Joseph P. Oates
Senior Vice President

June 5, 2014

Honorable Kathleen H. Burgess
Secretary
New York State Public Service Commission
Three Empire State Plaza
Albany, New York 12223-1350

RE: Case 08-M-0152 – Comprehensive Management Audit of
Consolidated Edison Company of New York, Inc.

Dear Secretary Burgess:

Consolidated Edison Company of New York, Inc. ("the Company" or "CECONY") filed its Audit Implementation Plan ("AIP") on October 5, 2009 outlining its plans to implement the recommendations provided in the Management Audit Report issued in the referenced proceeding. As provided in the Public Service Commission's ("PSC") August 21, 2009 "Order Directing the Submission of an Implementation Plan," the Company is now submitting its fifteenth update on its implementation progress, covering the period from January 5, 2014 through May 15, 2014. An electronic copy of the Company's AIP update report is provided herewith for electronic filing. As a courtesy to PSC Staff, the Company is also sending five hardcopies to Kathleen Tallmadge via overnight mail.

The Company has implemented 91 of the audit report's 92 recommendations. The Company is providing an update on the remaining, open recommendation, number 71, to implement a new work management system in Electric Operations. As described in this update, deployment of the Logica Mobile Field Manager application is currently underway. Testing of this application during 2013 identified issues which have now been addressed, and follow-on testing has been completed. As described in our last update, the full deployment of Mobile Field Manager, and completion of this project, is expected by December 2014. The projected benefit savings is expected to be fully realized in 2016.

Key Content and Changes to the Audit Implementation Plan

The enclosed update includes an executive summary and three appendices. These appendices were submitted with the Company's AIP on October 5, 2009 and have been included in each AIP update since that time.

- *Appendix A:* Appendix A has not changed since the Company's original AIP.
- *Appendix B:* There are no changes since our last update report in February 2014.
- *Appendix C:* Updated information summarizing key dates and status for each major activity, including highlighted milestones. Appendix C includes detail for recommendation 71, which was not fully implemented as of the Company's last AIP update. For this recommendation, a "May 15, 2014 Update" field summarizes work completed since January 15, 2014, the coverage date of the last AIP update filed on February 5, 2014.

Next Steps

We will continue to work with the PSC and its Staff to discuss our implementation progress on recommendation 71. We thank the members of the Department of Public Service team for their collaboration and support throughout the process.

Sincerely,

Enclosure

cc: Kathleen Tallmadge
Henry Leak, III
Kristee Adkins

Audit Implementation Plan Update

Consolidated Edison
Company of New York, Inc.
Case 08-M-0152

June 5, 2014

Consolidated Edison Company of New York, Inc.
Case 08-M-0152

Table of Contents

I. Executive Summary

A. Background

The Management Audit

In February 2008, the New York Public Service Commission ("Commission", or "PSC"), in Case 08-M-0152, ordered a comprehensive management audit of the Consolidated Edison Company of New York ("Con Edison" or "the Company") in accordance with Public Service Law, Section 66(19). The PSC selected the Liberty Consulting Group ("Liberty") to perform a comprehensive management audit of the Company's electric, natural gas, and steam businesses, with a specific focus on the Company's construction program, planning processes, and operational efficiency. From its start in June 2008, Con Edison, PSC Staff, and Liberty worked collaboratively to facilitate this review of the Company's management process.

The audit concluded in the spring of 2009, and the final report was issued on August 7, 2009. The report included 119 conclusions and 92 recommendations, and identified four barriers that Liberty stated may limit Con Edison's ability to deal with the challenges it faces, particularly in the long term. The barriers are in culture, regulatory, environmental and financial areas.

Since submitting its initial Audit Implementation Plan ("AIP") on October 5, 2009, the Company has been providing formal update reports every four months. This is the fifteenth update being provided to the Commission. The Company has implemented 91 of the audit report's 92 recommendations. Within this update, the Company provides information on the status of the one remaining recommendation (No. 71), the implementation of a new work management system in Electric Operations which continues to be implemented and is being introduced in phases as is described in this report. This recommendation is expected to be completed in December 2014.

Deployment of the Logica ARM 1.4 application is now complete. This application provides Electric Operations with a single repository for all planned and emergent tasks that drive its maintenance and inspection programs. This allows for more efficient work planning through the ability to bundle work associated with specific assets. Users are becoming more proficient with the use of the Logica ARM suite of applications.

Deployment of the Logica Mobile Field Manager application is currently underway. Testing of the Logica Mobile Field Manager application during 2013 identified issues which have now been addressed, and follow-on testing has been completed.

Con Edison and PSC Staff worked collaboratively throughout implementation of the audit's recommendations, including the remaining open recommendation. We remain committed to continue to identify and implement improvements in our business processes, and to find ways to reduce costs for our customers.

Audit Response

Con Edison has taken an integrated and holistic approach in addressing these recommendations, and the Company's Board of Trustees has provided oversight. The Company created 12 teams, and each recommendation and associated conclusions were assigned to a team based on the nature of the issues presented. Each of the 12 teams is sponsored by one or more senior officers in the Company. In addition, two executive-led teams were established to address the barriers.

The overall executive oversight of the Audit recommendation implementation was assigned to two senior officers to ensure that recommendations were addressed in an integrated and holistic manner to achieve greater operating efficiencies. Since the initial implementation, the two senior officers initially assigned have retired. The current senior officer in charge of oversight is Joseph Oates, Senior Vice President of Business Shared Services, with continuing oversight provided by Stuart Nachmias, Vice President of Energy Policy & Regulatory Affairs, who has been and remains involved in the implementation of the management audit from its beginning.

B. Audit Implementation Plan

The Company submitted its AIP on October 5, 2009, outlining its plans to implement the recommendations provided in the Management Audit Report. The AIP and the Company's subsequent AIP update reports are available on the Commission's website.

The Company included three appendices to its Audit Implementation Plan:

Appendix A: Key of Recommendations

Appendix A maps the Con Edison numerical recommendation sequencing with the Audit Report's recommendation sequencing. The table in Appendix A includes the Con Edison numbering sequence, the Liberty Audit numbering sequence, the recommendation, and the executive sponsor.

Appendix B: Matrix of Recommendations

Appendix B is organized by team and provides the Con Edison team lead, milestones with associated dates and deliverables, and a discussion of each recommendation's cost-benefit and risk analysis. Recommendations are assessed under one of the four categories: Accepted, Modified, Under Review, or Not Accepted. For each recommendation, Appendix B also provides start and completion dates, a brief statement of deliverables, a summary of cost-benefit and risk analysis, an assessment category (as described above), and a status indicator. Status is categorized by the following categories: In Progress, Completed, Pending, or Reevaluating. Recommendation 71 is the only recommendation that is updated for this filing, and is the last recommendation that is not completed.

Appendix C: Schedules and Milestones by Team

Appendix C provides more detail, including team lead, major activities and milestones with associated dates, and a summary of cost-benefit and risk analysis when available. This update covers the one recommendation that was not fully implemented as of the Company's last AIP update on February 5, 2014.

II. Appendices

Appendix A: Key of Recommendations

CE No.	Chapter/Section/ Recommendation #	Recommendation (w/referenced conclusions)	Team	Executive Sponsor
1	III - Corporate Planning - 1	Improve the planning process. *(Conclusions 1, 2, 3, 4, 5)*	1 - ELRP	L. Tai / J. McAvoy / J. Miksad
2	III - Corporate Planning - 2	Take the ERM process associated with operating risks to the next level. *(Conclusion 7)*	1 - ELRP	L. Tai / J. McAvoy / J. Miksad
3	III - Corporate Planning - 3	Define the role of the Strategic Planning Unit. *(Conclusion 6)*	1 - ELRP	L. Tai / J. McAvoy / J. Miksad
4	III - Corporate Planning - 4	Revisit the subjects investigated by the interdisciplinary teams. *(Conclusion 6)*	1 - ELRP	L. Tai / J. McAvoy / J. Miksad
5	III - Corporate Planning - 5	Develop a comprehensive vision and 20-year master plan for the electric system. *(Conclusion 8, 9)*	1 - ELRP	L. Tai / J. McAvoy / J. Miksad
6	IV - Corporate Oversight - 1	Revise Board Committee Structure to better coordinate functions and to focus on infrastructure planning, oversight, and performance measurement. *(Conclusions 1 and 8)*	2 - Board Leadership	E. Moore
7	IV - Corporate Oversight - 2	Continue efforts to identify board candidates with energy utility experience. *(Conclusion 2)*	2 - Board Leadership	E. Moore
8	IV - Corporate Oversight - 3	Incorporate changes in management's form and schedule for infrastructure planning and budgeting into a more structured, resequenced, and more intensive regimen of board review. *(Conclusions 5 and 6)*	2 - Board Leadership	E. Moore
9	IV - Corporate Oversight - 4	Increase emphasis on efficiency and effectiveness in operations auditing. *(Conclusion 10)*	5 - Cost Mgmt	J. McAvoy / C. Trahan
10	IV - Corporate Oversight - 5	Make consideration of Enterprise Risk Management a more structured part of audit planning. *(Conclusion 11)*	5 - Cost Mgmt	J. McAvoy / C. Trahan
11	V - Incentive Compensation - 1	Increase the amount of stretch and put more pay at risk as part of a broad revamping of incentive compensation. *(Conclusions 7, 9, and 10)*	9 - Performance Measurement	L. Tai
12	V - Incentive Compensation - 2	Before the study is done and implemented, reduce the emphasis on O&M expense and increase the weighting for capital expenditure performance and the operating performance measures. *(Conclusions 7 and 8)*	9 - Performance Measurement	L. Tai
13	VI - Performance Measures - 1	Develop a corporate-wide management information system. *(Conclusions 2, 4, 5, 6, 7)*	9 - Performance Measurement	L. Tai
14	VII - Load Forecasting - 1	Analyze, and redirect as appropriate, the level of effort and sophistication applied to various load forecasting tasks and products, to better balance costs with product and user needs. *(Conclusion 2)*	6 - Load Forecasting	L. Tai

CE No.	Chapter/Section/ Recommendation #	Recommendation (w/referenced conclusions)	Team	Executive Sponsor
15	VII - Load Forecasting - 2	Find a better way to forecast growth in the peak gas load. *(Conclusion 8)*	8 - Gas Capacity Planning	L. Tai / C. Trahan
16	VII - Load Forecasting - 3	Conduct an R&VF review of certain aspects of its approach to forecasting. *(Conclusions 9, 13, 14)*	6 - Load Forecasting	L. Tai
17	VII - Load Forecasting - 4	Evaluate the factors responsible for consistently under-estimating 5 and 10 year peak load forecasts; assure that any bias is removed from future forecasts. *(Conclusion 14)*	6 - Load Forecasting	L. Tai
18	VII - Load Forecasting - 5	Expand load forecasting activities and capabilities to encompass analysis of uncertainties using sensitivity analyses, probabilistic tools or other applicable techniques. *(Conclusion 18)*	6 - Load Forecasting	L. Tai
19	VII - Load Forecasting - 6	Develop an improved approach to the documentation, testing, and communication of forecast criteria and assumptions. *(Conclusion 19)*	6 - Load Forecasting	L. Tai
20	VII - Load Forecasting - 7	Examine and implement as appropriate the efficiencies and quality improvements that might result from utilization of CECONY's load research program, modified as cost-effective, to support load forecasting. *(Conclusion 26)*	6 - Load Forecasting	L. Tai
21	VII - Load Forecasting - 8	Aggressively move forward with the major study planned by Market Research on efficiency potentials and include a special focus on efficiencies that can be targeted to specific networks. *(Conclusion 28)*	1 - ELRP	L. Tai / J. McAvoy / J. Miksad
22	VII - Load Forecasting - 9	Evaluate options to enable the consideration of current and future load curtailment initiatives, both at CECONY and NYISO, for dependable network demand reduction. *(Conclusion 29)*	1 - ELRP	L. Tai / J. McAvoy / J. Miksad
23	VII - Load Forecasting - 10	Establish a structured approach to the consideration of long-term eventualities that might significantly impact load forecasts, such as changes in trends, new technologies and new policies. *(Conclusion 30)*	6 - Load Forecasting	L. Tai
24	VIII - System Planning - Electric - 1	Evaluate reliability programs to determine if they should be terminated earlier to release capital expenditures for more cost effective reliability programs. *(Conclusion 3)*	10 - Asset Optimization	J. McAvoy
25	VIII - System Planning - Electric - 2	Analyze networks and the 138 kV system designed to N-1 standards to determine the extent that maintenance activities can be performed at load levels less than peak load; where appropriate, incorporate maintenance design requirements into relevant design standards. *(Conclusion 6)*	10 - Asset Optimization	J. McAvoy
26	VIII - System Planning - Electric - 3	Clarify transmission planning criteria with regard to transfers used during second contingency analysis. *(Conclusion 8)*	10 - Asset Optimization	J. McAvoy
27	VIII - System Planning - Electric - 4	Perform a global review of all equipment ratings, input data, and time durations across the distribution and transmission areas to assure consistency and to justify and document	10 - Asset Optimization	J. McAvoy

CE No.	Chapter/Section/ Recommendation #	Recommendation (w/referenced conclusions)	Team	Executive Sponsor
		differences. *(Conclusion 14)*		
28	VIII - System Planning - Electric - 5	Maintain the 2011 completion date for completion of network secondary topology updates and EPRI DEW software. *(Conclusion 16)*	10 - Asset Optimization	J. McAvoy
29	VIII - System Planning - Electric - 6	Perform a least cost system analysis that minimizes costs to customers with regard to implementation of 3G strategies. *(Conclusion 17)*	10 - Asset Optimization	J. McAvoy
30	VIII - System Planning - Electric - 7	Perform analyses to determine if peak demand can be reduced more economically than the addition of infrastructure. *(Conclusion 19)*	10 - Asset Optimization	J. McAvoy
31	VIII - System Planning - Electric - 8	Actively pursue the economic use of SCADA controlled network mid-point feeder sectionalizing switches or circuit breakers to reduce system investment. *(Conclusion 20)*	10 - Asset Optimization	J. McAvoy
32	VIII - System Planning - Electric - 9	Place all distribution tree trimming under a central corporate management function with accountability to corporate management. *(Conclusion 22)*	4 - Work Mgmt	J. Miksad / J. Ryan
33	VIII - System Planning - Electric - 10	Strengthen the distribution vegetation management inspection program with accountability. *(Conclusion 23)*	4 - Work Mgmt	J. Miksad / J. Ryan
34	VIII - System Planning - Electric - 11	Establish a base level of network reliability for new networks. *(Conclusion 24)*	1 - ELRP	L. Tai / J. McAvoy / J. Miksad
35	IX - System Planning Gas - 1	Maintain current information about CECONY's leak-prone pipe. *(Conclusion 6)*	7 - Gas Main Replacement	C. Trahan / D. Davidowitz
36	IX - System Planning - Gas - 2	Evaluate potential changes in the business environment for each of the businesses; for the GBU, Strategic Planning should advise Gas Engineering regarding potential demands on the gas transmission and distribution systems occasioned by those changes. *(Conclusion 16)*	11 - Gas and Steam Planning	C. Trahan / S. Shukla
37	IX - System Planning - Gas - 3	Report to stakeholders and the NYPSC on any expansion of the transmission and distribution systems required to serve winter-period electric power generation. *(Conclusion 18)*	11 - Gas and Steam Planning	C. Trahan / S. Shukla
38	X - System Planning - Steam - 1	Identify a Steam Master Plan and incorporate within it a greater emphasis on what is happening on and to its distribution system. *(Conclusion 4)*	11 - Gas and Steam Planning	C. Trahan / S. Shukla
39	XI - Budgeting - 1	Strongly link CECONY's long-term electric plan with annual budgets, rate plans and 5-year capital plans. *(Conclusion 4)*	1 - ELRP	L. Tai / J. McAvoy / J. Miksad
40	XI - Budgeting - 2	Establish consistent, company-wide economic value analysis methods and metrics for capital projects and programs. *(Conclusions 6 and 7)*	5 - Cost Mgmt	J. McAvoy / C. Trahan
41	XI - Budgeting - 3	Work toward the re-establishment of multi-year electric rate cases. *(Conclusion 3)*	3 - Rate & Financial Strategy	J. McMahon / R. Hoglund
42	XI - Budgeting - 4	Prioritize CECONY capital projects and allocate funding using long-term economic analysis metrics	1 - ELRP	L. Tai / J. McAvoy /

