Appendix A: Recommendations Summary

This Appendix summarizes, by chapter, each conclusion that lead to a recommendation and each corresponding recommendation.

Chapter One
None.

Chapter Two
None.

Chapter Three
Conclusions:

1. **CECONY has a clearly defined corporate mission statement but lacks a statement of vision.** *(Recommendation 1)*
2. **Business Unit plans and their use are not sufficiently similar in format and content to promote integrated planning.** *(Recommendation 1)*
3. **There is not effective integration of business-unit plans at the top level.** *(Recommendation 1)*
4. **The supporting documentation for the projects in the business plans is not referenced to the plans and is inconsistent in content and format.** *(Recommendation 1)*
5. **CECONY performs other activities that comprise elements of effective creation and use of plans, but does not integrate them fully into its planning process.** *(Recommendation 1)*
6. **The Strategic Planning group has not had a clear, consistent purpose through the period following divestiture and restructuring.** *(Recommendation 3, 4)*
7. **The ERM process is still in the rudimentary phase and is not incorporated into the planning and budgeting process.** *(Recommendation 2)*
8. **CECONY generally operates in a reactive mode.** *(Recommendation 5)*
9. **CECONY lacks sufficient clarity in its long-term "vision" for the infrastructure necessary to move effectively, efficiently, and flexibly into an uncertain future.** *(Recommendation 5)*

Recommendations:

1. **Improve the planning process.** *(Conclusions 1, 2, 3, 4, 5)*
2. **Take the ERM process associated with operating risks to the next level.** *(Conclusion 7)*
3. **Define the role of the Strategic Planning Unit.** *(Conclusion 6)*
4. **Revisit the subjects investigated by the interdisciplinary teams.** *(Conclusion 6)*
5. **Develop a comprehensive vision and 20-year master plan for the electric system.** *(Conclusion 8, 9)*

Chapter Four

Conclusions:

1. **The Board's committee structure addresses oversight of construction program planning and execution, but not in a manner that optimizes its role in program planning and monitoring.** *(Recommendation 1)*
2. **The Board's members have strong capabilities and the Board has shown a commitment to assuring that it maintains the expertise needed to meet the financial and network spending challenges that will drive much of the Company's activities in the coming years.** *(Recommendation 2)*
3. **The Board generally reviews construction program planning and execution, and has established committees with responsibilities that focus on key aspects of that program, but the size and complexity of CECONY's infrastructure warrant more structured involvement.** *(Recommendation 3)*
4. **During this audit, the Board demonstrated a commitment to augmenting its role in construction program planning and execution.** *(Recommendation 3)*
5. **The Board gets substantial information about adverse events affecting network operation and demonstrates significant interest in those events; however, the information that it routinely receives is not consistent in format of in substantial depth.** *(Recommendation 1)*
6. **The Company makes a comparatively strong commitment to operations auditing but has opportunities to strengthen its contribution to network-related construction and operations effectiveness and efficiency.** *(Recommendation 4)*
7. **Internal Audit has begun to use the ERM program's identification of risk in audit planning; that use should be complemented by a more focused examination of capital and O&M cost risks and how operations auditing can address them effectively.** *(Recommendation 5)*

Recommendations:

1. **Revise Board Committee Structure to better coordinate functions and to focus on infrastructure planning, oversight, and performance measurement.** *(Conclusions 1 and 8)*
2. **Continue efforts to identify board candidates with energy utility experience.** *(Conclusion 2)*
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)*
4. **Increase emphasis on efficiency and effectiveness in operations auditing.** *(Conclusion 10)*
5. **Make consideration of Enterprise Risk Management a more structured part of audit planning.** *(Conclusion 11)*

Chapter Five

Conclusions:

7. **The design of the annual bonus plan is complicated and over-emphasizes meeting CECONY's O&M budget at the expense of other, important measures.** *(Recommendations 1 and 2)*
8. **The structure of the long-term incentive program re-emphasizes Con Ed's over-focus on meeting the expense budget.** *(Recommendation 2)*
9. **Neither the annual cash bonus nor long-term incentive plans put enough compensation at risk or have enough stretch.** *(Recommendation 1)*
10. **The bonus and long-term incentive plans both allow for much exercise of the board's and management judgment.** *(Recommendation 1)*

