RIM system for that department. Additionally, all email documents have a "Declare as Record" button to help make the process as easy as possible.

Compliance
The Company's Records and Information Management policy incorporates language to ensure that users are aware of required compliance with the policy. The policy states that "all Users with authorized access to, or responsibility for Company Information are required to read, understand, and act in accordance with this Policy. Failure to do so can result in civil and/or criminal penalties and may subject users to disciplinary action, up to and including termination."[1050]

[1045] Response to Data Request BRCS-SS-06-076.
[1046] Interview J. Lapienne 10/07/08.
[1047] Response to Data Request BRCS-SS-06-075.
[1048] Interview J. Lapienne 10/07/08.
[1049] Response to Data Request BRCS-SS-06-075.
[1050] Response to Data Request BRCS-FO-04-014, Attachment *Records and Information Management Policy*, p.2.

Additionally, the owner/creator of a record has the responsibility of ensuring that the record is retained in accordance with the retention schedule. Thus, multiple recipients do not overburden the system with redundant retention of the same record.[1051]

Within each department, the Company establishes a Department Records Manager (DRM) who is responsible for ensuring disposal of department records that have exceeded their retention periods. The DRM is the department expert concerning the RIM program to whom all personnel from that department can go with questions or needed help.[1052]

According to the Company, Company personnel have not reported any violations of records management policy during the period 2004 through 2008.[1053]

Technology

In developing a new RIM program, the Company acquired IBM's content management DB2 application suite of which RM (Records Manager) is the software that manages the record repository. According to the Director of IT Technical Services, in the development process over the last two and a half years, the Company has appropriately invested in the technology to obtain the right tool at a good price.[1054]

Best Practices

The Company maintains a focus on industry best practices by engaging consulting groups in specific projects, as well as keeping abreast of industry developments through records-associated organizations. Additionally, the Company is an active member of the Association for Information and Image Management, the American Records Management Association, and IBM's Enterprise Content Management Special Interest Group.[1055]

Blue Ridge asked several questions during each audit interview in order to obtain general impressions concerning basic Company functions (e.g., Compensation, Training, Safety, Accounting, etc.).[1056] According to the survey conducted, almost 75% of interviewees rated Records Management Excellent and/or Outstanding (4 or 5 respectively on a 5 point scale). However, only 17.3% rated the department as good as or better than the rating assigned by the department director.

Findings

Blue Ridge found that the Company's investment in the new RIM program, including the policy revision, appears to be a prudent movement in maintaining a quality records management process and focus. Communication and training in the program and of the policy seems appropriate and adequate, resulting in maintaining compliance with the

[1051] Response to Data Request BRCS-FO-04-014, Attachment *Records and Information Management Policy*, p.4.
[1052] Response to Data Request BRCS-SS-06-071.
[1053] Response to Data Request BRCS-ss-06-077.
[1054] Interview J. Lapienne 10/07/08.
[1055] Response to Data Request BRCS-SS-06-073.
[1056] The survey conducted was informal and not statistically valid. Any results obtained were used for investigative and general impression purposes only

program. The Company exhibits appropriate emphasis on maintaining industry best practices in their records management program.

Conclusions and Recommendations

Blue Ridge concludes that the Company's records management program is appropriate and adequate for proper guidance on records and information management and records retention.

While Blue Ridge's informal survey results point to overall effectiveness in Records Management, the department director's rating of the department at a level higher than the rating assigned by 82.7% of all survey participants should motivate the director to reexamine the department's customers' satisfaction to ensure that any problem areas or difficulties are adequately addressed.

Blue Ridge recommendations: none

10.8 Emergency Restoration of Power

Emergency restoration of power is addressed under Section 4-System Operations.

10.9 Line Clearance

Line Clearance is addressed under Section 4-System Operations.