CE No.	Chapter/Section/ Recommendation #	Recommendation (w/referenced conclusions)	Team	Executive Sponsor
		as a significant decision factor. *(Conclusion 8)*		J. Miksad
43	XI - Budgeting - 5	Require changes in capital projects and programs of more than 20 percent from the annual budget to be approved by the board of trustees. *(Conclusion 16)*	2 - Board Leadership	E. Moore
44	XI - Budgeting - 6	Establish formal informational feedback loops for project analysis and project prioritization. *(Conclusion 17)*	4 - Work Mgmt	J. Miksad/ J. Ryan
45	XII - Work Management - Cost Management - 1	Implement a holistic approach to cost management that is designed and built around three key elements: (a) a guiding philosophy; (b) a formal, structured cost management plan; and (c) building blocks of comprehensive supporting capabilities *(Conclusions 1*	5 - Cost Mgmt	J. McAvoy / C. Trahan
46	XII - Work Management - Cost Management - 2	As skilled people represent the cornerstone of the holistic approach, expand the role of cost management professionals to encompass tasks and accountabilities important to holistic cost management. *(Conclusion 5)*	5 - Cost Mgmt	J. McAvoy / C. Trahan
47	XII - Work Management - Cost Management - 3	Establish a cost support organization that is (a) placed consistent with the priority of cost management; (b) serves the cost management needs of all levels of management; (c) develops a force of skilled cost professionals and assures those skills are continuously improved; and (d) has overall accountability for the development and implementation of the cost management program. *(Conclusion 5)*	5 - Cost Mgmt	J. McAvoy / C. Trahan
48	XII - Work Management - Cost Management - 4	Provide training for managers, supervisors and cost support personnel in cost management techniques consistent with the holistic approach. *(Conclusions 1, 5, 6)*	5 - Cost Mgmt	J. McAvoy / C. Trahan
49	XII - Work Management - Cost Management - 5	General Recommendation Implementation Guidance.	5 - Cost Mgmt	J. McAvoy / C. Trahan
50	XII - Work Management - Cost Management - 6	Sample Cost Management Implementation Tactics.	5 - Cost Mgmt	J. McAvoy / C. Trahan
51	XII - Work Management - Work Planning - 1	Establish fleet size criteria based on historical data on total vehicle usage hours versus total physical work performed in hours in the region for each vehicle class. *(Conclusion 6)*	4 - Work Mgmt	J. Miksad/ J. Ryan
52	XII - Work Management - Work Planning - 2	Perform in-depth reconciliation on cost estimates with substantial overrun to better understand the root causes of deviations. *(Conclusion 9)*	5 - Cost Mgmt	J. McAvoy / C. Trahan
53	XII - Work Management - Resource Management - 1	Perform comprehensive resource analysis for all business units on a quarterly or semi-annual basis. *(Conclusions 3, 5, 9, 11)*	9 - Performance Measurement	L. Tai
54	XII - Work Management - Resource Management - 2	Assess and monitor the productivity and cost impacts of carrying an extra trainee on some work crews on a continuous basis to achieve more efficient resource management. *(Conclusion 5)*	9 - Performance Measurement	L. Tai
55	XII - Work Management -	Conduct a root cause analysis of the upward trend	9 -	L. Tai

CE No.	Chapter/Section/ Recommendation #	Recommendation (w/referenced conclusions)	Team	Executive Sponsor
	Resource Management - 3	in OSHA target rate in Gas Operations and prepare and implement a corrective action program. *(Conclusion 7)*	Performance Measurement	
56	XII - Work Management - Resource Management - 4	Review the roles of management, the Board and/or its committees after serious events such as the 2008 electrical fatalities. *(Conclusion 6)*	2 - Board Leadership	E. Moore
57	XII - Work Management - Resource Management - 5	Increase efforts to segregate safety from contractual issues in management / bargaining unit dialog. *(Conclusion 6)*	9 - Performance Measurement	L. Tai
58	XII - Work Management - Resource Management - 6	Review safety targets with the objective of adapting "stretch," but attainable, levels that exceed historical averages. *(Conclusion 6)*	9 - Performance Measurement	L. Tai
59	XII - Work Management - Resource Management - 7	Strengthen enforcement of contractor compliance with their safety programs. *(Conclusion 8)*	9 - Performance Measurement	L. Tai
60	XII - Work Management - Resource Management - 8	Establish a corporate philosophy, policies and supporting guidelines for the balancing of in-house and contractor resources. *(Conclusion 12)*	9 - Performance Measurement	L. Tai
61	XII - Work Management - Resource Management - 9	Establish a corporate philosophy, policies and supporting guidelines to provide managers and supervisors with a framework to manage overtime. *(Conclusion 9)*	9 - Performance Measurement	L. Tai
62	XII - Work Management - Resource Management - 10	Prepare an analysis of corporate overtime expenditures that includes root causes of the upward trends and strategies for attaining more economic levels. *(Conclusion 9)*	5 - Cost Mgmt	J. McAvoy / C. Trahan
63	XII - Work Management - Performance Measurement - 1	Advance the continuous improvement efforts under The Way We Work program. *(Conclusions 1, 2)*	9 - Performance Measurement	L. Tai
64	XII - Work Management - Performance Measurement - 2	Include pertinent productivity improvement goals in future KPIs at various management levels. *(Conclusion 3)*	9 - Performance Measurement	L. Tai
65	XII - Work Management - Performance Measurement - 3	Implement a formal program for representatives from each region to share lessons learned in their respective fields. *(Conclusions 4, 9)*	5 - Cost Mgmt	J. McAvoy / C. Trahan
66	XII - Work Management - Performance Measurement - 4	Participate more actively in external information sharing efforts. *(Conclusion 10)*	9 - Performance Measurement	L. Tai
67	XII - Work Management - Performance Measurement - 5	Perform analysis on work items with unacceptable QA rejection rates to isolate performance problems. *(Conclusion 5)*	4 - Work Mgmt	J. Miksad/ J. Ryan
68	XIII - Project Management - Electric - Central Operations - 1	Improve resource planning for design personnel and other essential project personnel. *(Conclusion 3)*	5 - Cost Mgmt	J. McAvoy / C. Trahan
69	XIII - Project Management - Electric - Central Operations - 2	Bring a corporate total holistic approach to cost management to the project and program management efforts. *(Conclusion 6)*	5 - Cost Mgmt	J. McAvoy / C. Trahan
70	XIII - Project Management - Electric - Central Operations - 3	Strengthen Substation Operations program management processes by adding project management principles in a structured way.	5 - Cost Mgmt	J. McAvoy / C. Trahan

CE No.	Chapter/Section/ Recommendation #	Recommendation (w/referenced conclusions)	Team	Executive Sponsor
		(Conclusion 18)		
71	XIII - Project Management - Electric - Electric Operations - 1	Implement a work management system in Electric Operations. *(Conclusion 1, 4, 5, 16)*	4 - Work Mgmt	J. Miksad/ J. Ryan
72	XIII - Project Management - Electric - Electric Operations - 2	Design and implement written project and program management procedures and expectations, including definitions of roles, responsibilities and expectations, cost control plans, and scope control procedures. *(Conclusion 2, 7, 9. 13, 14, 15, 18)*	4 - Work Mgmt	J. Miksad/ J. Ryan
73	XIII - Project Management - Electric - Electric Operations - 3	Implement a corporate total holistic approach to cost management. *(Conclusion 6)*	5 - Cost Mgmt	J. McAvoy / C. Trahan
74	XIV - Project Management - Gas - 1	Staff a project coordination/specialist group under the Chief Distribution Engineer to assist in the execution of distribution capital projects such as the main replacement program. *(Conclusion 1)*	11 - Gas and Steam Planning	C. Trahan / S. Shukla
75	XIV - Project Management - Gas - 2	Improve and expand the current project scope documentation to add sections on risks and rewards and alternative methods. *(Conclusion 2)*	11 - Gas and Steam Planning	C. Trahan / S. Shukla
76	XIV - Project Management - Gas - 3	Start benchmarking with other urban utilities and utilize what these other utilities are doing better to improve the CECONY program and project management of capital projects. *(Conclusion 3)*	11 - Gas and Steam Planning	C. Trahan / S. Shukla
77	XV - Project Management - Steam - 1	Identify projects requiring the application of project management techniques through a more formal, structured process. *(Conclusion 1)*	11 - Gas and Steam Planning	J. McAvoy
78	XV - Project Management - Steam - 2	Train steam distribution operations personnel in work and project management techniques. *(Conclusion 3)*	11 - Gas and Steam Planning	J. McAvoy
79	XVI - Supply Procurement - Electric - 1	Consolidate duplicative Energy Management operations in the electric and gas hedging functions. *(Conclusion 2)*	6 - Load Forecasting	L. Tai
80	XVI - Supply Procurement - Electric - 2	Develop a comprehensive portfolio management plan with quantified goals and objectives to optimize the electric resource portfolio and related hedging plans. *(*Conclusions *3, 7, 14)*	6 - Load Forecasting	L. Tai
81	XVI - Supply Procurement - Electric - 3	Revise the performance measures (KPIs) for energy management to provide metrics and incentives that align with electric procurement objectives. *(Conclusion 4)*	9 - Performance Measurement	L. Tai
82	XVI - Supply Procurement - Electric - 4	Identify, analyze and document all reasonable alternatives to its existing sources for both capacity and energy. Alternatives that are superior to the status quo electric resources should be implemented. *(Conclusions 8, 9, 11)*	6 - Load Forecasting	L. Tai
83	XVI - Supply Procurement - Electric - 5	Internal Auditing should schedule more frequent audits of electric procurement decisions, documentation for entering into electric supply contracts, and daily purchase decisions. *(Conclusion 17)*	12 - Energy Supply	L. Tai

CE No.	Chapter/Section/ Recommendation #	Recommendation (w/referenced conclusions)	Team	Executive Sponsor
84	XVI - Supply Procurement - Electric - 6	Document processes, procedures, and guidelines for electric supply and scheduling, and for the 20 percent purchase flexibility in electric hedging. *(Conclusion 20)*	12 - Energy Supply	L. Tai
85	XVII - Supply Procurement - Gas - 1	Make finding means for increasing interdepartmental coordination an Energy Management priority. *(Conclusion 3)*	12 - Energy Supply	L. Tai
86	XVII - Supply Procurement - Gas - 2	Provide for more regular examination of Gas Supply's award of supply contracts by Internal Auditing. *(Conclusions 7, 8)*	8 - Gas Capacity Planning	L. Tai / C. Trahan
87	XVII - Supply Procurement - Gas - 3	Explore applying probability-of-occurrence analysis to its supply-capacity planning. *(Conclusion 13)*	8 - Gas Capacity Planning	L. Tai / C. Trahan
88	XVII - Supply Procurement - Gas - 4	Expand Gas Supply's range of potential capacity alternatives as it considers firm customers' peak-day requirements for supply. *(Conclusions 14, 15)*	12 - Energy Supply	L. Tai
89	XVII - Supply Procurement - Gas - 5	Conduct occasional Gas Supply tests to identify potential additional types of supply arrangements. *(Conclusion 18)*	12 - Energy Supply	L. Tai
90	XVII - Supply Procurement - Gas - 6	Keep financial and credit information for gas suppliers current. *(Conclusion 21)*	12 - Energy Supply	L. Tai
91	XVII - Supply Procurement - Gas - 7	Find specific, objective ways for Gas Supply to evaluate its own performance. *(Conclusion 28)*	12 - Energy Supply	L. Tai
92	XVII - Supply Procurement - Gas - 8	Solicit proposals for external asset management. *(Conclusions 29, 31)*	12 - Energy Supply	L. Tai

Appendix B: Matrix of Recommendations

Team	CE No.	High Priority	Chapter Reference	Recommendation (w/referenced conclusions)	Start Date	Completion Date (Est.)	Completion Date (Act.)	Deliverable(s)	Summary of Cost, Benefit, and Risk Analysis	Assessment	Status
1 Electric Long Range Plan	1	H	III - Corporate Planning - 1	Improve the planning process. *(Conclusions 1, 2, 3, 4, 5)*	4/09	7/10	7/10	Updated Corporate Instructions on Standardized Business Plans and processes	Direct costs of implementation were negligible, as deliverables are mainly embodied in administrative changes to the Company's annual business planning process. The main benefits are greater alignment of objectives and goals across business units, and stronger linkage of short-term to longer-term strategies. The business planning process provides detailed work plans that are designed to achieve the goals and strategic objectives and adherence with the Company's cost management initiatives. Work plans must demonstrate that the appropriate work has been proposed for the forecast period, with particular attention paid to next budget year's activity. Capital and operating projects and programs will be judged based on their alignment with the Company's strategic priorities (the resource optimization process) so that funds are allocated efficiently to manage risks and meet strategic objectives.	Accepted	Completed
	2		III - Corporate Planning - 2	Take the ERM process associated with operating risks to the next level. *(Conclusion 7)*	9/09	4/10	4/10	Summary of Process Improvements	The total cost to implement this recommendation was $214,200. With the implementation of Departmental Risk Profiles and new risk management system (CURA), there is a more focused monitoring of risk mitigation activities for key corporate and departmental risks of the Company. While exact dollar savings cannot be quantified, periodic risk assessments are better aligned with the Company's budget and planning processes. Over time, classification of risks by mitigation status and continuous monitoring of Key Risk Indicators will improve strategic allocation of resources based on available risk information.	Accepted	Completed
	3	H	III - Corporate Planning - 3	Define the role of the Strategic Planning Unit. *(Conclusion 6)*	3/09	12/09	12/09	Updated Corporate Policy Instruction that states the role of Strategic Planning.	The costs associated with implementing this recommendation consisted of benchmarking, research, analysis, and meetings with internal company officers. This equates to approximately $75,000 based on labor costs and subscriptions to research databases. The benefits of refining the role of Strategic Planning include an improved alignment of capital investment and operational spend with defined corporate priorities. The savings are expected to exceed the $75,000 cost incurred.	Accepted	Completed
	4		III - Corporate Planning - 4	Revisit the subjects investigated by the interdisciplinary teams. *(Conclusion 6)*	5/09	12/10	12/10	Document and refine the interdisciplinary team launch process.	Costs to reevaluate the ongoing interdisciplinary teams and to improve the strategic planning process were not significant, and included use of Company resources and payment for supporting external services/products (e.g. research reports). Future actions of the interdisciplinary teams are expected to yield benefits to customers and the Company. Interdisciplinary teams will bring out the necessary expertise from various parts of the Company to provide strategic solutions to multidisciplinary issues.	Accepted	Completed