Recommendations:

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)* **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)*

Chapter Six

Conclusions:

2. **The KPI system platform has limited functionality.** *(Recommendation 1)*
4. **CECONY does not have a comprehensive, corporate-wide integrated system of performance measurement.** *(Recommendation 1)*
5. **Business unit managers use their own sets of performance indicators to manage their operations.** *(Recommendation 1)*
6. **CECONY's corporate performance indicators place insufficient emphasis on longer term performance.** *(Recommendation 1)*
7. **CECONY's limited, general comparisons with other utilities may be comforting but provide little useful information.** *(Recommendation 1)*

Recommendations:

1. **Develop a corporate-wide management information system.** *(Conclusions 2, 4, 5, 6, 7)*

Chapter Seven

Conclusions:

2. **Total staffing levels in the key forecasting functions are adequate, although there may be opportunity to reallocate staff among load forecasting tasks and products.** *(Recommendation 1)*
8. **Peak-load forecasting for gas needs a different approach.** *(Recommendation 2)*
9. **Throughput-volume forecasts for gas display problematic results.** *(Recommendation 3)*

13. **The use of 25 years of sales data for forecasting the next five is not forward-looking.** *(Recommendation 3)*
14. **CECONY's long-term forecasts prepared 5 and 10 years ago demonstrate a consistent pattern of a 5 percent to 10 percent under-estimation of peak load, calling into question the degree of under-estimation in current forecasts.** *(Recommendation 3, 4)*
18. **CECONY performs little or no sensitivity analyses, probabilistic assessments or other consideration of uncertainty in load forecasting.** *(Recommendation 5)*
19. **Documentation and communication regarding the criteria and assumptions used in load forecasts and the factors that drive forecasts can be improved.** *(Recommendation 6)*
26. **CECONY load forecasting processes make no use of CECONY load research data, suggesting a lost opportunity for potentially significant improvements in quality and cost effectiveness.** *(Recommendation 7)*
28. **Goals for DSM targeted to specific networks represent a small percentage of the system peak demand.** *(Recommendation 8)*
29. **CECONY's load relief program and resulting construction needs receive no benefit from the Company's load curtailment programs.** *(Recommendation 9)*
30. **CECONY's load forecasting efforts are focused on history, short-term events and mechanical processes with insufficient attention to long-term considerations that might have a quantum impact on demand.** *(Recommendation 10)*

Recommendations:

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)*
2. **Find a better way to forecast growth in the peak gas load.** *(Conclusion 8)*
3. **Conduct an R&VF review of certain aspects of its approach to forecasting.** *(Conclusions 9, 13, 14)*
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)*
5. **Expand load forecasting activities and capabilities to encompass analysis of uncertainties using sensitivity analyses, probabilistic tools or other applicable techniques.** *(Conclusion 18)*
6. **Develop an improved approach to the documentation, testing, and communication of forecast criteria and assumptions**. *(Conclusion 19)*
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)*
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)*

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)*
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)*

Chapter Eight

Conclusions:

3. **Ongoing maintenance programs and targeted reliability programs should be adequate to maintain system equipment integrity; however some programs produce decreasing reliability benefits per dollar expended.** *(Recommendation 1)*
6. **The 138 kV system designed to N-1 standards is not analyzed to prevent maintenance difficulties from a design basis.** *(Recommendation 2)*
8. **The criteria used by CECONY for the design of its transmission system conform to all national, regional, and state reliability organizations; however the determination of transfer levels used when analyzing line out conditions need to be clarified.** *(Recommendation 3)*
14. **There are inconsistencies with the data used in the calculation of equipment rating data.** *(Recommendation 4)*
16. **Deficiencies in network and distribution planning models and software have been identified; they are being addressed.** ***(****Recommendation 5****)***
17. **No analysis that determines what 3G initiatives must be accomplished by what date has been performed in order to minimize costs to customers.** ***(****Recommendation 6****)***
19. **Reduction of peak losses is not sufficiently considered in the planning process.** ***(****Recommendation 7****)***
20. **Sectionalization of network feeders warrants further investigation.** ***(****Recommendation 8)*
22. **There is not consistent conformity across regions with the new distribution trimming standards.** *(Recommendation 9)*
23. **The 100 percent inspection program of distribution trimming prior to payment is not achieving desired results.** *(Recommendation 10*
24. **There is no base reliability design level for networks.** *(Recommendation 11)*