Appendices

Appendix 1 – Acronyms

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Appendix 1- Acronyms

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Acronyms

AA	- Affirmative Action
ACD	- Automated Call Distributor
ACH	- Automated Clearing House
AE	- Account Executive
AFUDC	- Allowance for Funds Used During Construction
AGA	- American Gas Association
AIP	- Annual Incentive Program
AMI	- Advanced Metering Infrastructure
AMR	- Automated Meter Reading
AMS	- Asset Management System
ANI	- Adjusted Net Income
ANSI	- American National Standards Institute
APM	- Accident Prevention Manual
BACG	- Business Area Control Group
Blue Ridge	- Blue Ridge Consulting Services, Inc.
BSC	- Business Solutions Center
C&I	- Commercial and Industrial
C&LM	- Conservation and Load Management
C2	- CustomerCentral
CAIDI	- Customer Average Interruption Duration Index
CAM	- Cost (or Corporate) Allocation Manual
CaPP	- Capital Project Approval Policy and Procedures
CAU	- Charge Accounting Unit
CBA	- Collective Bargaining Agreement
CBM	- Condition Based Maintenance
CCC	- Cost Control Center
CCM	- Connecticut Conference of Municipalities
CCNC	- Completed Construction Not Classified
CDPUC	- Connecticut Department of Public Utility Control
CE	- Customer Experience
CEAB	- Connecticut Energy Advisory Board
CEAP	- Connecticut Energy Assistance Program
CEEF	- Connecticut Energy Efficiency Fund
CEO	- Chief Executive Officer
CFM	- Corporate Financial Model
CFO	- Chief Financial Officer
CHRO	- Connecticut Human Rights Organization
CIA	- Certified Internal Auditor
CIS	- Customer Information System
CL&P	- Connecticut Light and Power Company
CLE	- Continuing Legal Education
CM	- Circuit Manager
CO	- Circuit Owner
COE	- Center of Excellence
COLT	- Corporate Online Time

CONVEX	- Connecticut Valley Exchange
COO	- Chief Operations Officer
CPA	- Certified Public Accountant
CPM	- Corporate Performance Management
CRM	- Customer Relationship Management
CRMS	- Corporate Records Management System
CSR	- Customer Service Representative
CSS	- Customer Service System
CTA	- Call-to-Action
CWIP	- Construction Work In Progress
D&I	- Diversity and Inclusion
DA	- Decision Analysis
DART	- Days Away Restricted Transferred
DDI	- Development Dimensions International
Department	- Department of Public Utility Control
DIF	- Difficulty/Importance/Frequency
DOE	- Department of Energy
DOT	- Department of Transportation
DPUC	- Department of Public Utility Control
DRM	- Department Records Manager
DSCADA	- Distribution Supervisory Control and Data Acquisition System
DSEM	- Distribution System Engineering Manual
EAP	- Employee Assistance Program
EBE	- Economic and Business Development
ECMB	- Energy Conservation Management Board
EDI	- Electronic Data Interchange
EDS	- Electronic Dispatch System
EEI	- Edison Electric Institute
EEO	- Equal Employment Opportunity
EIA	- Energy Independence Act
EOC	- Emergency Operations Center
ERM	- Enterprise Risk Management
ERMC	- Executive Risk Management Council
ERP	- Enterprise Resource Planning
ERP	- Emergency Restoration Program
ERT	- Electronic Receiver Transmitter
ETT	- Enhanced Tree Trimming
FASB	- Financial Accounting Standards Board
FD	- Fair Disclosure
FERC	- Federal Energy Regulatory Commission
FFO	- Funds from Operations
FTE	- Full Time Equivalent
G/L	- General Ledger
GAAP	- Generally Accepted Accounting Principles
GIS	- Geographic Information System
GIS	- Graphical Inventory System