5	H	III - Corporate Planning - 5	Develop a comprehensive vision and 20-year master plan for the electric system. *(Conclusion 8, 9)*	3/09	12/10	12/10	A 20-year integrated plan for the electric system (Electric Long Range Plan or ELRP) that: o Defines the long-term vision and strategic goals of the electric system and clearly links programs and projects to the attainment of those measurable goals. o Evaluates customer bill and rate impact (affordability) and reliability in light of required system investment and various legislative, regulatory, and technology issues, and the impact of potential alternatives. o Develops the framework for more integrated transmission, substation, and distribution planning which incorporates innovative solutions to meet customer expectations. o Provides the linkage of our near-term plans and requests (i.e., rate case and other filings) to the 20-year integrated plan, by demonstrating that the near-term plans are the first steps in the longer program.	Costs to develop the ELRP totaled $2.2 million, and through the efforts of the long range planning process, we have identified $3.1 billion in estimated cost avoidances and savings over the 20-year horizon. Through this development process, we were able to establish a platform by which we can measure customer and business needs, risks, investments, and other key drivers across common assumptions and longer-term timeframes. This shared platform increases transparency and gives direct line-of-sight to customers' bills. We will continue to explore and implement ways to reduce rate and bill costs for our customers and operate our system in the most cost efficient way possible, while delivering the benefits of safe and reliable electric service to customers in an innovative and environmentally responsible way.	Accepted	Completed
21	H	VII - Load Forecasting - 8	Aggressively move forward with the major study planned by Market Research on efficiency potentials and include a special focus on efficiencies that can be targeted to specific networks. *(Conclusion 28)*	11/08	12/09	12/09	Energy efficiency market potential study with review and evaluation focusing on system and network needs	The cost of the energy efficiency study was $825,000 and was funded in Case 07-E-0523 for the 2008 – 2009 rate year. All efficiency programs are subject to a Total Resource Cost test and the study helps us design better programs and address barriers to demand side management. Demand side management (demand response and energy efficiency) may defer or eliminate the need for expensive capital infrastructure, while at the same time reducing green house gas (GHG) emissions and enhancing reliability.	Accepted	Completed
22		VII - Load Forecasting - 9	Evaluate options to enable the consideration of current and future load curtailment initiatives, both at CECONY and NYISO, for dependable network demand reduction. *(Conclusion 29)*	6/09	12/11	3/11	Analysis of pilot results	Total costs for all Peak Load Shaving Programs during the 2010 program year were $985,000 or approximately 4% of the projected two year costs of $22 million. These costs are reflective of program start-up and low participation, but should increase as the program matures over the next few years. The peak load shaving programs are not mature, and had limited customer enrollment. As a result, there is not enough current information to evaluate whether the programs are either cost or operationally (from the utility perspective) effective. The pilots are currently expected to run through the end of 2012 and at that time we will have a better understanding of the potential for all peak shaving programs. However, we will continue to evaluate each pilot and program on an annual basis and adapt the programs as appropriate.	Accepted	Completed
34	H	VIII - System Planning - Electric - 11	Establish a base level of network reliability for new networks. *(Conclusion 24)*	9/09	12/09	12/09	Prepare white paper on ideal network reliability for new networks	Establishing a base level of network reliability allows Con Edison to identify the networks on which reliability funds should be targeted in order to provide an overall system improvement. Guided by specific network cost benefit relationships, the optimal allocation of the related capital budget is continuing along anticipated lines. The risk of network shutdown has been reduced by 32% while effectively maintaining existing risk levels for the remaining networks. Additional reductions will be realized throughout the remainder of 2011. Also see recommendation 24 for associated benefit.	Accepted	Completed
39	H	XI - Budgeting - 1	Strongly link CECONY's long-term electric plan with annual budgets, rate plans and 5-year capital plans. *(Conclusion 4)*	3/09	12/10	12/10	The ELRP, as discussed in recommendation 5, will link annual budgets, rate plans, and the 5-year capital plan to the attainment of longer term system performance goals.	Costs and benefits achieved under implementation of this recommendation are considered in the development of the Company's Electric Long Range Plan and improvements to its annual business planning process, as discussed in Recommendations 1 and 5.	Accepted	Completed

	42	H	XI - Budgeting - 4	Prioritize CECONY capital projects and allocate funding using long-term economic analysis metrics as a significant decision factor. *(Conclusion 8)*	3/09	12/10	12/10	The ELRP, as discussed in recommendation 5, will show the expected benefits of our electric projects and programs, as detailed in annual budgets, rate plans, and 5-year capital plans, in terms of cost, performance and risk over the long-term horizon. Projects and programs will be prioritized by customer needs, corporate strategic objectives, and management of operating risks.	Costs and benefits achieved under implementation of this recommendation are considered in the development of the Company's Electric Long Range Plan and improvements to its capital program and project prioritization practices, as discussed in Recommendations 5 and 40.	Accepted	Completed

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2 Board Leadership	6	H	IV - Corporate Oversight - 1	Revise Board Committee Structure to better coordinate functions and to focus on infrastructure planning, oversight, and performance measurement. *(Conclusions 1 and 8)*	8/09	11/10	11/10	Adopt revised Committee structure and 2010 calendar. Create a dashboard for each Committee and Board of key operating and performance metrics, risks and projects.	Implementation costs were minimal, as this is a recalibration of functions related to the duties and responsibilities of the respective Board committees. The benefit is expected to be enhanced Board engagement and oversight. The revised Board and committee structure, and the revised calendar will allow the committees, as appropriate, to enhance oversight of management's infrastructure planning and performance management.	Accepted	Completed
	7	H	IV - Corporate Oversight - 2	Continue efforts to identify board candidates with energy utility experience. *(Conclusion 2)*	9/09	12/09	12/09	Review director search process with Executive Search Firm and Lead Director.	Such expertise enhances the Board focus on issues that directly impact the Company.	Accepted	Completed
	8	H	IV - Corporate Oversight - 3	Incorporate changes in management's form and schedule for infrastructure planning and budgeting into a more structured, resequenced, and more intensive regimen of board review. *(Conclusions 5 and 6)*	8/09	12/09	12/09	Revise management's form and schedule for infrastructure planning and budgeting Adopt revised Committee structure and 2010 calendar	Implementation allows for a more structured review of short and long-range system needs in advance of annual budgeting, and provides for planning and budget review by the committees and the Board.	Accepted	Completed
	43		XI - Budgeting - 5	Require changes in capital projects and programs of more than 20 percent from the annual budget to be approved by the board of trustees. *(Conclusion 16)*	8/09	11/10	11/10	Review results of revised Committee structure and budget process with Corporate Governance & Nominating Committee to determine whether to implement Conclusion 16 Draft delegation language to require approval by the Board or the Finance Committee, if required	Implementation costs to create Committee dashboards and amend the Delegation of Authorities were minimal. The benefit is expected to be enhanced Board and Finance Committee engagement and oversight. The Delegation amendment will provide enhanced Board and Finance Committee oversight over certain capital projects.	Modified	Completed
	56	H	XII - Work Management - Resource Management - 4	Review the roles of management, the Board and/or its committees after serious events such as the 2008 electrical fatalities. *(Conclusion 6)*	8/09	12/09	12/09	Discuss roles and process with Board members	Benefits include enhancing the Board's role in the oversight of the Company's management of risks, including the oversight of risks that could lead to serious events.	Accepted	Completed

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3 Rate & Financial Strategy	41	H	XI - Budgeting - 3	Work toward the re-establishment of multi-year electric rate cases. *(Conclusion 3)*	8/09	5/10	4/10	Efforts to seek multi-year rate arrangements	A multi-year rate plan reduces the risks associated with the rate-making process by reducing the frequency of the rate cycle, and provides for additional flexibility with respect to managing the business. Risks inherent in a multi-year arrangement can be mitigated by the terms of the arrangement, including triggers to re-open issues and deferral of unexpected costs. On average, incremental non-staffing costs associated with electric rate case filings are between $1.2 and $1.6 million. The main components of these costs are for consultants and expert witnesses, public notice ads, travel expenses, and printing. Some of these costs (at least 20%), plus some staff positions, may be avoided in the longer term, to the extent that multi-year rate plans become the norm and the number of interim proceeding and collaboratives are not significant.	Accepted	Completed

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4 Work Management	32	H	VIII - System Planning - Electric - 9	Place all distribution tree trimming under a central corporate management function with accountability to corporate management. *(Conclusion 22)*	1/09	3/10	3/10	Consolidate all distribution line clearance activities under one management organization.	At year end 2010, we experienced savings of approximately $350,000 over the 2009 (pre-centralization) tree trimming contractor costs. Through six months of 2011, we have experienced savings of approximately $175,000 over the 2009 tree trimming contractor costs.	Accepted	Completed
	33	H	VIII - System Planning - Electric - 10	Strengthen the distribution vegetation management inspection program with accountability. *(Conclusion 23)*	6/09	7/09	6/09	Implement Electric Operations Quality Assurance program that includes random field reviews of completed tree trimming work to ensure full compliance to the specification.	Qualitative benefits in the form of quality of workmanship, safety improvements, specification compliance and reliability improvements.	Accepted	Completed
	44	H	XI - Budgeting - 6	Establish formal informational feedback loops for project analysis and project prioritization. *(Conclusion 17)*	9/09	3/10	3/10	Update CI-291. Formalize process to evaluate merits of specific projects and overall portfolios.	Feedback loops will provide opportunities to evaluate and adjust projects and programs to ensure the appropriate balance of cost and value. An annual review of the capital optimization portfolio will result in improved capital allocation decisions to achieve maximum value for set spend level. The cost-benefit is accounted for under Recommendations 24, 72 and 40.	Accepted	Completed
	51		XII - Work Management - Work Planning - 1	Establish fleet size criteria based on historical data on total vehicle usage hours versus total physical work performed in hours in the region for each vehicle class. *(Conclusion 6)*	4/09	6/10	7/10	Establish vehicle metrics in order to establish baseline of vehicle utilization. Define vehicle utilization policy and protocol. Create transparent business information for operating groups. (Due to limited availability of usage hours data, alternative metrics will be used as basis for evaluation),	To date, over 200 vehicles were identified and removed from service or redeployed in lieu of purchases. In net terms, reductions have saved approximately $341,000 in avoided maintenance costs and reduced the capital investment (replacement value) of the fleet by $13.6 million.	Modified	Completed
	67	H	XII - Work Management - Performance Measurement - 5	Perform analysis on work items with unacceptable QA rejection rates to isolate performance problems. *(Conclusion 5)*	7/09	8/09	8/09	Significant and marked improvements have been demonstrated in 2007, 2008, and 2009 YTD Electric Operations QA performance. The alleged adverse trends cited in the Liberty audit report are due to changes in measuring techniques and personnel.	QA performance has continued to steadily improve. In 2008, 2009, and 2010 compliance with the inspection and construction metrics were, 81%, 92% and 93% respectively. We are on track to achieve the 2011 year end goal of 92% compliance with the inspection and construction metrics.	Accepted	Completed
	71	H	XIII - Project Management - Electric - Electric Operations - 1	Implement a work management system in Electric Operations. *(Conclusion 1, 4, 5, 16)*	5/09	3/14		Development of business case, implementation plan, and change management communication plan.	The total cost of this project is estimated to be between $138 million and $174 million. The capital costs range between $119 million and $155 million; O&M costs account for $19 million. Total annual savings of $45 million net of ongoing information technology maintenance expenses will be realized in 2016 following full implementation of the solution at the end of 2014.	Accepted	In progress
	72	H	XIII - Project Management - Electric - Electric Operations - 2	Design and implement written project and program management procedures and expectations, including definitions of roles, responsibilities and expectations, cost control plans, and scope control procedures. *(Conclusion 2, 7, 9. 13, 14, 15, 18)*	8/09	12/09	12/09	Develop a project management specification for Electric Operations.	Three new project managers and nine staff members have been hired into the Electric Operations Project Management Organization. They are responsible for schedule, cost, and quality performance for various projects and programs across the Manhattan, Bronx/Westchester and Brooklyn/Queens regions. This group has expanded from our original staffing level estimate of eight to twelve individuals. As a result, annual operating costs are $1.9 million, Annual productivity improvements of 1% on the total Electric Operations capital spending level is expected, resulting in savings of $8.1 million annually. Net of annual operating costs, savings are $6.2 million annually.	Accepted	Completed

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5 Cost Management	9	H	IV - Corporate Oversight - 4	Increase emphasis on efficiency and effectiveness in operations auditing. *(Conclusion 10)*	6/09	12/09	12/09	Establish a new section in Auditing focused on construction projects, construction contractors and energy services; Obtain analytical audit extraction software; Integrate in the 2010 Audit Plan operations audits dealing with efficiency and effectiveness.	Approximately $550,000 will be expended annually to maintain the new Auditing section. An additional $150,000 (one time cost) has been expended to purchase the ACL analytical tool. The measures are also expected to help to deter and prevent recurrence of fraudulent activities in these areas. In addition to identifying inappropriate overcharges, the new group will work with Construction and other Corporate organizations to identify process improvements and controls and standardize policies and procedures to further reduce potential inappropriate charges and payments to contractors.	Accepted	Completed
	10	H	IV - Corporate Oversight - 5	Make consideration of Enterprise Risk Management a more structured part of audit planning. *(Conclusion 11)*	8/09	11/09	10/09	The 2010 Audit Plan will contain a cross reference to the applicable risk the audit will cover in the Enterprise Risk Management program.	There were no incremental costs expended to improve alignment between the annual Audit Plan and ERM Program. However, certain benefits, including proactive risk assessment and evaluation and reduction of risk exposure, are expected to be realized.	Accepted	Completed
	40	H	XI - Budgeting - 2	Establish consistent, company-wide economic value analysis methods and metrics for capital projects and programs. *(Conclusions 6 and 7)*	7/09	6/10	6/10	Implement portfolio management system to enable comparable analyses to determine prioritization of capital projects.	Total cost is $1 million for implementation and $300,000 for annual maintenance. In 2010, CECONY had a capital budget (including smart grid) of $2 billion dollars. By utilizing the methodology, along with other detailed analysis in the Electric T&D areas, we were able to reduce our 2011 Capital budget (including smart grid) request to $1.85B. In preparing for 2012-2016 budget, we will continue to be cost conscious and select the most strategic and cost effective projects/programs.	Accepted	Completed
	45	H	XII - Work Management - Cost Management - 1	Implement a holistic approach to cost management that is designed and built around three key elements: (a) a guiding philosophy; (b) a formal, structured cost management plan; and (c) building blocks of comprehensive supporting capabilities *(Conclusions 4, 9)*	2/09	3/10	3/10	Formal Cost Management Program Document or Procedure	An enhanced "holistic" approach to cost management will yield many benefits. Costs associated with establishing the required groundwork totaled $715,000, and included: extensive team time over the span of one year to coordinate and implement the work plan ($500,000), a third party assessment ($150,000), and the cost to develop new reporting tools ($65,000). Benefits achieved will exceed these costs and result from increased alignment, continued business process improvement, increased communication and awareness, and consistency.	Accepted	Completed
	46		XII - Work Management - Cost Management - 2	As skilled people represent the cornerstone of the holistic approach, expand the role of cost management professionals to encompass tasks and accountabilities important to holistic cost management. *(Conclusion 5)*	6/09	3/10	3/10	Evaluation of Roles and Responsibilities & revised Position Guides for Cost Management Personnel	Total costs to achieve implementation objectives were approximately $5,000, reflecting nearly 100 hours of direct work. Benefits are expected to exceed the costs to implement this recommendation. The expansion of the roles and responsibilities of cost professionals, more stringent qualification requirements, and support for professional development of Con Edison cost professionals enables the adoption of an enhanced, holistic cost management program that will support initiatives to formalize the cost management program, balance focus on reporting and root cause analysis, support Line Management, and improve efficiency.	Accepted	Completed
	47	H	XII - Work Management - Cost Management - 3	Establish a cost support organization that is (a) placed consistent with the priority of cost management; (b) serves the cost management needs of all levels of management; (c) develops a force of skilled cost professionals and assures those skills are continuously improved; and (d) has overall accountability for the development and implementation of the cost management program. *(Conclusion 5)*	2/09	10/09	10/09	Recommendation for new organizational structure for Cost Management activities	The creation of a centralized Cost Management Director position who reports directly to the President of CECONY has led to a higher priority of cost, increased feedback and oversight. This new alignment ensures consistency of communication across all organizations and independence of cost management personnel. This organizational structure and enhanced role of Cost Management will be integrated with the broader organizational assessment of Con Edison.	Accepted	Completed