Recommendations:

1. **Evaluate reliability programs to determine if they should be terminated earlier to release capital expenditures for more cost effective reliability programs.** *(Conclusion 3)*
2. **Analyze 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)*

3. **Clarify transmission planning criteria with regard to determination of transfers used during second contingency analysis.** *(Conclusion 8)*
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)*
5. **Maintain the 2011 completion date for completion of network secondary topology updates and EPRI DEW software.** *(Conclusion 16)*
6. **Perform a least cost system analysis that minimizes costs to customers with regard to implementation of 3G strategies.** *(Conclusion 17)*
7. **Perform analyses to determine if peak demand can be reduced more economically than the addition of infrastructure.** *(Conclusion 19)*
8. **Actively pursue the economic use of SCADA controlled network mid-point feeder sectionalizing switches or circuit breakers to reduce system investment.** *(Conclusion 20)*
9. **Place all distribution tree trimming under a central corporate management function with accountability to corporate management.** *(Conclusion 22)*
10. **Strengthen the distribution vegetation management inspection program with accountability.** *(Conclusion 23)*
11. **Establish a base level of network reliability for new networks.** *(Conclusion 24)*

Chapter Nine

Conclusions:

6. **CECONY does not maintain the information it will need to make future evaluations of main replacement.** *(Recommendation 1)*
16. **Corporate planning does not advise Gas Engineering of major changes in the business environment that may impact gas-system planning.** *(Recommendation 2)*
18. **Gas-system planners know when major new loads might impose costs on the system that would be inconsistent with rate design.** *(Recommendation 3)*

Recommendations:

1. **Maintain current information about CECONY's leak-prone pipe.** *(Conclusion 6)*
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)*
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)*

Chapter Ten

Conclusions:

4. **CECONY has not formally identified a master plan for its steam business unit. If the steam resource plan is to be considered a comprehensive master plan, it lacks sufficient focus on proactively addressing safety issues as well as potential**

upcoming environmental mandates and an expanded focus and input regarding the needs of the steam transmission and distribution system. *(Recommendation 1)*

Recommendations:

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)*

Chapter Eleven

Conclusions:

3. **Annual electric rate cases have supplanted the CECONY budgeting processes for the 2008 and 2009 budget years.** *(Recommendation 3)*
4. **CECONY executive management does not set long-term plans, goals and objectives for reliability and infrastructure investment that can be linked with the annual budget process.** *(Recommendation 1)*
6. **Capital projects and programs are analyzed and prioritized using different methods and processes in each major organization.** *(Recommendation 2)*
7. **CECONY does not have a common, company-wide analysis system to evaluate and allocate projects based on their long-term economic value.** *(Recommendation 2)*
8. **Longer-term reliability and infrastructure projects can be "crowded out" of the capital budget by shorter-term priorities, or not proposed.** *(Recommendation 4)*
16. **CECONY's capital re-allocations in response to budget over-runs can cause infrastructure and reliability projects to be cancelled or delayed without board of trustees consent.** *(Recommendation 5)*
17. **The company does not have informational feedback loops in place to evaluate the quality of project analysis and prioritization efforts.** *(Recommendation 6)*

Recommendations:

1. **Strongly link CECONY's long-term electric plan with annual budgets, rate plans and 5-year capital plans.** *(Conclusion 4)*
2. **Establish consistent, company-wide economic value analysis methods and metrics for capital projects and programs.** *(Conclusions 6 and 7)*
3. **Work toward the re-establishment of multi-year electric rate cases.** *(Conclusion 3)*
4. **Prioritize CECONY capital projects and allocate funding using long-term economic analysis metrics as a significant decision factor.** *(Conclusion 8)*
5. **Require changes in capital projects and programs (with a total cost of greater than $10 million or and/or an annual budget of greater than $5 million) of more than 20 percent from the annual budget to be approved by the board of trustees.** *(Conclusion 16)*
6. **Establish formal informational feedback loops for project analysis and project prioritization.** *(Conclusion 17)*

Chapter Twelve

Conclusions:

