Proposal to Perform a Management Audit of Central Hudson Gas & Electric Corporation's Electric and Gas Businesses

Case 09-M-0764

Presented to:

Public Service Commission
State of New York

Presented by:

The
Liberty Consulting Group

December 1, 2009

65 Main Street, P.O. Box 1237
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December 1, 2009

Ms. Jaclyn A. Brilling, Secretary
New York State Department of Public Service
3 Empire State Plaza
Albany, New York 12223-1350

Dear Ms. Brilling:

The Liberty Consulting Group (Liberty) is pleased to present the enclosed *Proposal to Perform a Management Audit of Central Hudson Gas & Electric Corporation* (Central Hudson or The Company). This proposal responds to the November 12, 2009, RFP issued by the State of New York Department of Public Service (NY DPS). We believe we present exceptional capabilities to perform the substantial and unique requirements of this RFP. Liberty and its team members have extensive experience on similar engagements.

Liberty has a strong record of accomplishment for state regulatory commissions, having served two-thirds of the country's state utility regulators, and performing an extremely wide range of management and operations audits and investigations. We have served the New York Public Service Commission on a number of occasions in the past, including the 2008-2009 Management and Operations Audit of Con Edison, and look forward to resuming a strong, continuing relationship in the future.

Liberty is especially pleased to offer a team concentrated in the New York and Mid-Atlantic region. A majority of the team's members are engineers and have extensive utility planning, budgeting, and management experience in the areas to which they are assigned. The team that Liberty proposes includes the core members from Liberty's successful audit of Con Edison for the NY DPS.

I hereby certify that the information contained in this proposal is accurate, that Liberty is committed to and has the ability to conduct the work described in this proposal, and that Liberty takes no known exceptions to the RFP. This proposal constitutes a firm offer to provide the services described therein, and that offer is valid until March 31, 2010. Please feel free to contact us with any questions or information needs. Thank you for considering our proposal to conduct this important engagement.

Sincerely,

John Antonuk
President
antonuk@libertyconsultinggroup.com

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Table of Contents

I. Introduction 1
II. Audit Objectives and Scope 2
A. Objectives 2
B. Scope 4
1. Vertical and Horizontal Examination 4
2. Telling the Audit's Story 6
3. The Connection Between Process Linkage and Effective Management 10
III. Approach and Methods 11
A. Philosophy 11
B. General Approach 12
C. Focused and Comprehensive Audit Work Planning 13
D. Beyond a Paper Audit 13
E. Work Performance Guidelines and Criteria 15
F. Work Products and Working Papers 16
G. Staff Participation 17
H. Work Methods 18
1. Initial Data Request 18
2. Orientation 19
3. Initial Document Reviews 20
4. Introductory / Planning Interviews 20
5. Detailed Work Plans 21
6. Data Gathering 21
7. Issues Review 22
8. Conclusion and Recommendation Development 23
9. Draft Report 24
10. Closure of Field Work 24
11. Final Report 25
I. Testimony 25
IV. Audit Areas and Issues 26
A. Corporate Mission, Objectives, Goals and Planning 26
1. Study Guidelines 27
2. Evaluation Criteria 30
3. Work Activities 33
4. Liberty Resource Assignments 35
5. Potential Benefits and Costs 36
B. Load Forecasting 36
1. Study Guidelines 36
2. Evaluation Criteria 37
3. Work Activities 37
4. Liberty Resource Assignments 38
5. Potential Benefits and Costs 38
C. Supply Procurement 39

1. Study Guidelines 39
2. Evaluation Criteria 43
3. Work Activities 45
4. Liberty Resource Assignments 47
5. Potential Benefits and Costs 47
D. Long-Term System Planning 47
1. Study Guidelines 47
2. Evaluation Criteria 48
3. Work Activities 49
4. Liberty Resource Assignments 50
5. Potential Benefits and Costs 50
E. Capital and O&M Budgeting 50
1. Study Guidelines 50
2. Evaluation Criteria 54
3. Work Activities 55
4. Liberty Resource Assignments 57
5. Potential Benefits and Costs 57
F. Program and Project Planning and Management 58
1. Study Guidelines 58
2. Evaluation Criteria 59
3. Work Activities 60
4. Liberty Resource Assignments 61
5. Potential Benefits and Costs 62
G. Work Management 63
1. Study Guidelines 63
2. Evaluation Criteria 64
3. Work Activities 65
4. Liberty Resource Assignments 67
5. Potential Benefits and Costs 67
H. Performance and Results Measurement 67
1. Study Guidelines 67
2. Evaluation Criteria 69
3. Work Activities 70
4. Liberty Resource Assignments 71
5. Potential Benefits and Costs 71
V. Project Team 72
A. The Proposed Team 72
B. Project Organization 72
C. Personnel and Resumes 73
D. Team Members 74
1. John Antonuk 74
2. Richard Mazzini 75
3. David Berger 76
4. Philip Weber 77
5. Larry Nunnery 78
6. Phillip Teumim 78

7. Randall Vickroy 79
8. Albert Yu 80
9. Christine Kozlosky 81
10. Michael Antonuk 81
E. Consultant Assignment Matrix 82
F. Absence of Conflict of Interest 82
VI. Schedules and Budgets 84
VII. Qualifications 87
A. Nationwide, Multi-Decade Service to Utility Regulators 87
B. Utility Industry Experience 88
C. Liberty's Most Recent Projects 88
1. Con Edison Management and Operations Audit 88
2. AGLR/ETG Affiliates and Management Audit 89
3. Electricity and Natural Gas Delivery Infrastructure 89
4. Potomac Edison Distribution System Transfer 89
5. Standard Offer Service for Maryland's Four Electric Utilities 89
6. Duke Energy Affiliates Audits 90
7. NSPI Integrated Resource Planning, Fuel, and Renewables Portfolio 90
8. Delmarva Affiliates Audit 90
9. Delmarva Debt Issuance 91
10. EKPC Governance, Planning, Finance, and Budgeting 91
11. Duke Ohio Fuel/Energy Procurement and Fuel Clause Financial Audit 91
12. LIPA Evaluation of Fuel and Purchased Power Cost Adjustment 91
13. WGL Gas Pipe Leaks 91
14. Transmission Siting and Reliability 92
D. Directly Relevant Past Projects 92
1. Management and Operations Audits 92
2. Commonwealth Edison Capital and O&M Spending Audit 93
3. Electric Systems Operations and Reliability 93
4. Energy Procurement - Electric Companies 98
5. Supply Planning and Energy Procurement Audits – Natural Gas 99
6. Holding Company/Utility Governance, and Financial Insulation 102
VIII. Offer to Serve 104
Appendix A: Resumes A-1
Appendix B: Project Summaries and References B-1
Appendix C: Relevant Liberty Work Samples C-1

I. Introduction

The Commission issued, under cover of a November 12, 2009 letter, a Request for Proposal (RFP) in *CASE 09-M-0764 – Management Audit of Central Hudson.* This RFP seeks an independent consultant to perform a comprehensive management audit of certain elements of the electric operations of the utility. This proposal from The Liberty Consulting Group (Liberty) responds to the RFP seeking a consultant to perform this audit. The audit will be conducted under the provisions of Public Service Law, Section 66(19). The statute allows the commission to provide for management and operations audits of combination gas and electric companies at least once every five years. The statute intends that such audits examine reliability and efficiency of operations in areas that include but are not necessarily limited to construction program planning. The Commission will select the auditor, the Department of Public Service Staff (Staff) will manage the work, and Central Hudson will pay for the audit's costs.

The Commission historically conducted one of the country's earliest, most comprehensive, and largest utility management audit programs, in major part through the retention of outside consultants. Liberty has been favored with the opportunity in the past to conduct a number of audits for the Commission, including the audit of Consolidated Edison which was completed earlier in 2009. For many years prior to that Con Ed audit, the Commission conducted audits primarily through the use of Staff, supplemented on occasion through the use of consultants in particularly focused inquiries. The Commission has now returned to the use of independent consultants to assist the Commission in the performance of this important regulatory oversight function. In the intervening years, Liberty has become the country's leading source of assistance to utility regulators in the performance of such work, and we are again pleased to offer our services to the Commission.

The RFP contemplates a comprehensive and thorough audit, but not one that follows the classic approach of examining utility management and operations on a functional basis, divided largely by the organizational units into which utilities then typically divided their resources. The RFP requires that this audit focus on the construction program planning, operational efficiency and performance, including reliability. The approach sought by the RFP is to examine the elements that comprise a cycle that flows from planning through resource assembly and structure, through key activity definition and structuring, through work planning and budgeting, through work performance and measurement, and back to planning through the incorporation of lessons learned by performance measurement. The specific cycle elements to be examined in this audit comprise:

- Corporate Mission, Objectives, Goals and Planning
- Load Forecasting
- Supply Procurement
- System Planning
- Capital and O&M Budgeting
- Program and Project Planning and Management
- Work Management
- Performance and Results Management.

II. Audit Objectives and Scope

A. Objectives

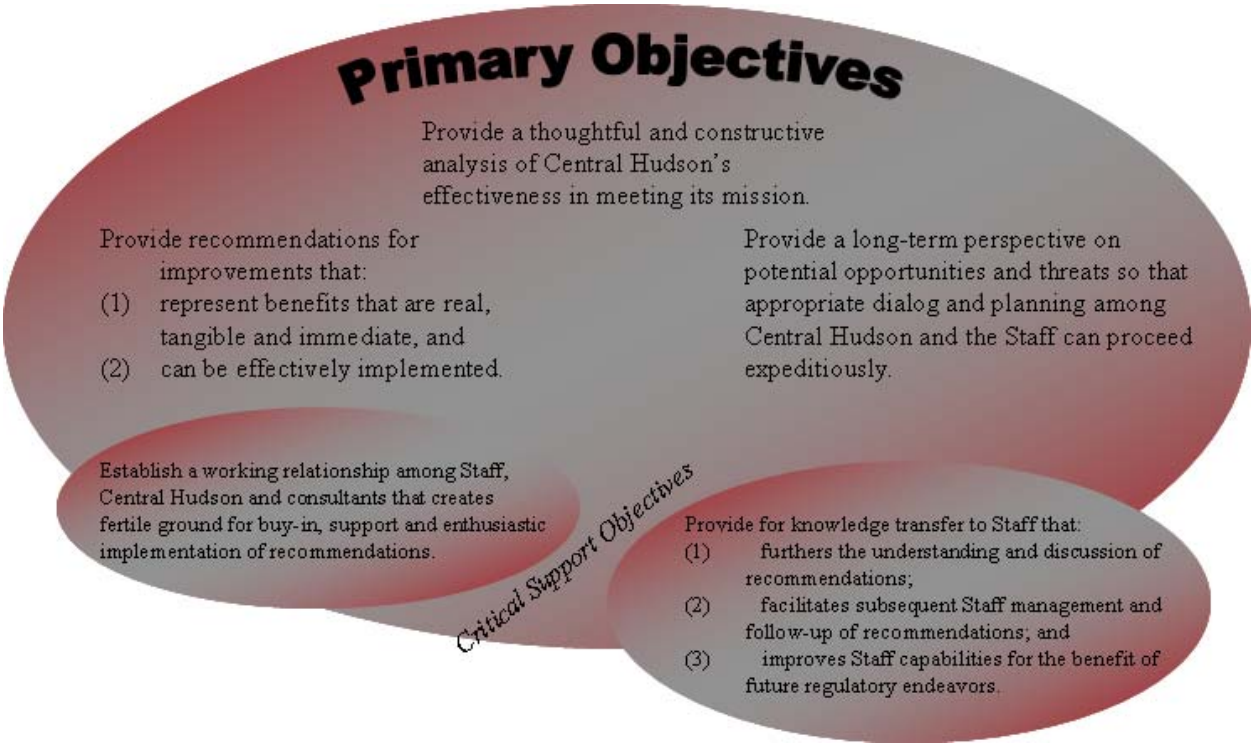
Liberty applied three primary substantive objectives and two supporting objectives in creating the strategic framework for this audit:

Substantive

- Analysis of current management and operations
- Recommendations to improve cost or service effectiveness and efficiency
- Consideration of the longer term outlook for Central Hudson

Administrative

- Provide for a solid working relationship with Staff
- Provide a clear, structured opportunity for knowledge transfer from the audit team to Staff.