48		XII - Work Management - Cost Management - 4	Provide training for managers, supervisors and cost support personnel in cost management techniques consistent with the holistic approach. *(Conclusions 1, 5, 6)*	6/09	3/10	3/10	Training and Curriculum for Cost Management and Line Personnel	The costs in achieving these objectives totaled approximately $8,000; we expect to achieve savings greater than this cost. Providing training for cost professionals and line personnel advances the Company's effort to adopt an enhanced approach to Cost Management. Specifically, building the skill sets of these key players will support the Company's initiatives to formalize the cost management program, balance focus on reporting and root cause analysis, develop alternatives and action plans, support line management, improve efficiency, and communicate more effectively.	Accepted	Completed
49		XII - Work Management - Cost Management - 5	General Recommendation Implementation Guidance.	6/09	3/10	3/10	Formal Cost Management Program Document or Procedure	The cost for implementing this recommendation was approximately $50,000. Continued application of enhanced analytical methods for tracking project cost by element of expense will result in inherent savings and a potential reduction in project overruns. Expected savings will exceed cost of implementation, and will result from better real-time understanding of cost variances and the impact of scope changes and project schedules, and more accurate long-term planning for cash flows, schedules and budgets.	Accepted	Completed
50		XII - Work Management - Cost Management - 6	Sample Cost Management Implementation Tactics.	2/09	3/10	3/10	Formal Cost Management Program Document or Procedure	The recommended "Cost Management Implementation Tactics" have implemented as part of the Company's implementation of a holistic approach to cost management. For implementation detail, please see Recommendation 45.	Accepted	Completed
52	H	XII - Work Management - Work Planning - 2	Perform in-depth reconciliation on cost estimates with substantial overrun to better understand the root causes of deviations. *(Conclusion 9)*	4/09	3/10	3/10	Analysis of projects with cost overruns and variance reporting templates	During first Quarter 2011, 17 cost comparison analysis were completed. The results indicate that nine (53%) of the projects exceeded the predetermined accuracy margin of +/- 10%. The subject nine projects consist of six overruns and three under runs. Relative to the cost overruns, the primary reasons for cost variances were changes in overhead rates, unanticipated interferences, and change of scope requests by user. Relative to cost under runs, the primary reasons for cost variances were contingency not used, changes in indirect costs, and savings in contractor costs. All completed cost comparison analysis is disseminated throughout Central Engineering and Construction.	Accepted	Completed
62	H	XII - Work Management - Resource Management - 10	Prepare an analysis of corporate overtime expenditures that includes root causes of the upward trends and strategies for attaining more economic levels. *(Conclusion 9)*	10/09	3/10	3/10	Analysis of overtime expenditures and guidance document as per Recommendation 61	In 2009, the Company began realizing benefits from initiatives resulting in the reduction of overtime expenditures from a high of $134 million in 2008 to $106 million in 2009, which is a reduction of 26%. Increased efficiencies in planning and execution of work will reduce the time required to complete work activities including the level of overtime hours.In 2010, organizations implemented, as a performance indicator, metrics for using overtime compared to straight time hours.	Accepted	Completed
65		XII - Work Management - Performance Measurement - 3	Implement a formal program for representatives from each region to share lessons learned in their respective fields. *(Conclusions 4, 9)*	10/09	3/10	3/10	Implementation of Lessons Learned discussions at Work Plan and other meetings	A central site to collect and communicate Lessons Learned is being developed. The Cost Management Team is working with Information Resources to develop a strong search engine for the site so that Lessons Learned can be easily located. The Project Management Society website will become the central repository for all Lessons Learned across Con Edison. The Lessons Learned process will be standardized. Currently, we have disparate sites with different search mediums, which make it difficult to share Lessons Learned across the entire Company. The centralized site will streamline the process.	Accepted	Completed

	68		XIII - Project Management - Electric - Central Operations - 1	Improve resource planning for design personnel and other essential project personnel. *(Conclusion 3)*	10/09	6/10	6/10	Staffing plan	Improved resource planning for design personnel and other essential project personnel in Central Engineering have resulted in cost savings of approximately $262,000 annually through increased efficiency and productivity of in-house personnel and reduction of outside the outside services design budget.	Accepted	Completed
	69	H	XIII - Project Management - Electric - Central Operations - 2	Bring a corporate total holistic approach to cost management to the project and program management efforts. *(Conclusion 6)*	9/09	12/09	12/09	The Lessons Learned Template will be revised to include a cost management component to the process to be utilized in future projects.	The benefit of incorporating cost management practices into the lessons learned phase will be to provide better information for future decision making purposes. Cost of implementation is approximately $21,000 per project, implying break-even savings to justify implementation for a sample $15 million project of 0.14% of total project cost, and for projects with costs greater than $15 million, a potentially greater positive impact when compared to project cost. We expect a positive cost benefit for the Company and our customers.	Accepted	Completed
	70		XIII - Project Management - Electric - Central Operations - 3	Strengthen Substation Operations program management processes by adding project management principles in a structured way. *(Conclusion 18)*	6/09	1/10	1/10	Program Management Teams will be developed identifying the key positions and associated roles and responsibilities . Current Working Estimates will be developed for each program and utilized for cost control.	As a result of our efforts to establish a more formal approach to program management in Substation Operations we expect to achieve savings of at least 1% on the total SSO Capital Program cost. This would result in annual savings of $1.7 million based on the average expected annual spending levels in 2011 and 2012. Net of annual operating costs, savings are expected to total $400K annually. Implementation of this recommendation also helped us achieve our cost management KPI's related to program and project management. In 2010 we completed 100% of our KPI related projects and programs on schedule and below budget. We also performed 1,606 current working estimate reviews for capital projects and programs versus a goal of 1,000. We are on track to meet these goals in 2011.	Accepted	Completed
	73	H	XIII - Project Management - Electric - Electric Operations - 3	Implement a corporate total holistic approach to cost management. *(Conclusion 6)*	2/09	3/10	3/10	Formal Cost Management Program Document or Procedure	This recommendation has been completed as part of the Company's implementation of a holistic approach to cost management, discussed in Recommendation 45.	Accepted	Completed

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6 Load Forecasting	14		VII - Load Forecasting - 1	Analyze, and redirect as appropriate, the level of effort and sophistication applied to various load forecasting tasks and products, to better balance costs with product and user needs. *(Conclusion 2)*	6/09	1/10	1/10	Develop methods for shifting resources to higher value tasks and products.	There were no additional costs identified at this time to implement the recommendation. The Company's forecasting groups eliminated and streamlined tasks, and in so doing, freed up resources for developing sensitivities for the Electric Long Range Plan and supporting more "what if" studies. These new sensitivities should result in a more robust planning process that further considers the impact of economic assumptions, energy policies, and changes in trends and new technologies.	Accepted	Completed
	16		VII - Load Forecasting - 3	Conduct an R&VF review of certain aspects of its approach to forecasting. *(Conclusions 9, 13, 14)*	7/09	6/10	6/10	Provide the changes to our current gas forecasting process, if it is determined that changes are needed.	Studying alternative methods of forecasting could lead to improved accuracy of our forecasts. R&VF found that incorporating the real disposable income variable in the SC 1 volume forecasting model improved the accuracy of the forecast by 0.2% for the time period studied.	Accepted	Completed
	17	H	VII - Load Forecasting - 4	Evaluate the factors responsible for consistently under-estimating 5 and 10 year peak load forecasts; assure that any bias is removed from future forecasts. *(Conclusion 14)*	7/09	3/11	3/11	Identify key factors causing the bias, and incorporate appropriate change(s) in revised forecasting process for electric long range plan.	While no additional costs to implement the recommendation have been identified at this time, consulting, modeling or software costs may be incurred in the future. A potential benefit from more accurate, but higher, longer term forecasts will be earlier identification of required capital expenditures. Implementation of this recommendation helps mitigate the risk that a consistent under-forecasting bias continues and could unduly delay required capacity additions.	Accepted	Completed
	18	H	VII - Load Forecasting - 5	Expand load forecasting activities and capabilities to encompass analysis of uncertainties using sensitivity analyses, probabilistic tools or other applicable techniques. *(Conclusion 18)*	6/09	1/10	1/10	Incorporate sensitivity and probabilistic approaches as appropriate into future load forecasts.	As indicated in the completion summary of recommendation 14, the Company's forecasting groups eliminated and streamlined tasks and in so doing, freed up the necessary labor resources to implement this recommendation. As a result, there were no additional costs identified at this time to implement the recommendation. By implementing this recommendation, the Company will be doing more "what if" studies of assessing the potential impact of new demand drivers, such as electric vehicles on infrastructure requirements, resulting in more robust planning. The analysis conducted to implement this and other load forecasting recommendations is in-line with our principle to improve continuously and seek ways to refine the demand forecasting process.	Accepted	Completed
	19		VII - Load Forecasting - 6	Develop an improved approach to the documentation, testing, and communication of forecast criteria and assumptions. *(Conclusion 19)*	1/09	12/09	11/09	Prepare a document identifying the key assumptions in the preparation of the long-term forecasts and for use in Electric Long Range Plan.	The cost to produce these documents was minimal. The benefit of having the documents is to provide greater awareness of the assumptions and drivers that both forecasting groups use to produce their respective forecasts. It will also ensure consistency when questions are posed about the forecasts since everyone will be able to reference the same information.	Accepted	Completed
	20	H	VII - Load Forecasting - 7	Examine and implement as appropriate the efficiencies and quality improvements that might result from utilization of CECONY's load research program, modified as cost-effective, to support load forecasting. *(Conclusion 26)*	6/09	9/10	9/10	Assess the use of load research data, and develop, test and implement appropriate findings in future summer appliance saturation surveys and load forecasts.	The Company has concluded that the utilization of CECONY's existing load research program will provide benefit by enhancing our understanding of customer trends. The benefit of using this process to analyze growth trends of customer classes has expanded beyond the post summer analysis to any period of time. The cost to perform the research has not changed but the benefit increased beyond our initial effort to include any season.	Accepted	Completed

	23	H	VII - Load Forecasting - 10	Establish a structured approach to the consideration of long-term eventualities that might significantly impact load forecasts, such as changes in trends, new technologies and new policies. *(Conclusion 30)*	6/09	11/09	11/09	Develop a range of load forecasts that consider pertinent long-term eventualities, for use in the Electric Long Range Plan (ELRP).	Using demand sensitivities results in a robust planning process and improved capital budgeting . These sensitivities for long-term peak demand forecasts ensure that a range of possibilities for growth in the peak demand are considered and that take into account factors not in existence at the time the forecast is prepared.	Accepted	Completed
	79		XVI - Supply Procurement - Electric - 1	Consolidate duplicative Energy Management operations in the electric and gas hedging functions. *(Conclusion 2)*	8/09	4/10	4/10	Review gas and electric hedging group functions. Report findings and implement any changes to eliminate duplicative functions or consolidate.	The benefits associated with the merging of the gas and electricity hedging groups include the elimination of a section manager position and the associated reduction in labor costs by approximately $125,000. These savings are reflected in Energy Management's forward looking budgets.	Accepted	Completed
	80	H	XVI - Supply Procurement - Electric - 2	Develop a comprehensive portfolio management plan with quantified goals and objectives to optimize the electric resource portfolio and related hedging plans. *(* Conclusions *3, 7, 14)*	2/09	6/10	6/10	Electricity Supply will develop and annually review and update a long term supply outlook.	Implementation costs will be generally low as the templates for the annual plan already exist. Going forward, the cost of updating the plan is negligible. One benefit of this long-term plan is that we have created a standard format and template for annual review and update. This will provide a means of more robust evaluation of the electricity supply outlook and forecasts, and can be used to develop plans for the Company's electric system for different future demand and supply conditions. Additional benefits include energy cost savings that could occur if the Company identifies improvements in its energy supply operations. To the extent that there are savings from our strategic purchase decisions, those savings will be directly passed on to customers as they occur.	Accepted	Completed
	82		XVI - Supply Procurement - Electric - 4	Identify, analyze and document all reasonable alternatives to its existing sources for both capacity and energy. Alternatives that are superior to the status quo electric resources should be implemented. *(Conclusions 8, 9, 11)*	2/09	6/10	6/10	Electricity Supply will develop and annually review and update a long term supply outlook.	This recommendation was completed in tandem with Recommendation 80. Please see Recommendation 80 for additional details.	Accepted	Completed

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7 Gas Main Replacement	35		IX - System Planning - Gas - 1	Maintain current information about CECONY's leak-prone pipe. *(Conclusion 6)*	4/09	2/10	2/10	Provide a final evaluation of the Company's cast iron and unprotected steel gas distribution system and develop the optimum annual replacement levels	In addition to tracking our commitment to replace 50 miles of leak prone pipe per year through the 2011-2013 PSC Rate Case Agreement, we have incorporated this into the corporate tracking system (Capital KPI Modifier Program) to ensure compliance. Through the capital main replacement program efforts we expect to reduce the risk of serious incidents caused by leaks.	Accepted	Completed