Cost Management

1. **Con Edison management has defined cost management as an important part of its corporate strategy, but the formal supporting structure and program are not in place to allow that priority to play out in day-to-day operations.** *(Recommendations 1, 4)*
3. **Workforce management reports have many charts and tables, but contain little in the way of analysis or recommendations for dealing with cost variances** *(Recommendation 1)*
5. **Con Edison's cost support groups are capable at fulfilling the requirements and expectations of the current cost management approach.** *(Recommendations 2, 3, 4)*
6. **Con Edison can achieve substantial cost benefits by a shift to a formal program of cost management featuring a structure that places a high priority on effective cost management and an action-oriented emphasis on analysis and corrective action.** *(Recommendations#1, 4)*

Work Planning

6. **Criteria for optimal fleet size are not established.** *(Recommendation 1)*
9. **The same work management processes are used in a project environment in a consistent manner. However, the significant Cost overrun of several mega projects against the original or appropriation estimates caused major concerns among stakeholders.** *(Recommendation 2)*

Resource Management

3. **There is a lack of long term resource capability analysis.** *(Recommendation 1)*
5. **Assessments of productivity and cost impacts due to the replenishment of retired workers by trainees are not being performed.** *(Recommendations 1 and 2)*
6. **Con Edison has a strong safety program, but recent fatalities, the post-accident actions of the Company, less-than-aggressive safety goals and continuing management / union contention raise effectiveness concerns.** *(Recommendations 4, 5, 6)*
7. **The OSHA incident rate for Gas Operations (excluding Gas Engineering) is trending higher.** *(Recommendation 3)*
8. **While contractor safety programs may be consistent with Con Edison requirements, there have been cases of inadequate implementation and enforcement.** *(Recommendation 7)*
9. **Overtime is consistently exceeding 20% over the past three years and does not appear to be under control.** *(Recommendations 1, 9, 10)*
11. **The contractor workforces are generally efficient as there are many unit costing contractors and fixed price contractors. However, for better utilization of internal resources, resource analysis should be performed continuously at the local levels to levelize peak periods.** *(Recommendation 1)*

12. **Con Edison has no articulated strategy or specific policies on balancing in-house and contractor resources.** *(Recommendation 8)*

Performance Measurement

1. **The assessment of cost savings or cost avoidance on continuous improvement initiatives is inadequate.** *(Recommendation 1)*
2. **There is a disconnect in the perception of a continuous improvement culture between the senior management and the working level personnel.** *(Recommendation 1)*
3. **None of the business units has productivity as a pay-for-performance goal.** *(Recommendation 2)*
4. **There is little documentation on the implementation and effectiveness of lessons learned.** *(Recommendation 3)*
5. **The Quality Assurance Program is effective. However, the QA acceptance rates are trending poorly.** *(Recommendation 5)*
9. **There is no substantive effort at internal benchmarking.** *(Recommendation 3)*
10. **There is limited participation in external data sharing and less in external benchmarking.** *(Recommendation 4)*

Recommendations:

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, 3, 6)*
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)*
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)* **4. Provide training for managers, supervisors and cost support personnel in cost management techniques consistent with the holistic approach.** *(Conclusions 1, 5, 6)*
4. **General Recommendation Implementation Guidance.**
5. **Sample Cost Management Implementation Tactics.**

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)*
2. **Perform in-depth reconciliation on cost estimates with substantial overrun to better understand the root causes of deviations.** *(Conclusion #9)*

Resource Management

1. **Perform comprehensive resource analysis for all business units on a quarterly or semi-annual basis.** *(Conclusions 3, 5, 9, 11)*
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)*
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)*
4. **Review the roles of management, the Board and/or its committees after serious events such as the 2008 electrical fatalities.** *(Conclusion 6)*
5. **Increase efforts to segregate safety from contractual issues in management / bargaining unit dialog.** *(Conclusion 6)*
6. **Review safety targets with the objective of adapting "stretch," but attainable, levels that exceed historical averages.** *(Conclusion 6)*
7. **Strengthen enforcement of contractor compliance with their safety programs.** *(Conclusion 8)*
8. **Establish a corporate philosophy, policies and supporting guidelines for the balancing of in-house and contractor resources.** *(Conclusion 12)*
9. **Establish a corporate philosophy, policies and supporting guidelines to provide managers and supervisors with a framework to manage overtime.** *(Conclusion 9)*
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)*