The first objective is to produce for each area of management and operations examined a thorough and careful analysis of Central Hudson's current structure, resources, methods, and performance. Meeting this objective requires recognition of the major changes that have taken place in the industry generally, and in New York specifically, since the last comprehensive management audit. Customer choice, in particular, has caused major changes in the company's energy supply roles and in the portfolio of assets it uses to fill those roles.

The second and certainly most central objective of this engagement is to produce clear benefits for customers. Those benefits may take the form of reduced costs, enhanced reliability, better service, higher levels of customer satisfaction, or increased transparency or accountability. Whatever form they take, however, it is important that the benefits produced be tangible and timely. Therefore, the audit report should:

- Produce clear and specific recommendations
- Describe all applicable balancing among forms of benefits (*e.g.*, any increased costs required to produce service enhancements)
- Be as precise and comprehensive as possible in quantifying the costs of making changes and the benefits to be obtained.

Liberty's now long record of performance for utility regulators in similar projects makes clear that our objective is to seek meaningful improvement, not "change for the sake of change." Central Hudson will no doubt do some things differently from what our team members, who have extensive industry and regulatory experience, would prefer. That inevitable fact, however, is not in itself justification for change. Our team members understand and have acted many times in furtherance of Liberty's demonstrated respect for the notion that there are many different ways to accomplish the same objective. We consider it our burden to prove that changes in strategies, plans, structure, staffing, resource expenditure, programs, policies, methods, procedures, actions, measurement, and feedback will better or more economically serve customers.

Liberty also has significant experience in examining the management and operations of combination utilities. That experience teaches our team members that businesses operating in the same "house" can have very different and sometimes even conflicting needs. Our work involving such companies recognizes the need to look at the needs of each segment individually, while understanding that overall management and operations optimization must ultimately recognize the linkages among them.

The third objective that Liberty considers important, is related to the second, but considers a different time horizon. Consistency and stability were hallmarks of the industry for decades. Change has, however, become a much more important factor, creating significant uncertainties for the future. Moreover, service-reliability, which has become a matter of increasing concern across the country, moves much more according to longer-term, as opposed to short-term changes.

On the operations and maintenance side, as Liberty's work at many companies teaches, it can take a long time for service quality metrics to respond to declines in expenditures. On the capital side, the quality of the infrastructure, which remains one of American industry's longest-term investments, is also a matter of much increased regulatory scrutiny. A lack of adequate investment can cause a slow, but eventually material degradation in service quality. On the other hand, responding with massive new investment may seem a customer-friendly action, but may over the long term drive rates higher without a fully matching level of actual service quality enhancement. Whoever performs this audit will need to take an appropriately long-range view to measure the effectiveness and efficiency of major new investments that will serve the public for many decades to come.

The first, overriding support objective is one that Liberty has emphasized in its twenty years of work with utility regulators in two-thirds of the U.S. jurisdictions and several in Canada. Liberty has found that that audit effectiveness improves significantly in cases where Staff participation is strong, and not just in administrative and project management matters. Liberty has always welcomed Staff participation in all audit activities, including the sessions where Liberty's team members discuss and debate among themselves the nature of current management and operations and the possibilities for improving them. Nothing has diminished Liberty's commitment to a close working relationship with Staff in the years since our last work for the Commission. In fact, a principal reason for our success in the business is a continuation of that commitment as our work has expanded to include all regions of the country, all of the major utility industries regulated by commissions, and a vast range of different governance, operations, financial, accounting, policy and other issues facing utility regulators.

Knowledge transfer to Staff comprises Liberty's second, overriding support objective for this project. Our team members routinely work with Staff members of the many commissions we serve to answer their specific questions about both management and operations and how to examine them effectively. We have worked with large and small staffs. We have encountered industry-based and functionally-based staff organizations. We have worked with both advisory and with prosecutor staffs. Liberty has consistently demonstrated the openness and candor required to serve effectively in a knowledge-transfer capacity. We often perform that role in the variety of relationships and interactions that take place on our projects. We have also performed it by constructing and leading, as is expected here, specific and focused demonstrations, presentations, and workshops.

Liberty will work hard to assure Staff an opportunity for strengthening its capabilities to respond to the missions given it by the Commission. Specifically, Liberty will assist Staff by allowing it to:

- Develop an understanding of both what we view to be the present circumstances at Central Hudson and how and why we consider the particular circumstances on which we focus to be the important ones
- Apply a framework for placing what we do at Central Hudson and what we consider important there into contexts that will apply at other utilities in the same industries
- Differentiate what makes Central Hudson circumstances different from its peers and understanding where they are similar
- See what specific evaluation criteria Liberty applies, how the team applies them to the facts, and why those criteria are considered the proper ones for examining management and operations efficiency and effectiveness
- Gain the benefit of team member experience in understanding how changes in the industry have affected the opportunities, challenges, and needs facing Central Hudson specifically, and its peers generally.

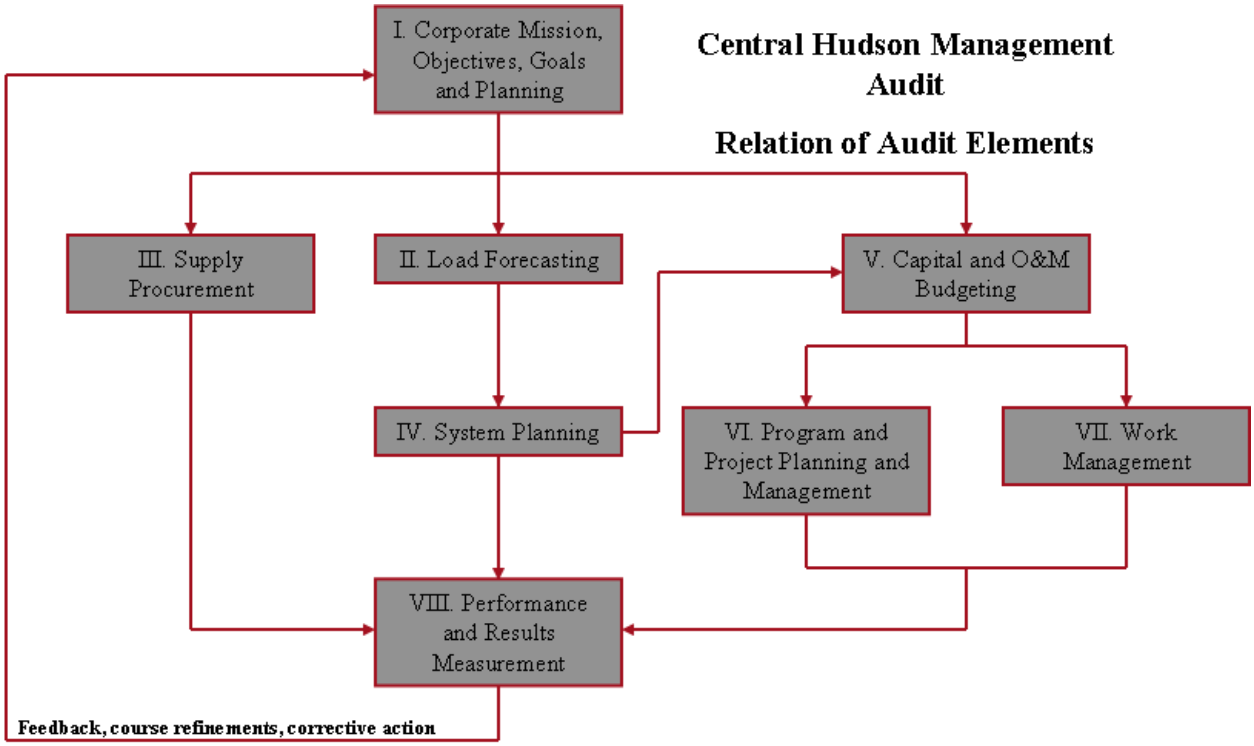
B. Scope

1. Vertical and Horizontal Examination

Liberty's performance of comprehensive management and operations audits has always consisted of what may be termed "vertical" and "horizontal" perspectives. The vertical

perspective corresponds to what the RFP terms a silo approach. It focuses on the functions into which utilities have classically structured their organizations, adding several such as corporate governance and corporate planning. Even those often generally correspond to organizational units; *e.g.*, the board of directors has the largest governance role (supported by senior executive, internal audit personnel, and compensation personnel), and most utilities have a department that coordinates planning activities (although corporate planning activities almost always involve at least the leadership of all organizations).

The RFP's focus of a related set of elements or processes, diagrammed below, that form an integrated loop corresponds with Liberty's horizontal perspective.



Liberty has examined on a process-base (*i.e.*, not an organization-base) those activities that have corporate-wide bearing or that involve persons working together across organization lines. Corporate planning, budgeting, and performance management (performance and results measurement as termed in the RFP) provide examples. Liberty has generally examined some activities, such as supply procurement, on more of a functional or organizational basis, because they generally involve a single organization unit, or a dominantly responsible unit supported by inputs from one or a few other units.

Some sets of processes, such as program and project planning and management and workforce management, have corporate-wide applicability, but can be difficult to examine outside of their particular functional context. The reasons are that they support activities, depend on data, or involve work groups that can vary widely from function to function or organization to organization. In those cases, Liberty has typically used a functional approach, while remaining mindful of any common approaches or personnel and of the comparative relative levels of rigor,

sophistication, and importance placed on the processes in question among the different organizations that apply them.

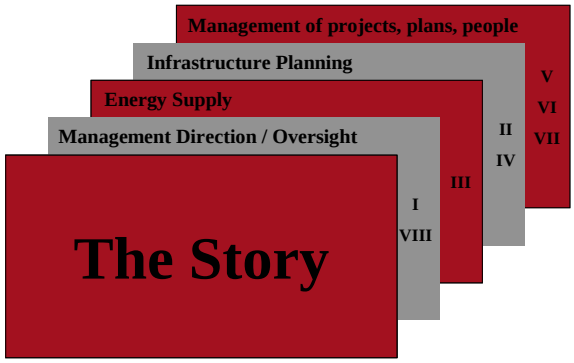
Whatever the matter at issue, Liberty has generally examined matters within audit scope from both the horizontal and vertical perspectives. This approach focuses attention on areas where horizontal continuity is important. For example, it promotes attention on the important question of whether linkages between and among processes that form a (hopefully) well-integrated loop are less than optimum, even though the processes themselves may not exhibit significant weakness. Those linkages are many and sometimes complex; the diagram above can only begin to show them without becoming too busy to be useful. The vertical approach, in contrast, promotes a focus on the need for different considerations to be applied by organizations with distinct requirements and resources, and activities, even though they are using common or similar processes.

This characteristic of Liberty's approach and methods means that the RFP would not require Liberty to perform work in an unfamiliar way. To the extent that this RFP does impose a substantive difference, as compared with the audits Liberty has previously performed under what the RFP does aptly term a "silo" approach, it is that certain functions classically included in a utility management and operations audit (*e.g.*, fleet and facility management, insurance, external affairs) will tend naturally to get less emphasis, because their successful performance relies much less on the use of the integrated set of elements diagrammed above or because they do not tend to make significant use of construction dollars, or be measured in terms of the materiality of their contribution to O&M expenses, both of which are significant focuses of this RFP. The approach contemplated by the RFP does, however, offer a means for presenting audit results in a novel and useful manner.