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8 Gas Capacity Planning	15		VII - Load Forecasting - 2	Find a better way to forecast growth in the peak gas load. *(Conclusion 8)*	7/09	4/10	4/10	Revise gas demand growth forecast methodology and model.	Demand Forecasting reallocated internal resources while also automating and streamlining some of its functions, allowing for implementation of the new demand forecasting methodology without need for additional resources. The primary benefit of this new forecasting methodology will be the independent development of the natural gas peak demand forecast by Demand Forecasting and the energy forecast by the Revenue and Volume Forecasting section of Accounting. This more independent process with its "checks and balances" will help improve the accuracy of the peak demand forecast.	Accepted	Completed
	86		XVII - Supply Procurement - Gas - 2	Provide for more regular examination of Gas Supply's award of supply contracts by Internal Auditing. *(Conclusions 7, 8)*	8/09	11/09	10/09	Schedule an audit of gas procurement in the 2010 Audit Plan	In 2008 we spent $1.5 billion for the procurement of natural gas for resale. By increasing the amount of review of these procurements in the annual plan, we increase the ability to ensure that the expenditures and the procurement decisions are made in compliance with all controls that have been put in place.	Accepted	Completed
	87		XVII - Supply Procurement - Gas - 3	Explore applying probability-of-occurrence analysis to its supply-capacity planning. *(Conclusion 13)*	8/09	4/10	4/10	Develop final conclusions and recommendations regarding application of applying probability-of-occurrence to the company's supply/capacity planning	While the Company concluded that the application of probability-of-occurrence analysis to natural gas supply and capacity planning is not currently feasible, it continues to seek to improve its gas demand forecasting and planning capabilities to better plan and manage the cost of natural gas to its customers. The Company gained valuable insight into the natural gas data analysis used in forecasting demand and gas supply risks.	Accepted	Completed

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9 Performance and Resource Management	11	H	V - Incentive Compensation - 1	Increase the amount of stretch and put more pay at risk as part of a broad revamping of incentive compensation. *(Conclusions 7, 9, and 10)*	1/09	7/11	4/11	Review management compensation plan and develop 2010 and 2011 performance measures linked to compensation	Implementation costs were minimal as the compensation consulting studies were done as part of the Company's normal review and assessment of compensation practices. Con Edison's current compensation program components, merit pay, variable pay, and restricted stock grant, are typical among utility and other industries. The variable pay portion of the current management compensation program places at risk a portion of an employee's compensation which must be re-earned each year through the achievement of pre-determined performance and cost management measures. The reason for having a competitive program is to have the ability to attract outside talent and for retention of competent employees. Performance targets are aligned with payouts to motivate employees to achieve the desired goals. Each year, as part of our annual review process, we review performance indicators to evaluate the effectiveness of the plan and make changes as appropriate.	Modified	Completed
	12	H	V - Incentive Compensation - 2	Before the study is done and implemented, reduce the emphasis on O&M expense and increase the weighting for capital expenditure performance and the operating performance measures. *(Conclusions 7 and 8)*	1/09	7/11	4/11	Introduce KPI measures for capital expenditure.	This recommendation was completed in tandem with Recommendation 11. Please see Recommendation 11 for additional details.	Accepted	Completed
	13		VI - Performance Measures - 1	Develop a corporate-wide management information system. *(Conclusions 2, 4, 5, 6, 7)*	10/09	1/11	1/11	Determine the approach and scope of work for augmenting the Corporate Performance Indicator/Key Performance Indicator reporting system. Execute the implementation plan.	The development of the trending feature for the CPI dashboard was completed at a cost of $82,000. Based on a recent survey of the CPI system users, with the previous version of the CPI Dashboard they spent approximately 1,000 hours creating trend and other presentation data. Since these trend charts and associated data tables can now be generated automatically, we anticipate efficiency savings of approximately $20,000 per year, and results in a payback of four years.	Modified	Completed
	53	H	XII - Work Management - Resource Management - 1	Perform comprehensive resource analysis for all business units on a quarterly or semi-annual basis. *(Conclusions 3, 5, 9, 11)*	9/09	4/10	4/10	Establish schedules with operating groups to review short and long term resource requirements for workforce planning.	In 2012, due to reduced need for splicer training based on projecting splicer attrition using VEMO, we expect to reduce the number of Splicer Instructors by two. The average cost of a splicer instructor is $115K. The cost of two instructors is$230K and the annual cost for VEMO in 2012 is approximately $110K. This would be a one year savings of $120K.	Accepted	Completed
	54		XII - Work Management - Resource Management - 2	Assess and monitor the productivity and cost impacts of carrying an extra trainee on some work crews on a continuous basis to achieve more efficient resource management. *(Conclusion 5)*	10/09	2/10	2/10	Determine annualized cost and productivity impact for use of extra trainee on a crew. Establish a uniform policy for determining the length of time for using the extra trainee on a crew.	Unit cost impact of on-the-job training time for "extra trainees" varies by work function, and ranges from a 3.6% cost increase for the most training intensive work function studied to a smaller impact for others. Knowing the cost and productivity impact of carrying the extra trainee will provide a better understanding of cost variations and the impact on productivity, which will help in making financial decisions in hiring practices. To ensure consistency throughout Electric Operations, and to assess and monitor these impacts going forward, a guideline document to clarify on-the-job work accounting practices has been established for reference.	Accepted	Completed
	55	H	XII - Work Management - Resource Management - 3	Conduct a root cause analysis of the upward trend in OSHA target rate in Gas Operations and prepare and implement a corrective action program. *(Conclusion 7)*	7/09	6/10	5/10	Determine the root cause of the upward trend in OSHA target rate in Gas Operations. Develop and implement a strategies to improve Gas Operations OSHA rate.	Gas Operations has seen steady improvement in its safety performance. The OSHA incident rate through August 2011 was 2.64 with 18 total injuries or illnesses. Through the same period in 2010, it was 3.36 with 23 total injuries or illnesses.	Accepted	Completed

57		XII - Work Management - Resource Management - 5	Increase efforts to segregate safety from contractual issues in management / bargaining unit dialog. *(Conclusion 6)*	8/09	4/10	4/10	Improved bargaining unit participation in safety programs, development of union /management safety committees that effectively separate safety from other contractual issues.	The incremental costs were estimated at approximately $23,000 for 2010, with Phase 2 beginning in 2011 after a review of the results of Phase 1. The costs and benefits have not changed, except that they have moved one year forward. While we expected the costs to materialize in 2010, the bulk of the work did not occur until 2011, and will continue in 2012 for this pilot program. The Company expects that by implementing the Health & Safety Ladder system, union / management relationships should improve and there would be some related savings due to the reduction in grievances and arbitrations. See additional benefits related to an improved focus on safety in recommendation 58.	Accepted	Completed
58	H	XII - Work Management - Resource Management - 6	Review safety targets with the objective of adapting "stretch," but attainable, levels that exceed historical averages. *(Conclusion 6)*	7/09	12/09	12/09	An established process to develop future goals that support the Company's commitment to safety excellence.	The company met and exceeded the 2010 goal for the OSHA incident rate (2.48/2.91 goal). A OSHA incident rate goal was established for 2011 for CECONY which will continue to lead us towards the 2014 goal of 1.5. Currently, we are at 1.95 (through August) which places the Company in the right direction to meet the year end goal for CECONY of 2.56.	Accepted	Completed
59	H	XII - Work Management - Resource Management - 7	Strengthen enforcement of contractor compliance with their safety programs. *(Conclusion 8)*	9/09	1/11	1/11	A completed evaluation of current efforts to ensure contractor compliance with safety requirements. Identification of opportunities to enhance those efforts.	Approximately $10,000 in Company labor was spent in developing and implementing recommendations to strengthen enforcement of contractor compliance with their safety programs. The cost associated with revising the Contractor eHASP training module and developing the COS training module was approximately $38,000. The benefits achieved through these training courses and the implementation plan are enhanced control over contractors and their work site conditions, enhanced contractor evaluations, better written contractors' eHASPs and increased contractors' awareness on their eHASPs. By reinforcing our contractor's commitment to safety, there is the potential for reduced contract-worker injury. The OSHA Recordable injury incidence rate for contractors has been reduced from 2.58 in 2009 to 1.84 in 2010 and 1.84 for YTD 2011.	Accepted	Completed
60		XII - Work Management - Resource Management - 8	Establish a corporate philosophy, policies and supporting guidelines for the balancing of in-house and contractor resources. *(Conclusion 12)*	9/09	4/10	4/10	A single philosophy and written guidelines for balancing in-house and contractor resources.	The HR Guidance Memo reinforced and standardized our practice that a cost/benefit analysis is performed when required to obtain the optimal mix of in-house and contractor resources. On recent example is the outsourcing of the garnishments process in Payroll. After performing a cost benefit analysis, this outsourcing solution estimates annual savings of $68,000.	Accepted	Completed
61	H	XII - Work Management - Resource Management - 9	Establish a corporate philosophy, policies and supporting guidelines to provide managers and supervisors with a framework to manage overtime. *(Conclusion 9)*	9/09	3/10	3/10	Develop a guidance document for managing overtime	Implementation costs will be generally low as this is a recalibration of administration and management functions related to overtimes expenses presently deployed in most operating areas. The cost of the benchmarking study was approximately $4,000. The demonstration of potential benefits is discussed in recommendation 62. The largest benefits are expected to be improved overtime cost control and increased accountability. Other benefits include the creation of a standard format for overtime reporting, analysis and control, and for high-level historical usage trends correlated to business activity. The Local Guidance Document will afford each organization greater structure in making overtime decisions while maintaining the flexibility to manage its overtime budget.	Accepted	Completed

	63		XII - Work Management - Performance Measurement - 1	Advance the continuous improvement efforts under The Way We Work program. *(Conclusions 1, 2)*	9/09	2/10	2/10	Develop a plan to advance the continuous improvement efforts under the Way We Work Program	There were no additional costs identified at this time to develop the communication plan. The cost to develop the training programs was approximately $142,000. The benefits from these courses include basic training to employees on important analytical, cost and project management principles that are critical for managing the Company's programs and projects. In addition, these courses will promote and develop better teamwork and group communication, and enhance customer service through improved processes and innovation. The project management course provides an understanding of detailed work-breakdown structures that support more accurate scheduling and cost estimates.	Accepted	Completed
	64	H	XII - Work Management - Performance Measurement - 2	Include pertinent productivity improvement goals in future KPIs at various management levels. *(Conclusion 3)*	9/09	12/09	12/09	Provide a measurable Productivity initiative in the form of a department KPI at the VP level	The utilization of KPIs is expected to help facilitate achieving the 1-2% productivity improvement per year.	Accepted	Completed
	66		XII - Work Management - Performance Measurement - 4	Participate more actively in external information sharing efforts. *(Conclusion 10)*	10/09	7/10	7/10	Evaluate the need for a central approach to involvement in benchmarking efforts. Develop a process for determining which efforts the Company should be involved in and who should be the proper representative. Determine how best to share throughout the company the information obtained from these efforts.	Implementation required no additional costs beyond the labor to perform functions and milestones. We expect to realize savings that will exceed the cost of the initial implementation ($30,000) and annual maintenance costs ($15,000). Benefits are expected to exceed costs through the enhancement and organization of information sharing and benchmarking efforts at Con Edison to support better processes, tools and technologies and to improve decision-making.	Accepted	Completed
	81	H	XVI - Supply Procurement - Electric - 3	Revise the performance measures (KPIs) for energy management to provide metrics and incentives that align with electric procurement objectives. *(Conclusion 4)*	5/10	11/10	11/10	KPIs reviewed as part of budget process.	No additional resources were required. The new KPI to complete and review the Company's Long Term Electricity Supply plan increases the line-of-sight between short- and long-term planning and the resulting impact on system constraints and customer costs. These KPI modifications also increase accounting accuracy and transparency.	Accepted	Completed

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10 Asset Optimization	24	H	VIII - System Planning - Electric - 1	Evaluate reliability programs to determine if they should be terminated earlier to release capital expenditures for more cost effective reliability programs. *(Conclusion 3)*	1/09	3/10	3/10	Efficient frontier curves for selected programs indicating cost and value. A recommendation on spend level.	In 2010, program tiering resulting from a cost-benefit analysis of the targeted PILC replacement program resulted in an additional ongoing annual reduction of $10 million. Additionally, the termination of the Coastal Storm Mitigation program resulted in a $ 1 million savings. Finally, in 2011, the completion of 4 additional non-network cost-benefit analyses, although not resulting in a reduction in capital expenditures, provided for a 5% improvement in non-network SAIFI at no additional cost. Improvements in system risk resulting from the impact of capital budgets are substantiated through the overall reduction in operational problems during peak load periods. Asset optimization strategies for transmission assets continue to provide benefits through reduced capital expenditures. Analysis was performed to determine various transmission components' contribution to load shedding events. Three components were identified as low contributors and these programs were re-evaluated for the current five-year capital budget plan. Funding over the five-year capital plan was reduced for the 138Kv Breaker Program, 345kV Breaker Program and Disconnected Switched Program, by $13 million, $9.2 million, and $4.4 million respectively. In addition two programs, the Capacitor Cable Upgrade Program with annual funding of $3 million and the Substation Loss Contingency Program with annual funding of $2 million, were shown to have limited strategic value and were removed from the current five-year capital budget plan.	Accepted	Completed
	25		VIII - System Planning - Electric - 2	Analyze networks and the 138 kV system designed to N-1 standards to determine the extent that maintenance activities can be performed at load levels less than peak load; where appropriate, incorporate maintenance design requirements into relevant design standards *(Conclusion 6)*	8/09	2/10	2/10	Summary report of maintenance activities during specific load levels. Summary report on opportunities to add SCADA emergency ties on auto-loops.	As related to the 138 kV System – N-1 Design, substations previously identified as having restricted maintenance periods have already benefited or will benefit from load relief or load transfers to provide greater flexibility in scheduling equipment outages during the entire non-summer period. As related to Auto-loops, based on the past performance of the 18 auto-loops that have manual emergency tie switches and established Company procedures regulating maintenance work, the capital expense to install SCADA-controlled or automatic switches on these 18 auto-loops is not cost justified.	Accepted	Completed
	26		VIII - System Planning - Electric - 3	Clarify transmission planning criteria with regard to transfers used during second contingency analysis. *(Conclusion 8)*	6/09	11/09	11/09	Assessment of criteria	Improves operational clarity to stakeholders and maintains compliance with regulatory reliability performance criteria. There was minimal cost associated with performing the benchmarknig effort and updating the document.	Accepted	Completed
	27		VIII - System Planning - Electric - 4	Perform a global review of all equipment ratings, input data, and time durations across the distribution and transmission areas to assure consistency and to justify and document differences. *(Conclusion 14)*	9/09	3/10	3/10	Report examining equipment ratings identifying modifications needed to promote consistency, and explaining rating differences where required.	Provides more representative temperatures for the underground environment, which will produce more realistic equipment ratings. The benefit is that equipment is neither underrated, resulting in unnecessary load relief work, nor overrated, resulting in possible equipment overloads during high load periods.	Accepted	Completed