Performance Measurement

1. **Advance the continuous improvement efforts under The Way We Work program.** *(Conclusions 1, 2)*
2. **Include pertinent productivity improvement goals in future KPIs at various management levels.** *(Conclusion 3)*
3. **Implement a formal program for representatives from each region to share lessons learned in their respective fields.** *(Conclusions 4, 9)*
4. **Participate more actively in external information sharing efforts.** *(Conclusion 10)*
5. **Perform analysis on work items with unacceptable QA rejection rates to isolate performance problems.** *(Conclusion 5)*

Chapter Thirteen

Conclusions:

Central Operations

3. **Large projects are provided with dedicated support resources, but lessons from past project close-out reviews consistently indicate that these resources may not be adequate.** *(Recommendation 1)*

6. **Some of the philosophies, principles and methods of holistic cost management are not being applied in the project environment.** *(Recommendation 2)*
18. **The construction program provisions for the collective management of small projects do not make fully-effective use of the project management principles used on large Central Operations projects.** *(Recommendation 3)*

Electric Operations

1. **A project management program is in place, but it does not address all of the elements of project management.** (*Recommendation 1)*
2. **A team of project managers is not in place.** *(Recommendation 2)*
4. **The project management principles that are being applied to significant O&M efforts could be improved with the use of a work management system tool.** ***(****Recommendation 1****)***
5. **Formal approval and kick-off of projects is not permitted without a reasonably firm scope definition, but the cost estimate is generally only an order of magnitude estimate.** *(Recommendation 1)*
6. **Some of the philosophies, principles and methods of holistic cost management are not being applied in the project environment.** (*Recommendation 3)*
7. **Cost management plans for major components of the work are not in place.** *(Recommendation 2)*
9. **A program of scope control that identifies scope deviations early and analyzes and mitigates their effects is not in place.** *(Recommendation 2)*
13. **The role and responsibility of the project manager in not clearly defined and understood throughout the organization.** *(Recommendation 2)*
14. **There are no consistent expectations for project managers in place.** *(Recommendation 2)*
15. **Project management requirements for project participants are not generally consistent across all projects.** *(Recommendation 2)*
16. **There is linkage between project management and the budgeting systems, but the linkage is not very clear.** *(Recommendation 1)*
18. **There is no written provisions for the collective management of small projects.** *(Recommendation 2)*

Recommendations:

Central Operations

1. **Improve resource planning for design personnel and other essential project personnel.** *(Conclusion 3)*
2. **Bring a corporate total holistic approach to cost management to the project and program management efforts.** *(Conclusion 6)*
3. **Strengthen Substation Operations program management processes by adding project management principles in a structured way.** *(Conclusion 18)*

Electric Operations

1. **Implement a work management system in Electric Operations.** *(Conclusion 1, 4, 5, 16)*

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)*
3. **Implement a corporate total holistic approach to cost management.** *(Conclusion 6)*

Chapter Fourteen

Conclusions:

1. **The Chief Distribution Engineer needs a project support/specialist to assist in coordinating and executing the main replacement, reinforcement, and other distribution engineering capital projects or programs.** *(Recommendation 1)*
2. **The project scope documents for gas capital projects do not give sufficient details that address the risks and rewards of the project or provide alternatives that were evaluated and not chosen.** *(Recommendation 2)*
3. **CECONY has an insulated corporate culture that undervalues the potential for learning best practices from others.** *(Recommendation 3)*

Recommendations:

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)*
2. **Improve and expand the current project scope documentation to add sections on risks and rewards and alternative methods.** *(Conclusion 2)*
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)*

Chapter Fifteen

Conclusions:

1. **Central Operations Procedure (COP) 10-0-5 meets the requirements of project management process phases, but needs to provide further specificity for application to most steam distribution projects.** *(Recommendation 1)*
3. **Steam Distribution Operations personnel do not receive sufficient training in work management principles and in applicable elements of COP 10-0-05.** *(Recommendation 2)*

Recommendations:

1. **Identify projects requiring the application of project management techniques through a more formal, structured process.** *(Conclusion 1)*
2. **Train steam distribution operations personnel in work and project management techniques.** *(Conclusion 3)*