2. Telling the Audit's Story

Accordingly, Liberty will both conduct the work and prepare a report that "flows" according to the logic of the RFP, which is to say that this audit should tell a logical story about how Central Hudson manages fundamental parts of its business.

The cycle that it takes to provide that management effectively begins and ends with management direction and oversight. In *Element I* (which comprises the processes generally referred to as Corporate Planning), successful management appropriately defines the standards of performance expected of the organization. *Element VIII* (Performance Measurement), provides the data and analysis needed to define the degree to which those standards have been met. This simplified view of these two elements serves to express the most basic of management concepts: (1) establish a standard, (2) measure performance against that standard, (3) analyze deviations, and (4) take corrective action to minimize those deviations.



Good management actually uses *Element I* to do more than set standards; it puts into place a framework for their achievement. That

framework allocates and aligns resources (people and other), defines overall values, declares an overall mission, sets forth a vision that all should strive to make a reality, and creates oversight mechanisms. Most importantly, good management uses *Element I* to set a tone that will give the enterprise a basis for guiding and determining the effectiveness of the Board, executive management and governance structures in general in each of the following "chapters" of the audit's "story."

Element I serves as the fountainhead for three related streams or paths relevant to this audit: (1) energy supply (*Element III*), (2) infrastructure planning and expansion (*Elements II* and *IV*) and (3) management of projects, plans and people (*Elements V*, *VI*, and *VII*).

Element III (Supply procurement) focuses on commodity acquisition and the management of the risks associated with it. The great magnitude of those risks in high-priced, volatile energy markets makes this element one that requires a particularly high degree of care, structure, comprehensiveness, and senior oversight. This volatility makes the process of balancing cost stability and price for default customers an especially difficult one in commodity markets; the costs of even marginal weaknesses can be enormous. The eastern U.S. has in recent times seen utility commodity price increases of 50 percent and more. Price freezes associated with utility restructuring have contributed to some of them; however, current oil prices suggest that market dynamics alone have the potential to keep price risk at or above these levels. On top of this uncertainty, even slow growth eventually absorbs capacity excesses. Supply procurement and supporting price and risk management (hedging) programs therefore will continue to present huge opportunities and threats as we enter an era of questionable capacity reserves, already-volatile commodity prices, and mounting pressure for carbon mitigation measures.

Recent years, as many very recent Liberty engagements have demonstrated, have also seen increased risk to service reliability. These problems originated in the years following limits on delivery rates put into place to accompany the introduction of retail competition. Following an initial review by another firm, the Commission selected Liberty to: (1) perform the significantly more detailed work necessary to identify root causes, (2) assess the impacts on capital and operating costs, and (3) perform continuing monitoring.

Liberty's examination of infrastructure will begin by explaining and analyzing how Central Hudson identifies the demands it will face as load growth drives them in the future. Load forecasts (*Element II*) generally appear straightforward and benign in the short term; they tend to exhibit much more complexity and controversy in the long term. The compounding effect that occurs across a multi-year horizon adds to a tendency for troubling answers to emerge from modeling and analytical activities. In some firms, this leads to forecasts that define "what level of growth can we afford" rather than "what level of growth is most likely." Liberty's review will encompass all of the forecasting process, which means that we will go beyond merely addressing the tools used to perform them. Liberty's process-based review will enable conclusions about how Central Hudson finalizes results, and builds them into its expansion planning.

Overall programmatic and budgetary parameters, guidelines, and targets associated with system expansion present critical issues for the future of Central Hudson's provision of economical and reliable service. Liberty will therefore examine them in detail. Nevertheless, Liberty understands

that utilities typically make the actual decisions regarding work projects on a regional and local basis. Liberty's review will therefore consider how Central Hudson applies processes and tools to individual segments of the system (*e.g.*, transmission networks, substations, and feeders) in order to make particular system-expansion decisions.

Utilities make those decisions as part of their System Planning processes (audit *Element IV*). A utility's system guidelines and standards give direction to those decisions. Effective system planning requires continuous balancing; accordingly one hears system planners referred to as "jugglers." Their essential work involves, among other choices:

- Weighing technical and economic demands
- Trading off capital investment versus operating costs
- Comparing facility upgrades against replacement
- Balancing expansion versus reliability
- Analyzing various and sometimes numerous system design options.

Liberty will examine the processes for weighing these balances, and will use a sampling of decisions to assure that their application is effective. Specifically, Liberty will examine the many questions necessary to enable us to gauge the effectiveness of Central Hudson's planning processes and their contribution to optimum costs and reliability. A partial listing of them includes:

- What are the ground rules for economic analyses
- What is the process for making relative valuations of capital and operating costs
- What standards exist to govern expansion
- What, if any, constraints face planners
- How do new (or merely different) approaches and technology become introduced into the system
- How robust is the consideration and use of options to reduce the need for new facilities?

Element IV, System Planning, provides a direct and paramount feed to Capital and O&M Budgeting, audit *Element V*. The system planning process's major output consists of the specification of prioritized new work, which forms a principal source of information and analysis leading to the development of capital and O&M budgets. Budgeting often comprises the single most structured and burdensome function that many utility organizations face. Its popularity among those involved in it is inversely proportional to the burdens it presents. Where budgeting has become an accounting-driven process, it often comes to be viewed as an administrative chore that does not get done in a way that provides real value to those who live under it, those who oversee it, and those who measure performance at the highest levels. Another common budgeting problem is the disaffection and ultimately lessened emphasis on it that results when budgets get invariably and arbitrarily modified downwards after those ultimately responsible for the work have spent a great deal of time and effort to prepare and justify them.

Problems like these undermine the substantial benefits that effective budgeting processes carried out in proper sequence and using effective tools can produce. A well-managed budgeting process provides direction, a standard of performance, priorities, resource allocation, a vehicle for integrating the efforts of varied organizations on common tasks, and a good baseline for measuring performance effectiveness. A well-managed organization nurtures and applies all of

these characteristics, all of which have a clear and material link with comprehensive, timely, structured, and diligently applied budgeting processes. Liberty will therefore begin its work in this area by defining the role of the budgeting process and the degree of acceptance of that role in the organization.

The linkage between the capital and O&M budgets often exhibits significant weakness within utilities. That the budgets result from processes that frequently differ widely from each other contributes to the lack of effective linkage. Liberty will undertake the inquiries necessary to assure that their integration is sufficient. It is critical that the results of the O&M budgeting process drive operational priorities and goals, and that those priorities and goals be consistent across the Company. Liberty will examine whether budget amounts have strong and direct linkage to those priorities and goals. Liberty has on occasion found them more linked to last year's budget levels than to this year's realities.

The capital budget should similarly be driven by the results of the overall corporate planning process, but its structure and derivation will be quite different. It will more directly flow from the system planning activities discussed above. Our evaluation of the capital budgeting process will be at both macro and micro levels, examining the determination of broad spending strategies and limits as well as the details of how specific projects are defined, prioritized, estimated and slotted in the construction sequence.

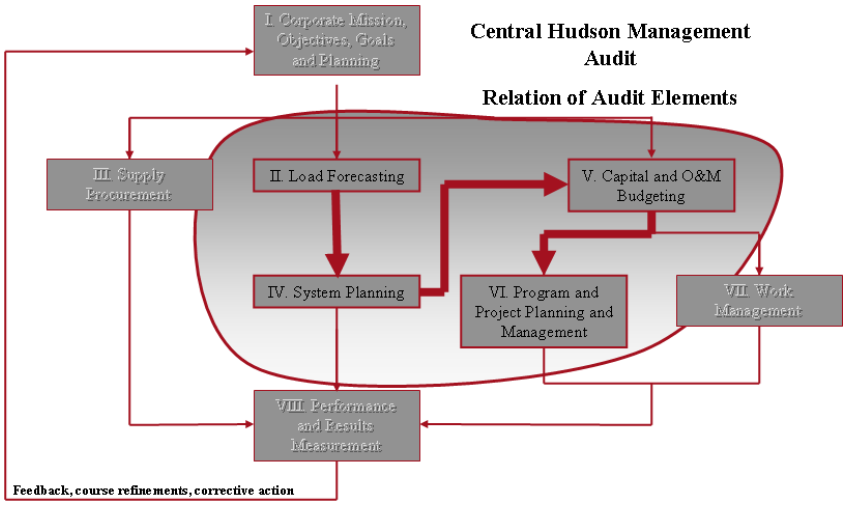
Budgets set the performance baseline for the next two elements of the audit. Utilities often manage large capital projects and large-scale O&M initiatives on a single project basis, while managing smaller projects and initiatives collectively. However, in each case, sound and diligently applied principles of project management should guide those responsible. Liberty will examine the effectiveness of Central Hudson's project and program management processes (audit *Element VI*). The audit team will perform this examination guided by the important requirements of effective project control (*e.g.*, firm scope definition, a good estimate, pre-planning, strong cost and schedule systems, performance analysis, and accountability), examine the role Central Hudson gives to each requirement in getting the work done on time, within budget, and on a performance-measurable and measured basis.

Providing that basis is an important part of workforce management (audit *Element VII*). Many of the project management principles to be examined in *Element VI* also apply to work force management. One difference is the particular focus in *Element VII* to understanding and evaluating how and how well Central Hudson acts to obtain optimum performance of its human resources, both employees and contractors. Productivity is the key; Liberty will study the tools and standards Central Hudson uses to measure it. How productivity measures are analyzed and used to improve performance will be an important focus. It would be surprising to find in today's environment a large utility that fails to use functional systems and tools. Securing improvements in Central Hudson's performance in this audit element is not very likely to be a matter of identifying better tools, although Liberty will examine them. If improvement proves possible, it is much more likely to be a matter of how Central Hudson uses the information from its tools and systems to measure and improve performance on a continuous basis. Liberty's examination of workforce management will therefore not consist largely of a recitation of what information the company's systems collect and a series of charts that do little more than repeat that information.

Instead, Liberty's focus will be on information use, and a demonstration that information does not just get into spread sheets, but gets into the sessions where work is planned, budgets are developed, and performance is measured.

Another principal that Liberty will apply in its examination of *Element VII* is that rarely do "productivity" issues prove to be "labor" issues at their heart. Like every rule, this one has exceptions, (*e.g.*, in the case of specific labor rules occasionally encountered). Liberty's experience, however, is that a productivity problem is far more likely to reflect a management issue. Productivity improvements are much more likely to flow from improvements in how the workforce is assigned and supported.

3. The Connection Between Process Linkage and Effective Management



While the process-flow approach clearly lends itself to effective report presentation, the more important issue is assuring that the audit team examines, reports meaningfully, and recommends meaningful improvements in the way that Central Hudson actually gets its utility work done. Using system expansion and upgrade as a case study, one can see that this approach is appropriate and that Liberty can execute it successfully. For example, consider capital improvements. Identified needs originate with the load forecast (influenced perhaps less directly by other factors). Planners and managers use the system planning process to refine and revise solutions to identified needs (and on occasion the nature or scope of an identified need itself) by applying economic and technical reasons and constantly changing information. When new constraints appear in the budgeting process, they can provide another reason for revising the planned outcome. The ensuing project management process, which focuses on completing the work on time and within budget, may add further restraints and changes.

The more time that passes from planning to execution, the more likely is the divergence between the final product and the original identification of need and solution. For example, loads may have changed, other on- or off-system events may have intervened, costs may have varied substantially, and schedule may have lengthened. A solution that remains good from a technical perspective may have become too costly to make sense in hindsight. A need properly identified may have been mooted by an extended delay that has allowed time for other, possibly related needs or solutions to become a more effective option. In the utility business, a better adage than "time heals all wounds" is that it will eventually expose the folly of all plans. The only effective solution is to view all of the processes as essential links in a continuum that requires close integration of all linked processes and activities. That view will form a guiding principle of Liberty's work in this engagement.