	28		VIII - System Planning - Electric - 5	Maintain the 2011 completion date for completion of network secondary topology updates and EPRI DEW software. *(Conclusion 16)*	7/07	12/11	12/10	Update load flow models to include customer secondary distributed load.	A comparative analysis of the former modeling method of concentrating demand at the transformer and the new distributed demand process demonstrated that refined distributed demand model resulted in fewer overloaded primary section and transformers. The analysis of the two modeling methods was completed on four Bronx networks and judged against a common load background. The approximate cost of developing these four distributed demand models was $450K; the reduction in overloads resulted in $1.8 million dollar savings in system reinforcement spending. DEW software failed to give correct and consistent results, and continued implementation would require extensive work in order to satisfy the Company's distribution modeling needs. Alternative software products from Siemens and CYME were implemented after evaluation found them to be cost effective to complement the Company's existing modeling process.	Modified	Completed
	29	H	VIII - System Planning - Electric - 6	Perform a least cost system analysis that minimizes costs to customers with regard to implementation of 3G strategies. *(Conclusion 17)*	1/07	7/11	7/10	Assessment of 3G alternatives for load relief. Cost analysis for Flushing autoloop design. Risk assessment of network outage due to area station loss.	The 3G cost avoidances and savings are built into the Electric Long Range Plan and are forecasted to be $659 million over the 20 year planning horizon. We continue to evaluate the cost benefit of new 3G designs, and will update existing cost benefit analyses of major substation projects when the service dates are closer. Long term cost benefits of new 3G opportunities are now being evaluated and quantified for inclusion in the Integrated Long Range Plan.	Accepted	Completed
	30	H	VIII - System Planning - Electric - 7	Perform analyses to determine if peak demand can be reduced more economically than the addition of infrastructure. *(Conclusion 19)*	11/08	12/11	12/10	Summary report on opportunities to reduce peak and avoid capital expenditures	There is a positive cost benefit for the installation of distribution capacitors, and the Company has begun installing them under the 4kV Grid Modernization program. There is potential to defer infrastructure through Demand Side Management (DSM), and the Company has incorporated DSM into the existing Load Forecasting and Load Relief planning processes, and the Electric Long Range Plan. Since only a small benefit exits for phase balancing, it will only be applied in specific areas where it is economically feasible. Voltage reduction is not utilized as a planning tool to reduce capital infrastructure, however is utilized for operational purposes.	Accepted	Completed
	31		VIII - System Planning - Electric - 8	Actively pursue the economic use of SCADA controlled network mid-point feeder sectionalizing switches or circuit breakers to reduce system investment. *(Conclusion 20)*	10/06	1/10	1/10	Issue of specifications for deployment of SCADA operated switches	The company plans to continue to outfit all the switches installed with SCADA during the fall of this year and during the spring of 2012. The strategic deployment of SCADA equipped sectionalizing switches results in the reduction in feeder loading experienced during a contingency. This will result in less reinforcement work to replace feeder components and, therefore, capital savings. Because SCADA operation avoids increased loading on alternate components, critical components do not require reinforcement in order to remain in service.	Accepted	Completed

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11 Gas and Steam Planning	36	H	IX - System Planning - Gas - 2	Evaluate potential changes in the business environment for each of the businesses; for the GBU, Strategic Planning should advise Gas Engineering regarding potential demands on the gas transmission and distribution systems occasioned by those changes. *(Conclusion 16)*	9/09	7/10	5/10	Identification of major factors which could shift current energy utilization more towards higher gas consumption on the distribution and/or transmission systems. Development of the plan to address the effects of these factors and update the Gas System Long-Range Plan accordingly.	Development of the Gas Long Range Plan cost approximately $1.0 million. From 2010 to 2030, Con Edison expects to realize a total of approximately $46 million in operations and maintenance savings or approximately 2.5% of gas transmission and distribution operation and maintenance costs. We expect to save $428 million in capital expenditures over the 20 year horizon(excluding incremental new business growth) from our current budget levels.	Accepted	Completed
	37		IX - System Planning - Gas - 3	Report to stakeholders and the NYPSC on any expansion of the transmission and distribution systems required to serve winter-period electric power generation. *(Conclusion 18)*	9/09	9/10	6/10	Identification of factors that will affect gas supplies to generators. Development of the plan to address the effects of these factors and update the Gas System Long-Range Plan accordingly.	A cost-benefit analysis based on reinforcing the gas transmission system for electric generation revealed that no savings to Con Edison would be realized. Con Edison is not responsible for the capital cost associated with reinforcement associated with interruptible customers. As in past gas transmission reinforcement projects, generators contributed to the cost of the projects in order to receive additional, interruptible gas supply. The remaining costs of the projects were funded by Con Edison in order to provide additional gas to firm gas customers and to improve reliability.	Accepted	Completed
	38	H	X - System Planning - Steam - 1	Identify a Steam Master Plan and incorporate within it a greater emphasis on what is happening on and to its distribution system. *(Conclusion 4)*	8/09	12/11		The Steam Long Range Plan (SLRP) will detail short to long-term strategies with a greater emphasis on steam distribution.	We expect to realize approximately $40 million in tax savings, $270 million in O&M savings and have identified the potential for over $1 billion in fuel savings over the course of the plan. The estimated fuel savings will depend on fuel price differential over the 20 year plan horizon and our revised plan will discuss in detail expected cost savings and avoidances.	Accepted	Completed
	74		XIV - Project Management - Gas - 1	Staff a project coordination/specialist group under the Chief Distribution Engineer to assist in the execution of distribution capital projects such as the main replacement program. *(Conclusion 1)*	8/09	12/09	12/09	The development and staffing of project managers/engineers to support the operations if cost beneficial. If it is determined to not be cost beneficial, then the implementation of project management principles to be utilized by construction managers.	A 2011 end of year unit cost target of $406 per foot of main replacement has been established for the gas main replacement program. Meeting this target will result in a 3.3% reduction from the actual 2010 unit cost of $420 per foot of main replacement, resulting in a total annual cost reduction of approximately $2.7 million. These cost targets are monitored and reported for each operating area and we are currently on target.	Accepted	Completed
	75	H	XIV - Project Management - Gas - 2	Improve and expand the current project scope documentation to add sections on risks and rewards and alternative methods. *(Conclusion 2)*	7/09	8/09	8/09	Improved budget justification and appropriation requests indicating more detailed risks, rewards and alternative methods	Improved decision making process.	Accepted	Completed
	76	H	XIV - Project Management - Gas - 3	Start benchmarking with other urban utilities and utilize what these other utilities are doing better to improve the CECONY program and project management of capital projects. *(Conclusion 3)*	8/09	11/09	11/09	Incorporate best practices from other urban utilities to improve on CECONY's existing program and project management of capital projects.	The cost of performing the benchmarking study was minimal. Doing the Conceptual Packages up front has no incremental cost. Therefore, implementation benefits may include all costs avoided as a result of doing Conceptual Packages prior to budgeting and detailed design. Conceptual Packages done up front should result in fewer design and construction changes, thereby providing a cost avoidance due to project changes in the detailed engineering phase of the project or in construction.	Accepted	Completed
	77		XV - Project Management - Steam - 1	Identify projects requiring the application of project management techniques through a more formal, structured process. *(Conclusion 1)*	9/09	4/10	4/10	The development of a departmental operation procedure that institutes a more formal, structured process for project management in Steam Operations.	For Steam Distribution, an estimated three projects per year, totaling $3M, would be suitable for formal project management application. We estimate that that there will be 1% savings for efficiency improvements associated with project management techniques.	Accepted	Completed

	78		XV - Project Management - Steam - 2	Train steam distribution operations personnel in work and project management techniques. *(Conclusion 3)*	9/09	6/10	5/10	The development of a successful training program on project management in Steam Operations. Evidence of training effectiveness will be demonstrated through pervasive the regular use of project management principles in the department.	For Steam Distribution, an estimated three projects per year, totaling $3M, would be suitable for formal project management application. We estimate that that there will be 1% savings ($30,000) for efficiency improvements associated with project management techniques.	Accepted	Completed

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12 Energy Supply	83	H	XVI - Supply Procurement - Electric - 5	Internal Auditing should schedule more frequent audits of electric procurement decisions, documentation for entering into electric supply contracts, and daily purchase decisions. *(Conclusion 17)*	8/09	11/09	10/09	Schedule an audit of electric procurement in the 2010 Audit Plan	By increasing the amount of review of these procurements in the annual plan we increase the ability to ensure that the expenditures and the procurement decisions are made in compliance with all controls that have been put in place. Auditing has not incurred any additional cost to address these audits.	Accepted	Completed
	84	H	XVI - Supply Procurement - Electric - 6	Document processes, procedures, and guidelines for electric supply and scheduling, and for the 20 percent purchase flexibility in electric hedging. *(Conclusion 20)*	1/09	9/09	9/09	New Physical Electricity Scheduling Manual and associated Process Guides. Guideline for 20 percent purchase flexibility.	No additional costs or benefits have been incurred or realized. The Physical Electricity Scheduling Manual is being used as a reference to support evaluation of scope and required functionality of required electricity scheduling software.	Accepted	Completed
	85		XVII - Supply Procurement - Gas - 1	Make finding means for increasing interdepartmental coordination an Energy Management priority. *(Conclusion 3)*	8/09	12/09	12/09	Electricity Supply and Gas Supply will document actions they have identified that will improve coordination between the two departments.	The benefits associated with the merging of the gas and electricity hedging groups include the elimination of a section manager position and the associated reduction in labor costs by approximately $125,000. These savings are reflected in Energy Management's forward looking budgets.	Accepted	Completed
	88	H	XVII - Supply Procurement - Gas - 4	Expand Gas Supply's range of potential capacity alternatives as it considers firm customers' peak-day requirements for supply. *(Conclusions 14, 15)*	10/09	12/09	12/09	Identify potential natural gas pipeline capacity alternatives and determine whether they are viable candidates for Gas Supply to include in the long term natural gas supply plan.	Offers for peaking supplies are evaluated and the least-cost supplies are selected based on established guidelines. Any cost benefits realized through these peaking supply arrangements would be passed along to the firm gas customers through the Monthly Gas Cost Factor.	Accepted	Completed
	89		XVII - Supply Procurement - Gas - 5	Conduct occasional Gas Supply tests to identify potential additional types of supply arrangements. *(Conclusion 18)*	9/09	12/09	12/09	Gas Supply will update their procurement guidelines to include a provision to encourage suppliers to propose alternative supply arrangements in future Requests-for Proposal.	These new supply points expand the range of suppliers that can participate in the Company's natural gas procurement activities. Any reductions in cost associated with new supply arrangements will be passed on to customers through the gas adjustment clause.	Accepted	Completed
	90		XVII - Supply Procurement - Gas - 6	Keep financial and credit information for gas suppliers current. *(Conclusion 21)*	9/09	9/09	9/09	Gas Supply will update their procurement guidelines to include a provision that they will request current credit information from the Energy Risk Management department for all active counterparties that will be invited to respond to future Requests-for Proposal.	Reduced risk of entering into transactions with counterparties whose credit rating is unacceptable to the Company	Accepted	Completed
	91		XVII - Supply Procurement - Gas - 7	Find specific, objective ways for Gas Supply to evaluate its own performance. *(Conclusion 28)*	8/09	1/10	1/10	Conduct benchmarking assessments with other utilities or utility organizations to identify best practices. Analyze information received and develop potential performance criteria. Propose and implement changes to performance criteria.	Improvements resulting from self assessment activities have the potential to lower gas cost, extract additional value from the Company's supply contracts, and improve the accuracy of the work. While we expect savings to result, it is difficult to estimate the magnitude. To the extent savings are realized, they will be passed on to customers.	Accepted	Completed
	92		XVII - Supply Procurement - Gas - 8	Solicit proposals for external asset management. *(Conclusions 29, 31)*	2/09	3/10	3/10	Conduct pilot in Summer 2010 Natural Gas Purchase Plan, for summer 2010 and Winter 2010/11.	In 2011, the Company executed a total of five AMAs, and as a result, gas supply costs in customer bills will be reduced by an estimated $9.1 million. The revenue received from the AMAs will reduce gas costs for customers as those benefits flow through the gas adjustment clause.	Accepted	Completed

Appendix C: Schedule and Milestones by Team

Team 4 – Work Management
Executive Sponser: John Miksad

Recommendation Number: 71
Implement a work management system in Electric Operations. (Conclusion 1, 4, 5, 16)
Team Lead(s): Peter Cooney

Scope / Plan:
Con Edison maintains a suite of applications that support the core work management processes within Electric Operations. These processes are defined around capital work (capacity, reliability, new business and public improvement), maintenance/inspection work and emergent work. New applications and enhancements to the existing systems have introduced new technologies, enhanced functionality and improved integration between the applications that comprise the work management suite. While these systems remain viable and technically supportable, the Company has been moving toward improvements to better facilitate the management of all aspects of work. Currently, users need to access and interact with a number of systems to support work initiation/bundling, planning, scheduling, dispatching, execution and completion of work. Enhancements in these areas would help users in Electric Operations with improved cost tracking, forecasting, work scheduling, status reporting and productivity analysis.

The scope and magnitude of Electric Operations' capital construction projects and the complexities associated with its maintenance and inspection programs call for the review of business processes and the implementation of improved information systems to support the planning, execution and tracking of these comprehensive work programs. The improved systems should strive to provide the following functionality for Electric Operations personnel:

- A single repository for all planned and emergent work within Electric Operations so users no longer need to access multiple systems to process work
- An interface that provides detailed information about electric distribution assets that work is being performed against
- A comprehensive facility that helps manage all maintenance and inspection programs
- A mechanism to match project work requirements and tasks to worker skills and other resources such as vehicles and other equipment
- Trending and analysis of workforce and equipment performance
- A summary of all associated costs by work activity or project
- Interfaces to Finance, Supply Chain and HR systems that reduce clerical input and further streamlines processes
- A resource forecasting, scheduling and planning module

- Integration with mobile technologies allowing the transmission of data to/from the field

The audit's recommendations regarding work management are in line with ongoing Company efforts to improve work management. Con Edison is currently engaged in a Phase 0 Assessment for Electric Work Management Business Processes and Information Systems. This initiative will build on the project that the Company started in February 2009 and is currently in progress. A full time team comprised of key business users in Electric Operations, Information Resources support staff and consultants, are currently dedicated to this effort. The team plans to review all work management business processes, conduct the planning and analysis necessary to streamline the business processes as appropriate, and finalize a technology strategy for processing work within Electric Operations. This study would encompass all work processed by Electric Operations including:

- Emergency repairs and follow-up
- Maintenance and inspection of facilities
- New business construction and customer connections
- System performance/reliability programs

The assessment process will seek to involve:

- Stakeholder surveys
- As-Is process review
- To-Be review with best practices evaluation
- Development of software vendor business requirements for a RFP
- Development of software application scripts with demonstrations and review of vendor solutions
- Fit/Gap analysis and application selection for work management solution
- Detailed To-Be process development and application Fit/Gap analysis
- Development of final report including business plan, implementation plan, change management plan, technical architecture plan, RICEFW inventory (reports, interfaces, conversions, extensions, forms and workflow)

The Phase 0 Assessment Team will seek to identify opportunities to streamline processes and effect the changes necessary to establish a best practice work management program. The team will also determine whether Con Edison will continue to enhance the existing suite of work management applications or migrate to a new work management platform based on a leading commercial solution. The Phase 0 Assessment Team will also produce a detailed business case cost estimate, implementation plan and change management strategy for the chosen course of action.