HIPAA	- Health Insurance Portability and Accountability Act
HPS	- High Pressure Sodium
HR	- Human Resources
HRA	- Health Reimbursement Account
HRIT	- Human Resources Information Technology
IA	- Internal Audit
IAD	- Internal Auditing Department
IBEW	- International Brotherhood of Electrical Workers
IEEE	- Institute of Electrical and Electronics Engineers
IIA	- Institute of Internal Auditors
IR	- Investor Relations
ISACA	- Information Systems Audit and Control Association
ISO	- Independent System Operator
IT	- Information Technology
ITIL	- Information Technology Infrastructure Library
IVR	- Interactive Voice Response
JIT	- Just in Time Training
KPI	- Key Performance Indicators
KRA	- Key Result Area
kWh	- Kilowatt hours
LIHEAP	- Low Income Home Energy Assistance Program
LPB	- Large Power Billing
LTIC	- Long-term Incentive Compensation
MAIFA	- Momentary Average Interruption Frequency Index
MARC	- Management Associated Results Company, Inc.
MDS	- Mobile Dispatch System
MIBS	- Management Information and Budget System
MIMS	- Materials Information Management System
MIS	- Management Information System
MPP	- Matching Payment Program
MV	- Mercury Vapor
MVA	- Mega Volt Ampere
MVRS	- Multi-Vendor Reading System
MW	- Megawatts
NARUC	- National Association of Regulatory Utility Commissioners
NBFMCC	- Non-Bypassable Federally Mandated Congestion Charges
NEO	- Named Executive Officers
NESC	- National Electric Safety Code
NU	- Northeast Utilities
NUCHRIS	- Northeast Utilities Corporate Hours Information System
NUERP	- Northeast Utilities Emergency Response Plan
NUNet	- NU Intranet
NUSCO	- NU Service Company
O&M	- Operation and Maintenance
OCCap	- Operating Companies Capital Program
OCRC	- Operating Company Review Committee

OJT	- On the Job Training
OMS	- Outage Management System
OPEB	- Other Post-Employment (Retirement) Benefits
OSHA	- Occupational Safety and Health Administration
OTD	- On Time Delivery
PCB	- Polychlorinated biphenyls
PES	- Performance Enhancement System
PMVA	- Preventable Motor Vehicle Accident
PSNH	- Public Service of New Hampshire
PTMS	- Performance and Talent Management System
RaCC	- Risk and Capital Committee
RCM	- Reliability-Centered Maintenance
RCRC	- Regulated Company Review Committee
RFP	- Request for Proposal
RIM	- Records and Information Management
RM	- Records Manager
RMC	- Risk Management Council
RMS	- Route Mean Square
ROW	- Rights of Way
RSU	- Restricted Share Units
RTO	- Recovery Time Objective
S&P	- Standard & Poor's
SAIDI	- System Average Interruption Duration Index
SAIFI	- System Average Interruption Frequency Index
SAT	- Systematic Approach to Training
SAU	- Source Accounting Unit
SBC	- Standards of Business Conduct
SCADA	- Supervisory Control and Data Acquisition
SEC	- Security and Exchange Commission
SERP	- Supplemental Executive Retirement Plan
SERT	- Skills Enhancement Refresher Training
SIRS	- Safety Incidence Report System
SLA	- Service Level Agreement
SOC	- System Operations Center
SOX	- Sarbanes-Oxley
SPCC	- Spill Prevention, Control, and Countermeasure
SSR	- Shared Services Roundtable
STORMS	- Severn Trent Operational Resource Management System
T&D	- Transmission and Distribution
T2F	- Time to Fill
TDRP	- Transmission and Distribution Reliability Performance
TOU	- Time of Use
TRACS	- Tracking Regulated Activities and Calendar System
UGCap	- Utility Group Capital Program
UOMA	- Utilities Operations and Management Analysis
UPIS	- Utility Plant in Service

UTG	- Utility Group
VM	- Vegetation Management
VOC	- Voice of the Customer
VP	- Vice President
WMS	- Work Management System
WPP	- Winter Protection Program
WRAP	- Weatherization Residential Assistance Partnership
YGS	- Yankee Gas Services
YTD	- Year to Date
ZIP	- Zero Incident Program