III. Approach and Methods

Liberty has proven the effectiveness of its approach to management audits "in the trenches" time and again. Our success in satisfying client expectations, however, does not come from experience alone. Equally important is our view that every new project requires a fresh beginning, developing working relationships with new clients and companies, meeting new needs and expectations, facing different circumstances and responding to unique challenges. Liberty has enough seasoning to operate under an overall approach that will not necessarily have to vary by a great deal, but our construction of this project will indeed be strictly tailored to the desires of the Commission here.

Liberty has carefully crafted this proposal to address all of the requirements of the RFP and the special needs of the Commission, as it takes the next step in the use of outside consultants in a broader way to help in the conduct of its audit program. Anything less than an all-out, totally professional effort, staffed by the very best consultants, should be considered unacceptable.

We offer a large team in order to maximize specialized skills and experience. We would be disappointed to find Central Hudson using generalists in managing the activities that will form the subjects of this audit. We believe that the Commission and the company should be disappointed were we to send generalists out to find ways to improve the company's management and operations.

A. Philosophy

Management audits represent a large expense and substantial administrative burden to energy utilities. Some view this simply as a cost of doing business, and one that is conveniently borne by customers. But the more mature organization sees opportunity, and in fact demands that its large investment in money and people produce some tangible benefit for its customers. We welcome such thinking and hope Central Hudson takes a demanding position. Doing so will signal that the utility will manage its part of the audit in a similar fashion; i.e., to produce real customer benefits as opposed to a defensive or a disinterested posture. It is such an approach by all three parties (the Staff, consultant and Central Hudson) that will produce a winning outcome.

Liberty nevertheless understands that some utilities simply do not see the audit process in this manner, and that underlying cultures often produce resistance among employees. The capable consultant does all that can be done to facilitate a healthy three-party approach, but must of course be prepared to effectively complete the audit in a less cooperative environment if such develops. We have worked in good and bad environments and concede that the outcome in the latter is invariably weaker. Regardless, Liberty will maintain a professional approach with the project team always taking the high ground and remaining focused on the objectives.

Our philosophy about engagements such as this one is that we must begin with a basic commitment to the objective of improvement. We further commit to establishing an environment of mutual respect for all of the players, which demands full and honest communications. We cannot guarantee consensus, but we can and will guarantee that each participant will have a voice and that voice will be heard, respected and considered in our analyses.

All of our work will be conducted at a professional level. We have no interest in damning people or organizations; instead we look for opportunities for improvement and present those in a manner best designed for their acceptance and effective implementation. While this at times requires critical comments, such conclusions will be presented professionally and objectively.

A solid team relationship with Staff is a necessary component of our philosophy. Many specific elements of our approach are designed to raise the "team approach" from a simple feel-good concept to a meaningful working reality. These include an honest commitment to full communications among the Staff-consultant team, with no exceptions. "What we know – Staff knows," says it in a nutshell. Liberty brings no surprises, has no hidden agendas, conceals no behind-the-scenes disagreements, and does no sanitizing of the facts.

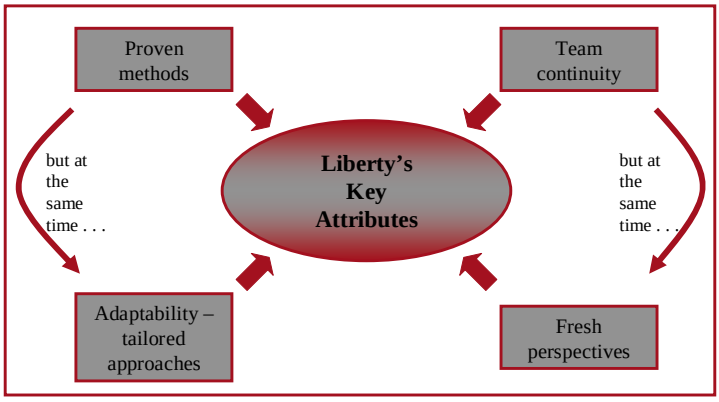
Our philosophy accepts diversity of thought among consultants as a strength of a capable team, not a weakness to shielded from Staff view. Discussions and debate at a professional level are encouraged, and should include the Staff as valued participants. Only in this manner will we achieve the best technical results and the set of results with the maximum buy-in and ownership.

B. General Approach

Four key attributes give Liberty the performance strengths it has taken to become the leader in service to utility regulators. The approach, methods, and the team that will apply them at Central Hudson are:

- Mature, well developed, and comprehensive audit methods
- Team member continuity and familiarity with methods and with each other
- Broad experience that promotes adaptability
- Fresh perspectives from senior consultants.

Liberty has developed its ***audit methods*** and procedures through the performance of 200 or more engagements for public utility regulators conducted over many years. Most of these engagements have been management and operations, energy procurement, and affiliates audits. Liberty began performing comprehensive energy utility management audits for commissions virtually 20 years ago. Our work in this field includes the New York Public Service Commission, for whom Liberty has performed major audit engagements involving Con Edison, Energy East (NYSEG), Central Hudson Gas & Electric, and Verizon (NY Tel).



Liberty has maintained ***team continuity*** by keeping together a senior core of consultants over a very long period. As a result, Liberty's teams are used to working both under methods and procedures that are familiar, and with other team members who are familiar.

Liberty's ***adaptability*** generates the ability to tailor methods and procedures to the specific project at hand, based on the great length and breadth of our work for utility regulators. Our work with utility regulators in more than two-

thirds of the U.S. jurisdictions and a number in Canada has covered a wide array of engagement types, work processes, organizational units, utility types, geographic and political environments, relationships with commission staffs and utilities, and policy and technical issues. We have worked on some of the most controversial issues that commissions have faced and we have performed our share of routine (both large and small). The depth and breadth of our experience gives us a hard-to-match ability to adapt our approach and methods, not based on speculative or merely hopeful notions about client expectations, but upon having lived through such an immense variety of job, client, and utility types.

C. Focused and Comprehensive Audit Work Planning

Very detailed work plans form the cornerstone of Liberty's overall approach to audits of this type. In no small measure, Liberty's past work for the Commission on comprehensive management audits of New York combination utilities promoted the development of this approach. This approach has been refined and improved over the years allowing Liberty to use sound and comprehensive work plans first to assure client comfort that: (a) the full Liberty team begins with a sound understanding and acceptance of project scope, goals, and objectives, and (b) that the client has a comprehensive basis for continually measuring time, cost, and content progress. At the project working level, Liberty next uses detailed work plans to manage work at the day-to-day level, in order to assure that all required scope areas and items get sufficient attention, and that conclusions and any ensuing recommendations flow from a sound set of criteria that conform to proper standards of good-utility practice.

Section IV of the proposal sets forth the guidelines, evaluation criteria and basic work activities that Liberty will use to begin developing the detailed work plans that will guide audit work. They are preliminary; the first weeks of audit work will undoubtedly lead to amplification and change, as well as to added substantive detail and the RFP-required details about individual work assignments and schedules. Liberty appreciates the fact that the RFP to which this proposal responds anticipates detailed work plans to come later, after initial audit work. Nevertheless, given that our work planning constitutes a particular firm strength, Staff may wish to consider Liberty's work plans recently prepared for the Consolidated Edison audit.

Liberty welcomes the opportunity to undertake the exchanges with Staff that will lead to the creation of detailed work plans for this engagement. The New York Commission's Staff is a large and sophisticated one. Its particular strengths and capabilities make it important to assure that detailed audit work takes advantage of both the Staff's general background and experience, and its particular knowledge of Central Hudson management and operations. The fact that so much time has passed since the last use of consultants to assist with comprehensive management and operations audits makes it even more important to assure that the work plans that will guide audit work have the benefit of combining approaches that have over time applied to such engagements in New York, the insights that Liberty's team can bring from its recent and extensive experience with many Staffs, and the knowledge that Staff can bring about current circumstances and issues at Central Hudson.

D. Beyond a Paper Audit

A focus on processes and measurements is appropriate, but care must be taken to get beyond what a utility says it does, and how well its measures say it did. Liberty does not propose to halt

after completing a "paper" audit, which addresses policies, procedures, guidelines, and reports of performance. These indicia are certainly important, and provide an essential baseline for forming conclusions. They are not in and of themselves convincing, however. Interviews can help to confirm what documents say, but, again, may leave room for doubt about how things really happen and what results they produce. Liberty therefore does not propose to rely only on paper exercises; *i.e.*, determining the appropriateness of various policies, the degree to which processes and programs are in place to carry them out, and representations about how they are carried out. Nor do we give only "lip service" to the need to get "out in the field" or to dig "behind the numbers." Going beyond what the paper says in a project of this type takes senior, experienced consultants who are used to looking at multiple sets of data that bear on the same factor. We have those people and we intend to take advantage of their ability to cross check data sets against data sets and what their seasoned eyes tell them against what the reports say.

For example, assume that reports show that routine inspections (say manholes or substations) with a well-defined scope take place, and that a comparatively few exceptions result. These facts offer an indicator of effective performance in the planning and conduct of inspections and in the serviceability of the facilities inspected. Suppose, however, that cross checking area reliability statistics with inspection data, however, shows comparatively poor performance by the facilities involved. A more informed approach might be to select a sample of recently performed inspections and visit the facilities to examine conditions personally. If that site visit shows a number of exceptions that the inspection did not catch, one would have substantial counter indicators regarding the quality of the inspection process and the facilities.

This type of example, which can be repeated many times in connection with the processes and facilities that comprise a principal focus of this audit is one that Liberty has seen on many occasions. The potential for early paper indicators and even for confirming interview data to prove eventually invalid is why Liberty allows for two important verification steps: *i.e.* comparing the results of multiple data sets rather than relying on one, and, where deemed necessary, conducting focused field reviews, generally using a sampling approach.

The key to making this approach work is to bring to the audit team members with the experience to know:

- Which secondary data sets help to verify primary ones
- What to make of visual observations taken in the field.

This need is primary among the reasons why Liberty brings to this engagement a team of specialists who have direct, hands-on experience. In short, their capabilities allow us to get at the problem that paper and people will often say how something should be done, but that does not mean that it gets done that way in the field, where the costs are incurred and where the physical roots of service problems may lie. Liberty believes that measured hands-on validation activities are important in any well-managed audit. This does not mean in all areas, nor does it suggest excruciating detail. But failing to use such validation appropriately can produce conclusions that simply are not valid.

Liberty consultants use guidelines like the following to determine when further data analysis or field inspection is required as a normal part of the audit process:

- When input data is heavily relied upon by a critical process, the sources and quality of that data should be validated (for example, reliability inputs to the system planning process).
- When analytical data reveal inconsistencies with process data (for example, when process reports says something is working but quality reports say it is not).
- When differing opinions exist on the same "facts."
- When the auditor needs a field examination to fully understand the topic.
- When a sample is appropriate as good audit practice.
- When the auditor's judgment suggests the need for further study.

Liberty will use early audit work to identify where and how much sampling should be incorporated into the detailed work plans. Where practicable, these plans will provide sampling details. Where not, the work plans will make time and schedule allowances on the basis of past experience, allowing for alteration as appropriate as field work uncovers more data and supports more in-depth analysis. The time estimates of this proposal make allowance for what we believe to be a sufficient, but not excessive use of such verification techniques.