The Company will also seek to evaluate the leading utility work management application solutions including those offered by IBM (Maximo), Logica, Ventyx and Oracle. Products of this type are used by many leading utilities worldwide and leverage the latest software, database and server technologies. They also include comprehensive asset management

capabilities and help to facilitate the adoption of best practice work manage processes. Complex integration with customer service, mapping and outage management systems can also be accomplished through the use of products.

The new case management software project for Energy Services and the Safety Inspection Program/Joint Pole project will also be assessed as part of the Work Management System Phase 0 Assessment to understand if these projects should be incorporated into a work management solution.

A detailed business case that justifies the Company's course of action will be developed as part of the Work Management System Phase 0 Assessment effort.

Detailed Phase 0 Assessment Deliverables

The Phase 0 Assessment Team is tasked with compiling a comprehensive report summarizing the work management business process changes, technology strategy, and project cost estimate and implementation plan. The report is expected to be completed in December 2009. The report will include the following deliverables:

- Project charter statement
- Summary of streamlined business processes, developed by Electric Operations personnel, addressing all aspects of work management including a:
  - Summary of business processes and rules documented through use cases and decision trees
  - Summary of activities and/or business changes needed to achieve new business process
- Solutions summary and fit/gap analysis
- Summary of all required reports, interfaces, conversions and enhancements
- Summary of all benchmarking visits and project research
- Implementation project scope and exclusions
- Business case including ROI, summary of benefits and additional justifications
- Package selection decision or summary of enhancements to existing systems
- Request for Proposal (if required)
- Implementation team structure and summary of roles and responsibilities for all project resources
- Implementation schedule, including milestones and checkpoints
- Detailed cost estimate and cash flow summary for implementation
  - Software licenses and development
  - Computing infrastructure
  - Labor
  - Interfaces
  - Data Conversion
  - Testing
  - Training
  - Overheads and contingencies

- Testing strategy
- Change management plan addressing
  - Implementation impact on Electric Operations personnel and other stakeholders
  - Implementation impact on existing systems

Major Activities and Milestones	Estimated Start Date	Estimated Completion Date	Actual Completion Date	Current Status
Document "As-Is" high level process	5/09	5/09	5/09	Complete
Develop "To-Be" high level process	6/09	6/09	7/09	Complete
Evaluate software options and select solution	6/09	8/09	8/09	Complete
Detailed "To-Be" process design	8/09	11/09	11/09	Complete
Business Case and Implementation Plan	9/09	12/09	12/09	Complete
Deliver final business case and Phase 0 Assessment report	9/09	12/09	12/09	Incorporated comments from Steering Committee to complete the Work Management System Phase 0 Assessment
Implement new process and organization changes, including standardization of forecasting, planning and scheduling functions	4/10	7/11	8/11	Complete
Design and configure base work management for Energy Services	2/10	4/11	4/11	Complete

Deploy Work Management for Energy Services	4/11	6/11	6/11	Complete
Design, configure, and deploy Logica Asset & Resource Management (ARM)	8/10	3/13	4/13	Complete Staten island Pilot deployed
Deploy work management system to support work processes	~~9/12~~ 4/13	~~3/13~~ 11/13	11/13	In Progress; Pilot deployment implemented in Staten Island 4/13. Implemented in Bronx Westchester 7/13, implemented in Manhattan 9/13, implemented in Brooklyn-Queens 11/13.
Design, configure, and deploy to Company field work force the Logica RTARM mobile dispatch application	8/12	~~3/14~~ 12/14		In Progress, planned last staged deployment in Brooklyn-Queens to start 9/14 and is projected to complete at the end of the year.
Design, configure, and deploy for Contractor Management, Mobile Dispatch application and processes	~~3/13~~ 7/13	~~3/14 9/14~~ 11/14		To start 7/13 and complete ~~9/14~~ 11/14

Summary of Cost-Benefit and Risk Analysis:
The Work Management System Phase 0 Assessment Team is to compile a comprehensive report summarizing the work management business process changes, technology strategy, project cost estimate and implementation plan. The report is expected to be completed in December 2009.

Upon review of this comprehensive report by the Work Management Steering committee if the cost benefits are material as developed in the business case and implementation plan we would expect to begin the mobilization, design and deployment process in the first quarter of 2010.

Cost-Benefit:

The Phase 0 Assessment is expected to produce a business case that will define the costs and benefits associated with deploying work management applications or processes. The business case will define costs and benefits by year for O&M and Capital dollars. The costs and benefits would relate to the implementation plan that identifies the deployment schedule.

Risks:

1. Phase 0 assessment is dependent on the costs and benefits (savings) identified in the development of business case.
2. Alignment and coordination with other enterprise projects (PowerPlant, ERP)
3. Ability to facilitate process, skill and organization changes that may be required to implement the work management solution

Post Evaluation Process

There are a number of possible approaches that will be evaluated during the Work Management Phase 0 Assessment.

One possible approach would deploy new business processes as a replacement for some current key business processes, implement some organization changes, and deployment of some application technology to support process change. This phased approach and the duration could be in the range of 36 to 42 months.

Another possible approach is the deployment of an entirely new business processes, a new organization structure and new application technology as one major change initiative. This approach would move the organization towards “best in class” business processes, align the organization and give the business users applications and technology tools. The duration of this deployment could be in the range of 24 to 30 months.

Another possible approach would be to deploy new business processes and technology change with minimal organization change. This would give the business users the application technology to support new business processes but would not allow for alignment through organization change. The duration of this deployment could be in the range of 24 months.

Another possible approach would be to deploy new business processes and organization structural changes without new application technology. The duration of this deployment could be in the range of 12-18 months.

These various scenarios are some of the possible approaches that could be utilized to deploy new business processes for some current key business processes, provide a new technology through applications, as well as a new organization for selected business processes.

Each of these approaches as well as other variants is expected to have pros and cons around speed to realize benefits, ability to sustain benefits, long and short term efficiencies, risk to business during deployment, ability to learn and correct while getting feedback and many other factors.

The completion of the Work Management Phase 0 Assessment will seek to fully define the selected approach through a business case, implementation plans, change management plan, technology plan and risk assessment plan.

Measures of Success:
This initiative is in line with ongoing Company efforts. The measures of success would be defined at the conclusion of the Work Management Phase 0 Assessment project. These measures will be identified in the business case and implementation plan. The measures could include labor, labor overtime hours expended, contractor labor expended and other non-labor benefits as well as transaction transparency, cost visibility, enhanced customer satisfaction and cycle time benefits.

January 15, 2010 Update:

~~This recommendation is complete.~~

The Work Management System Phase 0 Assessment project began in February 2009 and concluded in December 2009. During this phase, the project team:

- Conducted workshops with numerous Subject Matter Experts (SMEs) from Electric Operations, Central Field Services, Central Operations and Corporate Accounting to understand "As-Is" processes and define detailed "To-Be" processes for work management.
- Conducted benchmarking visits and conference calls with 14 comparable utilities to understand how work is managed through process design, organization design and modern software applications. These companies included Dominion Resources, National Grid, Duke Energy, and Pepco (See the "Benchmarking" section of the Business Case report Appendix for a full summary of the benchmarking visits).
- Evaluated several software vendors in the work management space and selected a combination of Logica, Oracle, and Obvient as the proposed "To-Be" work management software suite providers.
- Assessed impacts to the Electric Operations organization and defined a comprehensive plan for Change Management.
- Defined the technical architecture needed to support the proposed applications and systems.

- Developed an implementation plan and estimated cost to deploy the new work management system applications and processes.

The Work Management System Phase 0 Assessment project focused heavily on developing the future work management processes for Electric Operations. The solution can also be expanded to other organizations in the Company such as Gas and Steam Operations and support organizations such as Central Field Services. The project team developed process designs for the main components of work initiation, design and estimation, prerequisite management, materials requirements planning, scheduling, work assignment, work execution, work closure, field reporting, contractor management, as well as forecasting and planning. These business processes were refined throughout the entire project and reflect the analysis and experience of the project team, Company-wide Subject Matter Experts (SMEs) for each process area, and best practices as implemented by other utilities. The project team used the proposed "To-Be" work management processes to define the requirements for a work management system application that would support these processes. The project team gathered over 660 business requirements to aid in the selection of the work management software package best suited to support the Company's "To-Be" business processes.

The project team evaluated several options that included process and organizational changes. These changes were evaluated with and without enhancements to existing applications. The project team determined that process and organizational change coupled with a new technology solution was the best solution for the vision and goals of the project. The core software application selected is the Logica Asset & Resource Management (ARM) product suite solution. The Logica Asset & Resource Management product suite solution includes:

- ARM Work Manager - Work Management Information System (WMIS) – This module is a work management tool that supports the management of all types of work. The assignment of tasks to the appropriate resource uses business rules based on work type, geographic proximity, priority, or other user-defined business rules.
- ARM Scheduler – Scheduler is an automatic assignment and dispatch application designed to provide a single view of all resources and portfolios of work across the organization. The automated scheduling optimization module uses business rules and configurable scheduling constraints for efficiency. Work types or tasks can be automatically re-optimized as higher priority work types or tasks become available.
- Real-Time Asset & Resource Management (RTARM) Mobile – This mobile work management application enables information to be transmitted directly to and from field personnel. This application also supports timesheet generation and reporting capability.
- ARM Asset Manager – As a single asset repository, Asset Manager provides tracking of maintenance and inspection work tasks, asset history, and facilitates failure analysis.

The Logica Asset & Resource Management (ARM) product suite will be supported by the Obvient FocalPoint reporting tool for developing reporting metrics and by Oracle Primavera for longer range forecasting and planning. The Primavera product is part of the Oracle suite of products and will be used to perform long range forecasting (one to five years) and Planning (2 months to one year). Primavera is capable of projecting resource requirements (Labor, Material, and Equipment), and determining potential shortfalls. In addition, it provides a graphical view of the workload, assisting the user to level the workload by allowing the creation of different scenarios. The selected scenario can then be finalized and implemented based on budgetary approvals. In addition, Primavera will utilize data provided by Oracle's Enterprise Resources Planning tools (ERP) to provide historical projections. Primavera will also be used to perform long term scheduling prior to design finalization. The Primavera toolset will provide an integrated solution so that project schedules can be developed showing dependencies and tasks and providing a visual representation in Gantt charts.

The deployment of the Logica Asset & Resource Management (ARM) product suite solution, Oracle Primavera and the Obvient FocalPoint reporting tool will support increased efficiency and effectiveness for field organizations in Electric Operations. It will also enhance visibility, process redesign and organization deployment and support improved cost management. The project team proposes deploying the new work management system and related processes through six core initiatives: Process and Organization for Forecasting/ Planning/Scheduling, Work Management for Energy Services and full deployment in Electric Operations, Asset Repository, Mobile, and Contractor Management. The implementation is anticipated to take approximately four years. The first of these initiatives is expected to start late in the first quarter of 2010, and the last initiative would conclude in the first quarter of 2014. The total cost of this project is estimated to be between $138M and $174M. The capital costs range between $119M and $155M; O&M costs account for $19M. The total annual benefit which will be realized upon full implementation is between $45M - $48M.

Detailed Phase 0 Assessment Deliverables

The following deliverables were produced as part of the Work Management Phase 0 Assessment project:

- Project charter statement
- Summary of streamlined business processes, developed by Electric Operations personnel, addressing all aspects of work management including:
    - Summary of business processes and rules documented through use cases and decision trees
    - Summary of activities and/or business changes needed to implement new business processes
- Solutions summary and fit/gap analysis

- Summary of all required reports, interfaces, conversions and enhancements
- Summary of all benchmarking visits and project research
- Implementation project scope and exclusions
- Business case including payback period, internal rate of return, summary of benefits and additional justifications
- Package selection decision or summary of enhancements to existing systems
- Implementation team structure and summary of roles and responsibilities for all project resources
- Implementation schedule, including milestones
- Detailed cost estimate and cash flow summary for implementation, including:
    - Software licenses and development
    - Computing infrastructure
    - Labor
    - Interfaces
    - Data Conversion
    - Testing
    - Training
    - Overheads and contingencies
- Testing strategy
- Change management plan addressing:
    - Implementation impact on Electric Operations personnel and other stakeholders
    - Implementation impact on existing systems
- Request for Proposal (RFP) for design and implementation phase

The Business and Information Resources (IR) technology team mobilized in February 2009. The first task involved preparing a Request for Proposal (RFP) for procuring a consultant experienced in work management system deployment, process design, and change management. Accenture, a leading consultant in the utility space, was selected based on their experience implementing work management systems at similar utilities, the quality of personnel that were to be assigned to the project, hours allocated to the project, reference review by the project team, and bid price.

The Accenture team mobilized for the Work Management System Phase 0 Assessment project in late April 2009 and initiated the Planning Phase of the project. The combined

team conducted surveys and met with various stakeholders to develop the expectations for the project deliverables. The team reviewed the Accenture High Performance Utility Model (HPUM) (See the "High Performance Utility Model Diagrams" in the Business Case report Appendix for a picture of HPUM), a proprietary tool, which delineates processes in forecasting, planning, managing and executing work across four major work categories. The categories of work are capital system reinforcement/reliability, new business construction, maintenance & inspection and emergency.

- The processes included for forecasting and planning are: resource planning, contractor strategy, and delivery performance management.
- The processes included for managing work are: work initiation, design/estimate, prerequisite management, materials planning, scheduling, and assigning work.
- The processes included for work execution are: field logistics, work execution, contractor management, performance management, and work closure.

The project team held workshops with numerous business Subject Matter Experts (SME's) in Electric Operations, Central Field Services, Central Operations, and Corporate Accounting and documented high level "As-Is" business process designs that mapped to the High Performance Utility Model (HPUM).

The project team assessed the Electric Operations current processes in relation to the utility industry leading edge practices. This was done using Accenture's Capability Levels of Mastery model (CLM). The Capability Levels of Mastery provides a basis to describe the increasing aptitude of business functions within an operating model. Tangible characteristics are provided at four levels of maturity - from basic, to industry leading levels of capability. The levels help an organization establish both current and desired business capabilities with comparison to industry peers (See the "High Performance Utility Model Diagrams" section of the Business Case report Appendix for the CLM summary diagram). The high level "To-Be" workshops developed the business requirements documents and business scripts for the software selection process. A number of work management software vendors demonstrated their solution for the business scripts. After detailed analysis by the project team, the plan phase of the project ended with the selection of Logica's Asset & Resource Management (ARM) product suite, Oracle's Primavera product, and Obvient's FocalPoint product.

The Analyze Phase of the project commenced with detailed "To-Be" workshops to develop the detailed business process designs. These detailed "To-Be" business process designs were used to validate the software solution and develop the required RICEFW (reports, interfaces, conversions, enhancements, forms and workflow) inventory. The project team developed the application, execution and operation architecture as well as a detailed technical estimate. The business case model, implementation plan and change management plan were also developed.