Chapter Sixteen

Conclusions:

2. **Opportunities to consolidate the electric and gas financial hedging activities have not been realized.** *(Recommendation 1)*
3. **CECONY does not have a comprehensive and structured approach with clear goals and objectives for electricity-supply "portfolio design."** *(Recommendation 2)*
4. **The performance measurements for energy management provide incentives for only a portion of appropriate electric supply goals and objectives.** *(Recommendation 3)*
7. **CECONY's planning for electric supply procurement is not sufficiently long term to capture the load requirements and resources past 2012.** *(Recommendation 2)*
8. **Efforts to identify alternative sources of capacity and energy have not been fully analyzed or documented.** *(Recommendation 4)*
9. **CECONY's examination of new capacity resources and markets to meet its NYISO ICAP requirements has not been sufficiently aggressive.** *(Recommendation 4)*
11. **CECONY has not recently explored economically buying out its high-priced NUG contracts.** *(Recommendation 4)*
14. **CECONY's price risk management (hedging) program is consistent with NYPSC requirements for reducing price volatility.** *(Recommendation 2)*
17. **CECONY Internal Auditing has not tested the electric procurement decisions and decision-making processes with sufficient frequency.** *(Recommendation 5)*
20. **Electric procurement operations do not have comprehensive and clearly documented policies and procedures.** *(Recommendation 6)*

Recommendations:

1. **Consolidate duplicative Energy Management operations in the electric and gas hedging functions.** *(Conclusion 2)*
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)*
3. **Revise the performance measures (KPIs) for energy management to provide metrics and incentives that align with electric procurement objectives.** *(Conclusion 4)*
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)*
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)*

6. **Document processes, procedures, and guidelines for electric supply and scheduling, and for the 20 percent purchase flexibility in electric hedging.** *(Conclusion 20)*

Chapter Seventeen

Conclusions:

3. **Coordination within Energy Management is not sufficiently robust.** *(Recommendation 1)*
7. **Documentation processes for procurement actions should be adequate to support regulatory oversight and review, but some procedures have not been followed.** *(Recommendation 2)*
8. **Internal Auditing does not routinely examine the award of gas-supply contracts.** *(Recommendation 2)*
13. **The set of capacity alternatives used to provide the final increments needed to address extreme load conditions has not resulted from a sufficiently robust consideration of tools that others have found to be useful.** *(Recommendation 3)*
14. **Analysis generally focuses on identifying the combination of resources that serves present and anticipated loads at least cost, but efforts to identify alternative sources of supply are not sufficiently broad.** *(Recommendation 4)*
17. **CECONY uses clear, focused procurement solicitations but has not actively encouraged supplier input on alternative approaches.** *(Recommendation 5)*
20. **Information regarding identified and pre-qualified suppliers should be kept current.** *(Recommendation 6)*
27. **Gas Supply has not demonstrated sufficient interest in assessing its own performance.** *(Recommendation 7)*
28. **The interests of on-system customers are prominent drivers of policies and procedures for operation of the Company's gas-supply portfolios, but the Company has not fully considered whether use of an third-party asset manager would yield more customer benefits.** *(Recommendation 8)*
30. **Unused supply-capacity assets could be marketed more aggressively.** *(Recommendation 8)*

Recommendations:

1. **Make finding means for increasing interdepartmental coordination an Energy Management priority.** *(Conclusion 3)*
2. **Provide for more regular examination of Gas Supply's award of supply contracts by Internal Auditing.** *(Conclusions 7, 8)*
3. **Explore applying probability-of-occurrence analysis to its supply-capacity planning.** *(Conclusion 13)*
4. **Expand Gas Supply's range of potential capacity alternatives as it considers firm customers' peak-day requirements for supply.** *(Conclusion 14)*
5. **Conduct occasional Gas Supply outreach and tests to identify potential additional types of supply arrangements.** *(Conclusion 17)*

6. **Keep financial and credit information for gas suppliers current.** *(Conclusion 20)*
7. **Find specific, objective ways for Gas Supply to evaluate its own performance.** *(Conclusion 27)*
8. **Solicit proposals for external asset management.** *(Conclusions 28, 30)*