E. Work Performance Guidelines and Criteria

Liberty operates under a series of guidelines and criteria that apply to the work it performs in audits of this type:

- Recognize that the Staff is responsible for supervising the performance of the audit.
- Work closely with Staff in a manner that not only meets requirements, but also satisfies mutual expectations.
- Establish ongoing dialogue that will enable Liberty to take advantage of the Staff's extensive knowledge of the utility.
- Follow generally-accepted standards and procedures applicable to regulatory proceedings for submitting data and interview requests, and conducting interviews.
- Submit draft work products to Staff for review in advance of procedural due dates wherever possible.
- Include in audit reports the background necessary to give readers a clear understanding of the issues identified and any problems that may have been discovered.
- Present a clear discussion of those issues and problems, and conclusions and recommendations supported by appropriate analyses and work papers.
- Source findings, conclusions, and recommendations to work papers under the assumption that it will be necessary to explain and defend audit work in proceedings before the Commission.
- Maintain a set of working papers that will allow the Staff to follow the work that Liberty performed in making findings and in reaching conclusions and recommendations; make those work papers available immediately upon Staff request.
- Maintain a database (web-based if desired by Staff) that will track all documents requested and received.
- Encourage the provision in all cases where feasible of data electronically by the company being audited.
- Maintain electronic copies of such data and of interview notes as part of working papers.
- Make Staff aware of tentative findings and conclusions as they emerge.

- Conduct work according to standards generally applicable to evaluations of the type at issue.
- Apply, except where specified otherwise by the client, the National Association of Regulatory Utility Commissioners' *Consultant Standards and Ethics for Performance of Management Analysis*.
- Encourage frequent, informal communications between the audit team and Staff.
- On a weekly basis, Liberty will report to Staff on the interviews and site visits that are scheduled for the following two weeks and on any problems encountered during the conduct of the audit.
- Provide monthly written status reports to Staff, listing the schedule for planned work, work accomplished, and any preliminary findings. These reports will provide a narrative description of the progress to date and the reasons for any differences between the project schedule and actual progress. They will also include quantitative information regarding the hours recorded by consultants, costs incurred, and the relationship of those hours and costs to the audit plan. The Staff project manager will receive the report within five working days of the end of the month that is the subject of the report.
- Invoice monthly, and include reports on consultant time and expenses in a form satisfactory to Staff, showing information needed to relate costs to work done and to work plans.
- Use project management, scheduling, and reporting systems capable of scheduling, providing status reporting, and performing document tracking and retrieval.
- Use a report cross-referencing system that will enable users of the report to quickly and easily trace back statements of fact, findings, conclusions, and recommendations to supporting documentation, such as interview notes and company-provided documents.
- Make the final report, where possible and consistent with client requirements and expectations, as much a stand-alone document as is practicable. Liberty's approach is to present as much supporting analyses in our report, in the text or in appendices, so that users of the analyses do not have to refer to other documents to see supporting analysis.
- Require all Liberty personnel to use common word-processing and spread-sheet software that facilitates the creation of endnotes or footnotes, or reference notes for charts and graphs, so that sources such as responses to document requests or interview notes are clearly displayed in reports.

F. Work Products and Working Papers

Liberty's deliverables for this engagement will include:

- Interview Logs showing all interviews requested and conducted, updated weekly to list interviews and site visits scheduled for the ensuing following week, listing interviewee, interviewer, subjects, date, time and location.
- Data Request Logs showing all documents requested, due dates, date received, and overdue, updated weekly to show status and to highlight requests issued since the last log issuance.
- Interview summaries identifying interviewee, interviewer, title and organization of the interviewee, documents requested, and items discussed.
- Monthly progress reports that: (a) identify for the most recent month, cumulative, and versus-budget person-days (number and percent) by activity in each task area, (b) show

original, current, and to-complete schedule, and (c) show audit work percentage complete.

- An initial and a final detailed work plan, developed in consultation with and modified after comments from Staff; these plans will detail by audit area the specific scope (issues and areas to be examined), objectives, management and operations performance criteria, team members responsible for each audit work assignment, specific inquiries to be posed in applying those criteria, and specific data gathering and analytical steps and activities to be undertaken, organization of the interviewee, documents requested and items discussed.
- A regularly updated database containing documents other than trade secrets.
- Detailed project schedules accompanying the initial and final work plan submissions.
- Regular briefings to Staff on the progress of the audit, including identification of emerging issues work progresses.
- Monthly progress reports to the Staff providing a narrative of work performed and status, with an explanation of any variances from plans and budgets, and schedule progress charts.
- Issue Summaries: Liberty will prepare and submit written summaries of issues as they emerge, but not later than the midpoint of the audit; dialogue with Staff about these summaries will help to guide field work completion and to structure the draft report.
- A series of draft reports
    - A first addressing the full scope of the audit and all elements of the final work plan
    - A second reflecting changes made as a result of comments from Staff
    - A third, reflecting changes made (to the draft approved by Staff for presentation to Central Hudson) as a result of company review for factual accuracy
    - A fourth, reflecting the final work product with confidential material redacted
- A final report before July 2009 documenting Liberty's findings, conclusions, and recommendations for each element of audit scope in the RFP and as listed in the approved detailed work plan.
- Access by Staff to a complete set of work papers accompanied by an annotated report presenting detailed cross-references to the supporting work papers.
- Participative workshops on mutually selected topics for dialog with and knowledge transfer to Staff on key areas.
- Testimony, as may be requested by the Commission or Staff at standard rates for consulting services and including travel and out-of-pocket expenses.

Liberty's final audit report will present audit results comprehensively, will be written for an audience consisting of interested parties, Commissioners, Staff and Company management, and will define technical terms and acronyms. The report will describe and support in detail any recommendations for improvements. Liberty will provide an electronic and a camera-ready copy of the final report. Should the Staff request additional printed copies, Liberty will provide them at additional cost.

G. Staff Participation

Liberty fully understands that Staff's project manager or designees are its contact persons with the Commission for the audit, and that the work is being performed for the Commission, who is

the client. Liberty is completely comfortable with this reporting structure, having performed literally dozens of audits using this approach. Liberty's study methods and its extensive experience in working for public service commissions make clear the firm's commitment to full Staff participation in this project. Such involvement provides an important contributor to the necessary high-quality final report that Liberty is to provide.

Beyond this clear commitment, Liberty welcomes Staff participation in any other project activity. Liberty has no concerns about confidentiality regarding the Staff, even to the point of taking Staff personnel on as team members if it fits the operational or training objectives of the Commission. Liberty's work methods ensure that the Staff's project manager or designee(s) knows at all times exactly where the project stands. This timely knowledge permits the client to track results and progress from quality, cost, and schedule perspectives. It also allows Staff to design whatever level of its own participation it deems appropriate.

H. Work Methods

This section identifies the work steps that are applicable to each audit module, and describes the methods that Liberty will use to conduct the audit. The logical flow of these activities is illustrated in the project schedule in Section VI.

1. Initial Data Request

Liberty's first data-gathering steps are designed to collect basic information that addresses the subjects of this engagement's scope. This information provides essential background for generating interview plans and focused data requests. Liberty will provide Central Hudson with an initial request for documents that will include fundamental background information, such as the following:

- Mission, goals, and objectives
- A listing of all "key controls" as defined in the Sarbanes Oxley process
- Flow charts and associated narratives for "key controls" associated with the audit topics
- Charters for each of the Board's eight committees
- Board and committee minutes for meetings in the last three years in which budgeting (capital or O&M) or resource allocation was discussed
- Management compensation policies
- Organization charts
- Payroll and staffing levels by department, budget versus actual
- Corporate planning guidelines
- Annual load forecasts for the last five years
- Contribution of demand side initiatives to capacity requirements
- Policies and procedures for load forecasting
- Reports describing the load research process and results
- Flow charts depicting the load forecasting process
- Load levels currently embedded in rates
- NY ISO load forecasting requirements
- Risk management policies and procedures
- Design of the supply portfolio, including hedging policies

- Policies and procedures for supply procurement
- Analyses of realized procurement prices versus market
- System design standards
- Planning policies and procedures
- Economic guidelines for planning studies
- Status report on advanced metering initiatives
- Status report on any "Smart Grid" initiatives
- Reliability goals – target and actual for past five years
- Repair / replace criteria including age limitations for facilities and equipment
- Studies or analyses linking expenditures to reliability
- Operating budget policies and procedures
- Capital budget policies and procedures
- Formal capital and operating budget packages as reviewed and approved by the Board
- Comparison of operating costs versus budget and versus rate assumptions for the last five years
- Description of the program for management of capital projects
- Policies on application of in-house versus contractor labor
- Sample project management reports for large projects
- Sample project plan for large projects including organization, scope, estimates, schedule, budget, organization, accountabilities, cost management program, reporting requirements, staffing levels, key assumptions (productivity, escalation, etc.)
- QA and or QC policies applicable to large projects
- Work-force effectiveness and productivity measurements
- Standard measures of work and unit rates
- Policies and procedures for management of labor
- Typical structure for management of work, including supervision, technical support and planning
- Work planning and work assignment procedures
- Labor agreements governing physical workers
- Regular management information and control reports
- Company-prepared or secured benchmarking data
- Results of any recent performance studies.

2. Orientation

This essential early step acquaints the Liberty project manager and key team members with the Staff and Central Hudson personnel who will play key roles during the study. This step will provide an opportunity to begin the interchange that will lead to common understandings of the details of Liberty's work methods, and of the full extent of the Staff's intended participation in study activities. In addition, this step provides an early opportunity to begin the interchange with the Company, so that Staff and Liberty can make their expectations known.

Where Staff identifies (a) particular areas where it will actively participate, or (b) specific matters of interest, Liberty will incorporate them into its diagnostic, and subsequent detailed

work planning. Liberty's team leadership also realizes that, at a later stage of the project, Staff may identify additional areas where its active participation in the study has become appropriate. This study step will also establish the necessary protocols for communications between Liberty's auditors, Staff, and the Company, including those for document exchange, advance notice of particular task steps, and other similar activities. Liberty expects that the Company's coordinators will advise Liberty about their preferred protocols for requesting interviews and documents, the treatment of information that the utility deems proprietary, and notice requirements.

The Liberty team will require support from Company resources. This will include access to documents, facilities, and employees. To effectively address these requirements, without unduly disrupting normal business, Staff expects, and from Liberty's experience we concur, that the utility is likely to favor an organized system of contact for the study.

Logistically, we propose to kick off this orientation with a conference call with Central Hudson and Staff at the very start of the work. This would be followed with formal meetings with Central Hudson about two weeks later. A preparatory meeting will be held with Staff before the Central Hudson meeting.

At the Central Hudson meeting, we will expect a presentation from them on the basics of the Company and how they see the audit. We will then provide a formal presentation on the scope of the audit and how it will be conducted.

3. Initial Document Reviews

As soon as the Company provides responses to the initial request for documents, Liberty's team members will begin to familiarize themselves with baseline information in their respective areas. This initial document review will be an ongoing and fundamental activity throughout the engagement. A mutually agreeable timeframe for responses (our standard is two weeks, shorter for already existing documents and subject to negotiation if any special studies or detailed data assembly is necessary) will be set.

4. Introductory / Planning Interviews

Liberty will use the information acquired in response to the initial data requests to determine its requests for initial interviews. In addition to providing substantive information, these interviews will be used to learn about the logistics and availability of records and reports. These diagnostic interviews are designed to build on the information that comes from the initial data requests. We envision beginning these interviews in the same week as the orientation meeting.

These interviews will involve levels of management most familiar with, for example:

- Overall corporate organization, structure, and common services
- Descriptions of major functions performed and current objectives for each
- Detailed financial, accounting and cost information
- Energy supply planning and activities
- Major new or planned investments
- Staffing trends and programs

- Cost trends
- Operational changes resulting from centralization, from field-operations consolidation, or from other initiatives
- Persistent service problems
- High risk areas
- Apparent problems or gaps in organizational focus or management systems and tools
- Current budget and projected budgetary changes for operations
- Major areas of current management emphasis and concern.