Description of Phase 0 Assessment Methodology

Electric Operations engaged in a Phase 0 Assessment for Electric Work Management Business Processes and Information Systems. This initiative started in February 2009. A full time team of key business users in Electric Operations, Information Resources support staff and experienced industry consultants were dedicated to this effort. The team reviewed current work management business processes, conducted the planning and analysis necessary to redesign the business processes as appropriate, and finalized a business process and technology strategy for managing work within Consolidated Edison Company of New York (CECONY) - Electric Operations. This study encompassed all work processed by Electric Operations including:

- System performance/reliability programs
- New business construction and customer connections
- Maintenance and inspection of facilities
- Emergency repairs and follow-up

At a high level, the Phase 0 Assessment Project involved:

- Stakeholder surveys
- High Level "As-Is" process review
- High Level "To-Be" process development with best practices evaluation
- Development of business requirements for software vendor review and selection
- Development of software application scripts with demonstrations by vendors and formalized review of vendor solutions
- Fit/Gap analysis and application selection for a work management solution
- Detailed "To-Be" process development and application Fit/Gap analysis
- Development of final report including business plan, implementation plan, change management plan, technical architecture plan, and RICEFW (reports, interfaces, conversions, enhancements, forms and workflow) inventory of requirements

The project team had the tasks of:

- Identifying opportunities to streamline processes and effect the changes necessary to establish a best practice work management program
- Determining whether Con Edison should continue to enhance the existing suite of legacy work management applications or migrate to a new work management platform based on a leading commercial solution
- Producing a detailed business case, cost estimate, implementation plan and change management strategy for the chosen course of action

The team evaluated leading utility work management application solutions including those offered by IBM (Maximo), Logica, Ventyx and Oracle. These products are currently used by leading utilities worldwide and leverage the latest software, database and server technologies. They also include comprehensive asset management capabilities and help to facilitate the adoption of best practice work management processes. Complex integration with customer service, mapping and outage management systems can also be accomplished through the use of these types of products.

The proposed Case Management software project for Energy Services and the Joint Pole project were also assessed as part of the Work Management System Phase 0 Assessment to understand if these projects should be incorporated into a comprehensive work management solution. The work management system will incorporate the functionality of the joint use agreement regarding the required notifications to Verizon. The work management system will interface with the software product that will retain the master pole ownership information (when constructed). After an assessment of the features and functionality of the Logica ARM Suite against the requirements of the Case Management project, it was determined (in collaboration with Energy Services) that not all of the critical Case Management requirements were being met. Project management, workflow management, engineering support, mobile field enablement, scheduling, and the performance metrics components of the Case Management project were a good fit and therefore would be incorporated into the Work Management project. However, Energy Services requirements for customer interaction tracking, telephony integration, and document management are outside the scope of the work management project and will need to be filled by a case management commercial product, with the ability to interface with the work management project core solution. The Case Management project is a different effort from the work management project and will be led by Energy Services. This project will be seen as complementary to the work management project.

The Work Management System Phase 0 Assessment Team compiled a comprehensive business case with related documentation summarizing the work management business process changes, organization changes, technology strategy, project cost estimate and implementation plan. This business case defined the costs and benefits by year for O&M and Capital dollars. The costs and benefits relate to the implementation plan and the deployment schedule. This report and related documentation was completed in December 2009.

May 15, 2010 Update:
In late January 2010, the project team reviewed the vendor submissions to our Request For Proposal (RFP) for the system integration of the Work Management System. The project team performed technical evaluations, spoke with other utilities to discuss proposed vendor team members and held discussions with vendors to clarify their proposals.

In March 2010, Accenture LLP, was chosen as the system integrator for the project. Both the CECONY business and Information Resources leads met with the Accenture initiative leads to review and develop project schedules.

In addition, negotiations were concluded with Logica PLC for the Logica Asset and Resource Management (ARM) suite software, configuration services and system maintenance.

Starting in April, the CECONY team and Accenture team began the design phase of several initiatives, including:

1) Work Management for Energy Services;
2) Process design for Forecasting, Planning, Scheduling, Work Coordination and Supervisor Enablement; and
3) Integrated Design with Enterprise Resource Planning -Supply Chain team

The design phase of these initiatives will develop the requirements needed to build the processes, organization structure and application configurations for the build phase of these initiatives.

September 15, 2010 Update:

The work management project team has been progressing through the design phase of multiple initiatives as part of the overall project implementation. The Work Management for Energy Services initiative, which includes the replacement of the CORS (Commercial Operating Reporting System) legacy system with the Logica software, has completed design and is currently in the build phase. Testing will commence in October 2010. The Logica application suite will provide users with visibility to the current status of all work requests as the work request moves through initiation, service determination, design, scheduling, construction, close-out, and validation.

The integrated design phase is now complete and designs have been created in conjunction with the Company's new utility-wide software system under development for our finance and supply chain functions, Project One.

Process design and role definition for forecasting, planning, scheduling, work coordination and supervisor enablement continues. This initiative will establish the organization, and new roles and responsibilities for carrying out the Company's new work management processes and systems upon deployment.

In order to measure the readiness for, and acceptance of changes that will result from this project, an employee survey will be performed. This will be carried out jointly with the Project One team.

January 15, 2011 Update:

The work management project team has continued progressing through the design, build and test phases of multiple initiatives as part of the overall project implementation.

The Work Management for Energy Services initiative, which includes the replacement of the CORS (Commercial Operating Reporting System) legacy system with the Logica application, has completed the configuration build phase and functional testing. The Logica application is currently undergoing user acceptance testing by Energy Services subject matter experts. The initiative is on track for phased deployment beginning in the spring of 2011.

The work management project team completed configuration and is currently testing the Oracle Primavera software solution. This application will be used for the forecasting of work and resource capabilities.

In addition, the team has continued process design and developed training enhancements for the new positions of program/project planner, scheduler, and work organizer that are part of the newly created Work and Resource Management organization.

The team is also currently in the design phase of the new asset repository application. This application will contain information on electric distribution facilities and components, such as asset history and other asset parameters. Asset data will be utilized to initiate, bundle, design, and schedule work.

May 15, 2011 Update:

The work management project team has continued progressing through the design, build and test phases of multiple initiatives as part of the overall project implementation.

The team will complete the training for, and deployment of, the Logica Work Manager tool for Energy Services in May 2011. This initiative includes the replacement of the CORS (Commercial Operating Reporting System) legacy system and the implementation of Obvient FocalPoint for business intelligence dashboard reporting.

Detailed planning for the full deployment phase of the project has commenced. This initiative will include deployment of new processes and technology to support work management and scheduling for maintenance and inspection, capital construction, and emergency work. A key input to this will be the implementation of Logica's Asset and Resource Management tool, and the migration of electric assets to one central repository to manage maintenance and inspection work on them.

In addition, staffing and implementation of the new positions of program/project planner, scheduler, and work organizer, as part of the newly created Work and Resource Management organization, are underway. This includes the deployment of specific process and organization structure changes (for scheduling, field supervision, and forecasting). The

Oracle Primavera application has also been implemented for forecasting and longer range planning of work.

September 15, 2011 Update:

The work management project team completed two additional initiatives since the May 15, 2011 update and commenced the Full Deployment initiative of the project.

The Logica Work Manager tool was deployed for Energy Services to address the initiation of new business work in May 2011. This included the retirement of the CORS (Commercial Operating Reporting System) legacy system and the implementation of Obvient Focal Point for business intelligence dashboard reporting. The project team provided post-deployment support to the user groups throughout the summer months.

In addition, the Work and Resource Management organization was created and staffed with the new positions of program/project planner, scheduler, and work organizer. This new organization will forecast, plan and schedule construction work in electric operations, and become the primary group that implements the new processes and technology in support of maintenance and inspection, capital construction, and emergency work.

In June, the project began the Full Deployment initiative. This phase of the project will deliver the Logica Asset and Resource Management suite across electric operations. Work will be initiated, engineering design and estimation for the electric distribution system will take place, pre-requisites for work will be managed, and work will be tracked and closed out in the Logica application. The Work and Resource Management organization will utilize Logica to see the entire breadth of work in electric operations and utilize the scheduling tool to assign work to field forces and track progress to completion. Electric distribution assets will be converted into one central repository to manage and schedule maintenance and inspection work on them, and the Obvient FocalPoint tool for business intelligence dashboard reporting will be further expanded beyond Energy Services to provide management reporting.

The project is currently on schedule and is expected to complete deployment of all process initiatives and new work management applications in 2014.

January 15, 2012 Update:

The work management project team continued work on the Full Deployment phase of the project. This phase addresses the entire work lifecycle for all types of electric distribution work, from work initiation, to design and estimation, scheduling (through the Logica ARM Scheduler tool), work execution, and closure.

The project team designed the configurations of the Logica ARM suite and will enter and test those configurations through April 2012. Test preparations have begun and include the

identification of test scenarios and scripts. Training materials are currently being designed and built for the start of impacted user training in the summer of 2012.

The project remains on schedule for complete deployment of all process initiatives and new work management applications in 2014.

May 15, 2012 Update:

The work management project team continued work on the Full Deployment phase of the project. This phase addresses the entire work lifecycle for electric distribution work, from work initiation, to design and estimation, scheduling (through the Logica ARM Scheduler tool), work execution, and closure.

The project team has completed configuration of the Logica ARM suite. Test suites, cases, and test scripts have been created and both integration and functional testing has commenced. Training materials continue to be built for the start of user training in the summer of 2012.

A technology road show was delivered to change ambassadors and other company personnel to familiarize them with the process and application changes that will be implemented.

The project remains on schedule for complete deployment of all process initiatives and new work management applications in 2014.

September 15, 2012 Update:
The work management project team continues to work on the Full Deployment phase of the project. This phase addresses the entire work lifecycle for electric distribution work, from work initiation, to design and estimation, scheduling (through the Logica ARM Scheduler tool), work execution, and closure.

The project team has completed integration testing and the first functional test cycle of the Logica ARM Suite. The second test cycle is in progress and is planned for completion in the fall of 2012. This will be followed by one more test cycle and user acceptance testing, in preparation for deployment. Super user training has commenced and training for impacted users in Staten Island will begin in October.

The project remains on schedule for complete deployment of all process initiatives and new work management applications in 2014.

January 15, 2013 Update:

The work management project team continues to work on the Full Deployment phase of the project and has also commenced the Real-Time Asset & Resource Management (RTARM) Mobile Dispatch initiative.

The project team has worked through the challenges of a labor contingency work stoppage, the effects of Superstorm Sandy, and a large volume of Logica ARM 1.4 application defects that required code fixes and additional testing during this time period. As a result project deployment has been delayed, complete deployment of all process initiatives and new work management applications will now conclude in September 2014.

The third functional test cycle is complete and a fourth and final test cycle is currently in progress and planned for completion in February. This final test cycle will be primarily for regression testing, and will be followed by user acceptance testing. The pilot go-live date in Staten Island for the Full Deployment phase of the project is March 2013. After the completion of the pilot, deployment of the Logica ARM Suite to all regions is planned to occur between June 2013 and November 2013. Training for all Staten Island users started in October 2012 and will conclude in early-February 2013, with the training of users in subsequent region to follow.

The RTARM Mobile Dispatch initiative started configuration design of the Logica Field Manager application and Info-Path forms in October 2012 and will start building these objects in February 2013.

May 15, 2013 Update:
The work management project team continues to work on the Full Deployment phase of the project and continues design, building and exploratory testing of the Real-Time Asset & Resource Management (RTARM) Mobile Dispatch application.

The project team has deployed the Logica ARM 1.4 application as a pilot to the Staten Island region. After the completion of the pilot, deployment of the Logica ARM Suite to all regions is planned to occur between June 2013 and November 2013. Training for all Bronx-Westchester users is due for completion in May 2013, with the training of users in subsequent region to follow.

The project team continues to prioritize and address defects and issues found during the Staten Island pilot.

September 15, 2013 Update:
The work management project team continues to work on the Full Deployment phase of the project and the design, build and functional testing of the Real-Time Asset & Resource Management (RTARM) Mobile Dispatch application, which is now called Field Manager. Infrastructure needs, such as wireless access points, network switch equipment, LAN (Local Area Network) cabling and docking facilities are currently being assessed and upgraded for

the Field Manager application and mobile computer deployment. Training modules for the Field Manager application are in development.

The project team has deployed the Logica ARM 1.4 application in the Staten Island region, where it was initially deployed as a pilot, and subsequently deployed to Bronx-Westchester in July 2013 and to Manhattan in September 2013. Training for the Brooklyn-Queens deployment is in progress with deployment planned for November 2013.

The Logica ARM 1.4 deployment has resulted in Electric Operations having a single repository for all planned and emergent tasks needed for processing work and detailed information for electric distribution assets, which drive maintenance and inspection programs. This allows for more efficient work planning through the ability to bundle work associated with specific assets. Users are becoming more comfortable and proficient with the use of the Logica ARM suite of applications.

The Construction Management initiative design is in progress. This initiative will involve building an interface to the existing Lay-Out Tracking to address work component updates as well as building an interface translation between Logica compatible units and contract pay items.

The project team continues to prioritize and address defects and issues found during the deployment initiatives.

January 15, 2014 Update:
The work management project team has completed deployment of the Logica ARM 1.4 application to all regions of Electric Operations.

In 2013, the Logica Mobile Field Manager application was tested, and issues were identified and addressed, which required additional testing. As a result of this additional testing, the Mobile Field Manager deployment has been delayed and is projected to complete at the end of 2014, a delay from the plan to complete deployment by September 2014.

In February 2014, initial field testing of the mobile field manager application will begin in Staten Island. Infrastructure needs for the Staten Island pilot, such as wireless access points, network switch equipment, LAN (Local Area Network) cabling and docking facilities have been made in advance of the deployment. Training modules are completed and phased training by crew will start the first week of February for the Staten Island deployment.

The other remaining phase of the Work Management project is the Construction Management initiative. This phase is in progress with documentation of interface requirements and preliminary design of the interface. Detailed functional design of the interface tying the existing Layout Tracking (LOT) application to the Logica ARM suite will commence in February 2014. After the design phase is completed, testing will begin. The

Construction Management initiative will be rolled out to all organizations simultaneously, and is expected to be completed by Septemebr 2014.

In addition, the project team continues to prioritize and address issues found during the deployment and continues to deploy fixes as needed. In addition, users continue to become more proficient with the new processes and suite of applications.

May 15, 2014 Update:
The Logica Mobile Field Manager application (formerly known as Real-Time Asset & Resource Management) was deployed in its first phase in Staten Island beginning in early February. This included training for crews and supervisors. As of the first week of May all Staten Island crews were using the application. Additional deployment is planned, with the goal of deploying to all regions by December 2014. Training and deployment of the Mobile Field Manager was initiated in the Bronx during the last week of April.

The Construction Management initiative is also in progress. We are designing and building interfaces between the Layout Tracking (LOT) application utilized by Construction Management to manage and pay contractors and the Logica ARM suite. This phase will allow Compatible Unit design work from the Logica Work Manager application to be translated into LOT payment items. In addition when work is performed or completed in LOT the Work Compoents and “as-built” construction units will be updated in Logica Work Manager. After testing, the Construction Management initiative will be rolled out to all organizations at one time, currently planned for November 2014.