5. Detailed Work Plans

Within two months of project start, Liberty will complete the process of establishing the detailed work plans that the audit team will use to manage, steer, and measure project work. Liberty will present for Staff review a draft of its proposed detailed work plans that:

- Summarize facts and issues learned and emerging from work to date
- List and describe the areas within each audit element that will be subjected to examination and evaluation
- Establish by area within each element the specific performance criteria to be applied in making such evaluations
- Listing the key questions that must be answered in order to lay a foundation for applying those criteria
- Identifying the work tasks that will be performed to provide the factual and analytical basis for answering those questions
- Identifying the individuals responsible, the time requirements for, and the schedule for completing those work tasks
- Specifying particular interviews to be conducted, documents to be examined, and visits to be conducted in completing those tasks.

Liberty will invite written Staff comment on and discussion of this draft, in order to facilitate the development of a mutual understanding of issues and areas to be examined and evaluated. Liberty will then prepare a final set of plans for Staff approval.

We propose to advance the schedule for orientation and development of the work plan. These are critical activities, but can become inefficient if extended too long. Our proposed schedule (Section VI) will allow sufficient time for orientation, drafting of the work plan, discussions with Staff, formal Staff review and comments and finalization. In this manner, we will be able to “hit the ground running” with a start to production work in early February.

6. Data Gathering

This step will help to promote the assembly of a broadly based factual record from which to development hypotheses about the engagement’s task areas, and to support overall conclusions and recommendations. Data gathering will include many steps, as appropriate to the circumstances. Typical activities in this stage include (a) detailed document reviews and analyses, (b) in-depth interviews of a cross-section of management and line personnel in major functional areas, and (c) team meetings for detailed analysis of the likely areas requiring change and sharing of information.

7. Issues Review

As the project mid-point approaches, Liberty will conduct a focused series of reviews of emerging issues with Staff. They will actually begin on an informal basis as Liberty's team management and subject matter experts interact routinely with Staff during the course of work. Liberty invites substantive discussion of substantive matters as part of the ongoing dialogue with Staff about project status. Liberty also welcomes the establishment of direct relationships that will allow individual Staff members to discuss on a more detailed basis any particular management and operations areas or issues of interest or concern to Staff. As Liberty has discussed elsewhere in this proposal, we welcome Staff involvement in our processes of identifying and pursuing needed factual information, conducting analyses, and forming conclusions. We fully understand the knowledge-transfer objectives of the RFP, and, even without them, consider it beneficial to keep Staff as informed and involved in audit processes as desired.

Our experience has been that keeping Staff informed during the course of the work promotes that exercise when there is a mutual understanding of roles and of the benefits of dialogue. In making its commitment to support such involvement as Staff considers appropriate, and in having met it routinely in our past work, Liberty nevertheless understands that: (a) the conclusions and recommendations it will form must result from the exercise of our audit team's judgment, and (b) we will need to be prepared to stand behind and fully support those conclusions and recommendations. Staff does, however, have an important role in verifying that Liberty's conclusions and recommendations are complete. This step sets a first, important milestone in that verification process. It comes with sufficient remaining project budget and schedule to permit any course corrections that may be needed to assure completeness.

Liberty anticipates formally commencing this Issues Review step with a series of topically based presentations by the team members responsible for each topic to be addressed. Liberty will provide for Staff review a proposed schedule for these sessions. Liberty will then prepare for Staff review prior to each session the slide deck that will guide the presentations. To the extent possible at this project juncture, these slide decks will follow the general format proposed for the presentation of the background and factual findings portions of the final report. This approach will help the team to focus remaining work and to allow Staff to verify that work is addressing all required management and operations areas and activities.

In some cases, team members are likely to have already developed at least initial hypotheses (see the discussion of the next step) that initiate the conclusion and recommendation development process. In those cases, the presentation will include them. In areas where that is not the case, the presentation will describe the issues to be addressed in the conclusions, relying primarily on two factors: (a) the specific management and operations performance criteria that the detailed work plans will include, and (b) any particular matters of concern or interest disclosed by audit field work to date. As these matters have arisen during field work, Liberty anticipates that regular interaction with Staff will have already disclosed them. Thus, Liberty does not expect that the presentations will for the first time expose issues to the Staff. Instead, the presentations will provide a forum for more extended discussion of them, and context for assessing their significance in light of all the other facts, issues, and concerns being collected and formed.

Following a robust discussion of these fact, issues, and concerns at the sessions, Liberty will prepare written summaries, again generally in the form and structure anticipated for the final report.

8. Conclusion and Recommendation Development

Conclusions and supporting findings will be developed for each of the project areas, and those that cross individual focus areas will be coordinated to assure completeness and consistency. Recommendations will take into consideration the full range of conclusions. Liberty will provide complete, accurate, and timely documentation of preliminary conclusions and recommendations for review by members of the study team and the Commission to ensure that the rationales that underlie the recommendations are thoroughly understood by all the parties.

Both qualitative and quantitative analyses will be performed in each task area. Where possible and appropriate, Liberty will quantify the expected changes that would result from each recommendation. For example, in the area of compliance with affiliate standards, Liberty will focus on identifying, supporting, and quantifying the effects of any non-compliance or cross-subsidization that may be found. This will mean preparing detailed descriptions of the results of analyses, so that users of Liberty's work will immediately understand how the conclusion was developed, and the analytical basis for the valuation of the conclusion, if appropriate.

In a project such as this, analytical activities must be performed during every stage of the work. This step, however, is specifically devoted to formulating hypotheses that will ultimately become the basis for recommendations and conclusions.

As data gathering progresses, Liberty will develop hypotheses to explore prospective changes in management, operations, affiliate relationships, and other areas where cost or service improvement opportunities may be discerned in the areas covered by the audits. These hypotheses will be objectively analyzed and tested using the information base that has been compiled, in conjunction with the Liberty team's collective experience.

In this context, Liberty draws an important distinction between hypotheses and conclusions. Hypotheses may or may not lead to conclusions, as determined by examining the facts and subsequent analyses. Some hypotheses fall by the wayside as work progresses; others are modified; and additional hypotheses are introduced as new information surfaces. Hypothesis formulation and proposition testing are processes that assure that matters warranting further review can be aired within budget and schedule constraints.

Hypotheses that survive preliminary screening will be followed up with focused data gathering and verification. Liberty's team sessions provide a forum for further group discussion of each hypothesis. Team members review separate but interrelated areas as part of the team-wide analytical process that can involve the use of role-playing or devil's advocacy techniques in subjecting the hypotheses to scrutiny and challenge.

Where appropriate, Liberty will meet with senior Company managers to test working hypotheses. Liberty will seek information on how prospective changes might affect the Company's operations, management processes, service levels, costs, etc. The Liberty team will

consider these factors in validating concepts, determining the extent of changes that could be involved, assessing the degree of the underlying need, and exploring the range of alternatives. These sessions will provide an opportunity for the Company to comment on hypotheses in advance of Liberty's formulating conclusions and recommendations, and to assure that the Company's viewpoint will be understood and appreciated.

Conclusions (statements of judgment or opinion) and supporting findings (objective statements or facts) will be developed for each issue or area. Conclusions that cross multiple issues or areas will be coordinated to assure completeness and consistency.

Recommendations will be formulated for each conclusion that identifies a weakness or an improvement opportunity. Recommendations will be determined from the perspectives of (1) the Company as a whole, and (2) individual areas. This is to assure that changes perceived as beneficial to one part of the organization do not inadvertently create problems in another business segment or function.

9. Draft Report

Liberty will prepare a draft report for Staff review for adherence to RFP and detailed work plan requirements. The draft will contain all the sections that Liberty expects to include in the final report. This document will undergo Liberty's quality review to assure that it approaches the form, content, appearance and accuracy of the final version. This quality review will consist of critical readings of draft reports by consultants on the team who have not contributed to the writing of a chapter they review, but who understand the subject matter at hand. Their objective will be to examine what has been written to ensure that the conclusions and associated recommendations are well supported and clearly delineated.

This report will be designed as a self-contained description of the audit and its results. It will provide (a) an executive summary, (b) a description of the examination processes, (c) summary descriptions and an overall assessment of the study areas, and (d) a detailed list of all recommendations, focusing on the quantification of their benefits wherever practicable. To support the recommendations properly, the draft final report will specify: (a) the audit's mission and objectives, (b) an explicit statement of the evaluation criteria applied, (c) a description of study approach and methods, (d) a delineation of data collection and analytical processes performed, (e) conclusions about performance and cost efficiency and effectiveness, and (f) opportunities for cost reduction or performance improvement.

Liberty will prepare a revised draft after receipt of Staff comments, following the completion, if and as necessary, of any field work closure activities (see the discussion of the next step).

10. Closure of Field Work

Liberty will conclude the fact finding necessary to resolve comments on the task reports, finish analyses, and refine quantification calculations and implementation requirements.

By this time, the essential final report elements will have already reached an advanced stage, permitting ongoing Staff involvement in, and awareness of, study progress. It also helps to keep efforts throughout the project focused on the primary final product, a comprehensive

examination. It also avoids the degradation in quality that becomes inevitable where inadequate budget remains at the end of the fieldwork to support a large writing effort. Finally, Staff's involvement provides an unmatched tool for evaluating the progress of the study on a real-time basis.

11. Final Report

Following Staff review of the revised draft and any changes that Liberty makes in response to Staff comments, Central Hudson will have the opportunity to review the draft for factual content and accuracy. Central Hudson will also be required to identify any report contents it believes should secure confidential treatment. Liberty will provide a report copy showing the company's proposed redactions for the report's publicly available version. This copy will allow Central Hudson to verify that all proposed redactions have been properly made and it will allow Staff to determine whether it has any concerns about those redactions. Liberty will provide to Staff its input on any proposed redactions questioned by the Staff.

Meetings with Staff and Central Hudson to discuss the company's comments and any redaction issues will be scheduled as necessary. Upon Staff approval, Liberty will prepare and issue the final report, including both public and confidential versions if required.

I. Testimony

Liberty's personnel have extensive experience in preparing formal reports for eventual use in administrative proceedings requiring pre-filed testimony and hearings. Liberty will produce a final report that meets applicable requirements for admissibility. As with all its work products, Liberty will stand behind its results if questioned in any public forum or proceedings. Any testimony that may be required shall be provided at then-standard Liberty rates for service.

IV. Audit Areas and Issues

Liberty proposes to divide the audit work according to the RFP's eight elements:

- Corporate Mission, Objectives, Goals and Planning
- Load Forecasting
- Supply Procurement
- System Planning
- Capital and O&M Budgeting
- Program and Project Planning and Management
- Work Management
- Performance and Results Management.

The following sections provide the study guidelines, the evaluation criteria, and the work activities that Liberty will include in the work designed to formulate the detailed work plans. Liberty has based these sections on work it has performed on similar past engagements that have addressed these eight elements. We stress that they are intended only to guide the initial project work. The detailed work plans will replace them with the detailed criteria and work activities (and supporting details) needed to respond to what the team learns in the early, critical stages of audit work.

A. Corporate Mission, Objectives, Goals and Planning

The RFP sets forth eight specific components to this element of the audit:

- Governance, organizational structure, missions and relationships within Central Hudson as they relate to the construction program planning process
- Organizational responsibilities for planning priorities and budgeting allocations for the gas and electric businesses
- Role of the Board of Directors and executive and senior management in the development of budgeting guidelines and periodic budget reviews and approvals
- Central Hudson's financial position and the level of its rates that are factored into the budgeting process
- Central Hudson's use of measurable goals, metrics, key performance indicators, etc. to achieve the corporate mission and objectives, and the performance improvement process at successive levels of management
- Performance and compliance with procedures and practices related to the scope of this audit; e.g., internal controls, internal audit function and the Sarbanes Oxley Act
- Management performance and compensation programs and alignment with the corporate mission, objectives and goals at all organizational levels
- Central Hudson's goals for modernization of its transmission and distribution systems in response to the Energy Independence and Security Act of 2007 ("EISA").

The first seven of these components fall into four principal categories:

- Use of corporate goals to guide performance
- Top-level budget priorities and processes
- Controls Environment

- Compensation.

The RFP seeks an examination of a number of influences that may be exercised by the parent company on Central Hudson. A board of directors needs to provide a source of independent wisdom, judgment, and experience in overseeing a number of key areas that guide overall direction, budgeting priorities and processes, compensation philosophy and levels, and the creation of a sound controls environment. Senior executive management should work very closely with the board of directors in these broad areas, and in giving primary impetus (except in the area of its own compensation) to their development and execution.

The following sections of this proposal address the components, sorted by these four categories.

They are followed by a treatment of the modernization goals established by Central Hudson to address the "Smart Grid" provisions of Title XIII of the Energy Independence and Security Act of 2007. Title XIII establishes the goal of modernizing the electric utility transmission and distribution system to maintain reliability and infrastructure protection.

1. Study Guidelines

a. Corporate Goals

At the broadest relevant level, the board should take a primary role in:

- Setting the corporation's broad direction
- Integrating the strategies and plans of multiple business segments with different and sometimes competing needs and requirements
- Monitoring the consistency of performance results specifically with goals and objectives, and, as well and more generally, with common-sense notions of what defines success, proper risk mitigation, and flexibility in exploiting opportunities
- Assuring that controls intended to apply to senior management as well as lower, operations levels are being planned and executed with sufficient objectivity, vigor, and thoroughness.

Goals whose dimensions either fail to conform to the way that a business is structured or to set clear and largely measurable performance targets make it difficult for the board to guide the development of the direction-setting elements of what is termed the "corporate planning" process. Directors will also find it difficult to lay a foundation for ongoing communication, through executive management, about progress and performance in tangible ways.

Recent experience has shown that the absence of sound board oversight and effective contribution to setting overall direction and measuring performance against it can be a recipe for disaster, whether at the hands of changing external circumstances, or, in at least a handful of cases apparently, manipulation of information and self-dealing by senior executives. Even full implementation of recent public requirements changes such as those imposed by the Sarbanes-Oxley Act of 2002 cannot be expected to inoculate a company against all ills that may infect it at this high level. The faithful implementation of those requirements is a positive indicator, but care must be taken to assure that the need for instilling and encouraging sound structures and proper actions not be reduced to a simplistic checking of boxes. To be effective, corporate governance must not be viewed as passing discrete legal tests, but as an important contributor to achieving

strong performance, which, in the case of a utility, means meeting public service obligations and expectations.

The challenge is, however, to make sure that the board remains involved and aware enough of events at this level to allow meaningful assessment of:

- Who has the responsibility and resources dedicated to achieving success?
- What failings (internal or external) exist when plans, objectives, and goals are not being achieved?
- When do actual circumstances and intractable limitations make plans, objectives, and goals impossible or impracticable to achieve?
- Where does accountability lie for failings or weaknesses in achieving success?
- Why did the problems occur and have successful corrections been identified and implemented?

Establishing comprehensive goals, continuously overseeing progress in meeting them, and making timely adjustments to them as performance unfolds should be a matter of routine board inquiry and involvement, and the desired results that those goals address should be matters with which individual board members are conversant at more than a superficial level.

b. Top-Level Budget Priorities and Processes

As distinguished from the complexity of articulating and gaining acceptance of a vision and philosophy throughout a large organization, priorities are another story. Leadership makes its priorities and values clear through its allocation of resources; that allocation should be more tangible. The budgeting process both communicates management's intentions specifically and gives the organization the resources to carry them out. The Board and executive management's use of this process becomes the single most important indicator, and most effective determinant, of the Company's ability to meet its mission. Executive leadership faces constraints in the budgeting process, and the degree to which the Company's financial situation influences budgeting decisions is of significant interest. Liberty will examine in detail the approaches taken by management in balancing these constraints (*e.g.*, earnings and rates) and its need to meet customer expectations and public responsibilities.

c. Controls Environment

Audit committee structure, membership, and independence comprise core elements in assuring that a company creates the kind of controls environment contemplated by regulatory and exchange-listing requirements and guidelines. It is important that these committees be given the power to set their own agendas and to see the information that they determine is necessary.

The Sarbanes-Oxley Act and the New York Stock Exchange are important sources of authority. Liberty considers the statutory and exchange requirements and guidelines to establish, at most, partially inclusive floors on structure and behavior. Effective corporate governance structure and operations require much more than mere compliance with them.

There is substantial conformity between the Sarbanes-Oxley Act and roughly contemporaneous action by the major American stock exchanges. The principal SOX requirements relevant to this audit include the following:

- Audit committee to hire/fire, compensate and oversee independent auditors
- Outside auditors to report directly to audit committee
- Limitation on other corporation compensation of audit committee members
- Formal audit committee procedures for treatment of accounting, controls, and audit related complaints, including assurance of anonymity
- Audit committee to retain its own advisors
- Disclosure of financial "expertise" of audit committee members
- Various CEO and CFO compliance and verification statements
- Limits on trading during "blackout" periods
- GAAP financials filed with the SEC to reflect all auditor-identified adjustments
- Disclosure of off-balance sheet transactions
- Officer loan limitations
- Filing of internal control report and assessment
- Reporting on code of ethics adoption
- Maintenance of audit work papers
- Controls on non-audit work by outside auditors
- Establishment of outside auditor "independence" standards.

Liberty will examine efforts to assure compliance with the following New York Stock Exchange listing guidelines:

- Majority of directors to be independent
- Regularly convened executive sessions of non-officer directors only
- Identification of outside director presiding at above meetings
- All audit, nominating, compensation committee members to be independent
- Audit committee to approve all related party transactions
- Limits on other compensation of directors by corporation
- Tightened definition of "independent" director
- Independent director approval of director nominations
- Independent director approval of CEO compensation
- Outside auditor hiring/firing solely by audit committee
- Audit committee prior approval of non-audit services by outside auditor
- Audit committee power to retain independent services
- Audit committee members to understand financial statements
- Exchange approved continuing director education
- Accelerated disclosure of insider transactions
- CEO compensation approval at executive session
- Shareowner rights to vote on all stock option plans
- Annual CEO certification against violations
- Adoption and posting of business and ethics codes.

d. Compensation

The compensation of utility executives has been a topic of special interest to regulators and customers for decades. More recently, the great increases of the compensation of chief executives and other top executives has brought increased national attention to an issue of

concern in the RFP; *i.e.*, the alignment between compensation and the meeting of performance goals and objectives. Liberty will examine how base compensation, short-term cash incentives, and long-term stock-based incentives have changed in recent years and how directly related to performance they have been. One important factor will be to examine what market comparators the company uses to benchmark compensation, and what those comparisons show. Specifically, Liberty will assess how the program of incentive compensation ties to objective measures of performance. Those measures should consider the interests of customers as well as those of shareowners. Liberty's review will also include an examination of the degree to which director compensation (which has also in recent years turned more toward performance-based factors) fares in terms of the same types of alignment.

e. Title XIII of EISA

Title XIII addresses the ability of a smart distribution system to provide for the flow of information to devices inside customer premises (such as thermostats and appliances) and for data flow back to the utility. The Smart Grid will rely on equipment and services such as smart meters, smart appliances, renewable energy resources, and energy efficiency resources. The U.S. Department of Energy (DOE) will support deployment through reports to Congress, identification of barriers, creation of an advisory committee, conduct of research and development, creation of measurement strategies designed to assess implementation costs and benefits, and institution of a program that reimburses 20 percent of qualifying Smart Grid investments. Title XII charges the National Institute of Standards and Technology ("NIST") to establish protocols and standards that will enable deployment of Smart Grid equipment and systems. Section 1307 directs states to encourage utilities to employ Smart Grid technology.

There remains much to do to identify with particularity what network infrastructure requirements will be necessary to support what those who advance the goals of the Smart Grid think it will bring to the industry. It will be important for all electricity distribution companies to remain active in following developments, in identifying opportunities for customers, and in constructing and implementing plans that capture opportunities in a timely basis, while assuring that the pace and nature of investment recognizes the fluidity that may exist for some time in determining precisely what benefits will come and what improvements will best support their delivery to customers.

2. Evaluation Criteria

a. Corporate Goals

1. The Company's mission, vision or other statements of purpose should be clearly articulated and universally understood throughout the organization.
2. A corporate plan should be in place with clearly stated objectives and goals that tie directly to the mission.
3. Goals and objectives should balance the needs of all stakeholders, including customers, shareholders, employees and regulators.
4. Goals and objectives should include some long-term (decades) elements to assure the long-term viability and reliability of the system given the potential for an aging and increasingly fragile infrastructure.

5. Organizational plans should be in place that flow logically from, and directly support, the corporate plan.
6. The Company, starting with the Board, should have measures in place to assure compliance with all policies and procedures throughout the organization.
7. The Company should have a clear hierarchy of policies and procedures organized in a logical structure such that policies throughout the organization are linked.
8. The board should have full control over the establishment of executive compensation.
9. The board should exercise that role in a manner that focuses sufficiently on utility performance when deciding how to reward executives with significant utility responsibilities.

b. Top-Level Budget Priorities and Processes

10. Resources, including capital, personnel and operating funds, should be allocated by the parent in a manner proportional to the service needs of its regulated utilities.
11. Resources, including capital, personnel and operating funds, should be allocated by Central Hudson in a manner proportional to the service needs of its electric, gas and steam operations.
12. Performance versus the corporate and organizational plans should be regularly measured with corrective action, course corrections or plan revisions taken as appropriate.
13. Failed goals should not be abandoned in subsequent annual plans without thoughtful analysis, documented explanation and reasonable justification.
14. The quality of information provided to the Board by management should be of the highest order and suitable for critical and objective decision-making.
15. The Board should demonstrate a suitable interest, as evidenced in minutes and resolutions, in key service-related areas such as rates, customer service and reliability.

c. Controls Environment

16. The audit committee should have the power to hire/fire, compensate and oversee independent auditors.
17. Outside auditors should report directly to audit committee.
18. There should be appropriate limits on other corporation compensation of audit committee members. There should be structured and regular self-assessments of board and top management effectiveness in carrying out the governance function.
19. There should be well-structured and communicated, comprehensive, and robust policies, procedures, requirements, reporting, and enforcement of standards of ethical behavior and conflict-of-interest.
20. There should be routine, comprehensive measures for assuring compliance with exchange listing and SOX requirements.
21. There should exist formal audit committee procedures for treatment of accounting, controls, and audit related complaints, including assurance of anonymity.
22. The audit committee should have the power and access to resources to retain its own advisors.
23. There should be sufficient financial “expertise” of audit committee members, and it should be disclosed.
24. There should be controls on the type and amount of non-audit work by independent accountants, and prior approval of such work by the audit committee.

25. There should be a policy addressing competitive solicitation and rotation of independent accountants.
26. The structure and conduct of audit activities should specifically recognize the potential for the transfer of profits from utility to non-utility subsidiaries, even though there may be no net effect on consolidated holding company results.

d. Compensation

27. There should exist clear definitions and documentation of the program of executive compensation.
28. The compensation committee should have access to and make effective use of sufficient analytical support from an independent compensation consultant as well as the Company's human resources and treasury functions.
29. Compensation programs and levels should be designed to be sufficient to attract and retain personnel with the necessary levels of skill and experience, while incorporating elements that align rewards with the achievement of established goals and objectives that relate to the differing responsibilities of different levels and functions within the enterprise.
30. Sound market benchmarks should form an important element of compensation, but should be carefully applied to assure that there remains a strong linkage between compensation and value to Central Hudson in achieving utility-focused goals and objectives.
31. The measures used for incentive compensation should primarily be objective, and where customers bear those costs should have a direct relationship to improvements in service and cost.
32. The recent history of incentive payouts should show that there is no assurance that incentives will be paid at high levels absent effective performance.
33. The use of stock-based incentive compensation should be similar to the programs of companies who compete for similar talent. The compensation of the directors should be reasonably close to that of other companies against whom Central Hudson competes for directors.
34. The incentive compensation measures used for directors should include measures relevant to Central Hudson customers.

e. Title XIII of EISA

35. Central Hudson should clearly assign responsibility for assessing industry and governmental (particularly DOE and NIST) developments in Smart Grid development and for assessing current network capabilities and potential improvement plans in light of those developments.
36. Central Hudson should work actively with other state electricity distribution utilities and the Commission to address issues of deployment, standards, equipment, services, and cost recovery as they affect all New York providers commonly and Central Hudson specifically.
37. Central Hudson should have an analytically sound and structured process for examining the costs and benefits in a comprehensive and quantitative manner of network improvements, in order to be prepared to respond promptly and effectively to increased capabilities, emerging standards, regulatory programs and requirements, and customer expectations.
38. Central Hudson should take a proactive role in examining the availability of funding support for network enhancements, and should aggressively pursue opportunities that will have demonstrable benefits for customers at effective cost.

3. Work Activities

a. Corporate Goals

1. Evaluate the Charters of Board committees to verify Board functions are assigned in accordance with the evaluation criteria.
2. Determine the level of Board involvement in areas relevant to the audit.
3. Evaluate the hierarchy of policies to validate that all areas of import are covered in a structured and logical manner.
4. Evaluate the quality and effectiveness of corporate plans and supporting organizational plans.
5. Determine the degree to which the corporate plan flows from the mission or other governing statements and that organizational plans are consistent with the corporate plan.
6. Determine the degree to which the Company's mission, vision, goals and objectives are communicated throughout the organization and the extent to which they are understood and internalized within the organization.

b. Top-Level Budget Priorities and Processes

7. Review budgets to determine the extent to which resource allocations among (1) the regulated utilities and (2) the electric, gas and steam operations of Central Hudson are consistent with their respective service needs.
8. Evaluate the Board and executive management's interfaces with the Company's budgeting processes.
9. Evaluate the process by which the level of capital investment is determined by the Board and the extent to which it is consistent with goals and objectives.
10. Analyze the Company's track record in meeting its goals and objectives and its response in cases where goals and objectives have not been met, including how such goals may have been revised for future years.
11. Evaluate how the Board and executive management address long-term (decades) infrastructure issues and how such issues are addressed by the capital investment program.
12. Evaluate how financial considerations (earnings, ratios, financing requirements) and rates impact the budgeting process.

c. Controls Environment

13. Evaluate the effectiveness of corporate reporting of performance versus the corporate plan including specific goals and objectives.
14. Evaluate the quality of information relating to audit elements that is provided to the Board.
15. Identify and assess the skills, experience, and compensation of the audit committee.
16. Determine how active the audit committee has been in setting its agenda, determining its information requirements, setting the format required for outside and internal audit reports, selecting the outside auditor, determining audit fees, and limiting other work by the auditor.
17. Examine backgrounds and expertise of audit committee members.
18. Examine means to keep auditor fees competitive.
19. Examine the reporting structure and the numbers, skills, experience, and assignments of Internal Audit personnel.
20. Determine who the independent accountants and Internal Audit work together to accomplish the goals of each and of the parent and utility.

21. Review audit plan planning audits, audit scheduled and audits conducted, in order to assure proper focus on utility matters.
22. Select a sampling of audit plans and reports to test for thoroughness and recommendation follow-up.
23. Examine the overall approaches and methods to compliance with requirements and guidelines.
24. Assess the specific actions taken to address each material requirement or guideline.
25. Review and assess all filings made through the end of audit fieldwork to demonstrate compliance and conformity.

d. Compensation

26. Determine exactly where in the process (from the early stages of forming compensation recommendations to the making of final proposals) the board is involved, and what form its involvement takes.
27. Determine what in-house and outside expertise is used to conduct peer analyses and help formulate recommendations; determine who is responsible for retaining assistance, and under whose direction that assistance is provided.
28. Assess the independence of the compensation committee of the board and its experience and capabilities in matters involving executive compensation.
29. Determine the values, parameters, and limits the board members (particularly the compensation committee) apply in designing the at-risk portions of executive compensation.
30. Determine whether the board members (particularly the compensation committee) operate under a well-formed standard for assuring that utility-appropriate measures apply to setting the compensation of those exclusively, predominantly, and substantially responsible for utility performance.
31. Determine how the Company defines executive compensation, who participates, whether any of the definitions recently have changed substantially, and whether any future changes are contemplated.
32. Determine whether already-written descriptions of the Company's compensation philosophy and market targets for the elements of the compensation program agree with the philosophy enunciated in recent proxy statements.
33. Evaluate the roles played by consultants on executive compensation, and the human resources and treasury functions of corporate offices, in running the executive-compensation program.
34. Identify who chooses the compensation consultant and whether there has been a change in the past five years.
35. Assess the structure of the incentive programs; determine what objectives--stockholder and customer--they are designed to serve.
36. Evaluate how the incentive programs are intended to reward performance that corporate and utility employees have control over and that contribute to meeting utility customer-service and cost goals.
37. Identify the measures used to trigger payouts; assess the recent history of awards to determine if it demonstrates that performance is the determining factor; i.e., whether awards are made independent of performance.
38. Evaluate how any target-bonus percentages compare against the practices of the relevant market.

39. Determine how the design of the incentives of the executive-compensation program changed in the past five years.
40. Determine how board compensation is set, who is responsible, and what kinds of data and analysis support its establishment.
41. Assess the comparability of board compensation with that of a representative sample of other companies.
42. Determine whether any incentive elements of compensation increase the potential for short-term or apparent market gains at undue risk longer term.
43. Evaluate how the costs of director compensation are distributed among Central Hudson companies.

e. Title XIII of EISA

44. Determine where responsibility lies for examining industry and regulatory developments related to Smart Grid deployment.
45. Examine the methods used to consider the impact of a range of Smart Grid deployment plans on what services Central Hudson can offer and at what cost.
46. Determine how Central Hudson considers technological, regulatory, and other uncertainties associated with Smart Grid deployment in making future plans.
47. Examine Central Hudson's current and anticipated role with other electricity distributors and with the Commission in addressing the development of standards, programs, service offerings, and cost recovery methods as progress continues to be made in defining specific expectations about Smart Grid deployment.
48. Determine how Central Hudson does and proposes to examine the potential for outside funding support for deployment.

4. Liberty Resource Assignments

Lead consultant: Antonuk
Support: Teumim, Vickroy, Mazzini (Smart Grid/EISA)

The required interfaces with Board members and executive management dictate that our most senior consultants be assigned to this task. Liberty is particularly sensitive to the heavy demands faced by Board members and executives and is committed to making any interviews pointed and effective.

Liberty has found Board members at other firms to be highly articulate, actively engaged and committed to the new demands of Directors in today's governance environment, and we therefore view the opportunity to speak with selected Central Hudson Directors as important to understanding the philosophy and vision of management.

Liberty envisions conducting most of this work relatively early in the project so that subsequent interviews with management at other levels will allow us to understand the degree to which executive expectations are understood and followed throughout the organization. Accordingly, it will be particularly important to educate the team in the outcomes of this work early in the cycle.

5. Potential Benefits and Costs

It is Liberty's intention to quantify project benefits wherever practical. The ability to do this obviously depends on the nature of the recommendations, and quantification will be easier in some elements and harder in others. In this audit element, Liberty expects some potential issues to lend themselves to quantification. Examples would include questions of resource allocation, setting of alternate goals, alignment of budgets with priorities, and the aggressiveness of corrective action. If improvements are feasible in any such area, Liberty would expect to be able to quantify changes in costs or other important parameters.

It is particularly important to identify any significant implementation costs associated with benefits, whether those benefits are quantified or not. Liberty will include a rough estimate of implementation costs, and discuss those costs in more detail in those cases where such costs are significant enough to influence the implementation decision.

Some areas in this audit element would not be quantifiable. These would include cases where we might recommend that management take a stronger interest, implement more effective reporting and analysis structures, improve compliance controls, enhance policy statements or improve communications. In such examples, real benefits could result but quantification would be more difficult or impossible. Liberty respects the notion that such benefits are important, yet they cannot be considered to have the same weight, credibility and confidence as tangible, quantified benefits.

B. Load Forecasting

1. Study Guidelines

Planning should reflect an integrated set of processes. Demand and use forecasting, resource planning, and system-operations planning are key elements of a properly integrated capital planning and budgeting program. Demand and use forecasting activities support many utility-planning functions. Capital-resource-requirement plans build from long-term aggregate forecasts of use and peak demand growth. More localized, area-level, growth forecasts (for example, number and type of customers, use, and contribution to peak) support planning for extension of distribution systems. Forecasts of operations and maintenance needs and increased customer-service requirements are used in the planning processes for personnel and service-support facilities. Effective forecasting also requires consideration of the effects of demand-side management, energy efficiency, weather, and other use-affecting requirements and developments.

Liberty will examine the models that the company uses to forecast load requirements, the processes for determining their key inputs and assumptions, and the appropriateness of the inputs and assumptions selected for use and how they have changed in recent years. Liberty will examine the accuracy of recent forecasts in order to assess whether any problems or gaps have substantially affected that accuracy. In performing this sample review, Liberty will remain mindful of the need to avoid hindsight analysis and of the fact that forecasting is, even when performed well, an uncertain venture. The goal will be to identify any changes that may lead to the potential improvements in future forecasts. The detail and accuracy of consumption data will

be reviewed to determine its adequacy. Data should be specific to customer classes and, for very large consumers to those individual consumers.

Effective forecasting also requires well organized, experienced personnel. Liberty will determine where Central Hudson has located forecasting responsibility and how it has coordinated forecasting needs and outputs among its electric, gas, and steam businesses. Liberty will also examine the affects that the New York System Operator (ISO) has on load forecasting at Central Hudson, and how the company has accommodated that role in its own processes and activities.

2. Evaluation Criteria

1. Forecasting should be supported by comprehensive, accurate models that are sufficiently robust to address the drivers and uncertainties faced by the company.
2. These models should be subject to continual revision, and updating.
3. Forecasting should be conducted by well-trained and experienced personnel familiar with the capabilities and limits of models used, with recent and likely changes in the economic and other factors that affect load in the serving area, with recent experience at other similarly situated enterprises, and with the differences in factors that affect Central Hudson's electricity, natural gas, and steam businesses.
4. The accuracy of forecasts should be checked and appropriate adjustments made to future forecasts and methods.
5. To the extent that forecasting depends upon different organizations, there should be strong integration of efforts to assure consistency of assumptions, timely inputs, and coordination of results.
6. Forecasts should reflect public policies and guidelines for demand- and use-affecting programs, should include robust estimates of their effects, and should address their uncertainties fully.
7. Forecasting for the electric, gas, and steam businesses should use consistent assumptions, be conducted on a reasonably contemporaneous basis, and recognize interdependencies.
8. Forecasts presented to the Commission for use in regulatory proceedings should be current, use consistent input with those used for internal forecasting purposes, and sufficiently transparent to support adequate stakeholder and Commission review.
9. Company forecasting processes and results should be consistent with what is needed for effective coordination with NYISO's role in forecasting for the state.

3. Work Activities

1. Examine and test the models used to make forecasts through review of user documentation, interviews, reviews of outputs, and sample runs.
2. Evaluate the accuracy of recent forecasts, and identify the reasons for any significant variances between them and actual results.
3. Review the availability and inclusion of weather variables.
4. Review any recent changes in the forecasting processes and the reasons for each one.
5. Evaluate methods for assuring data are complete and reliable.
6. Determine if forecasts are probabilistic; *e.g.*, expected projection, probable high projection and low projection.
7. Examine forecasts recently used in regulatory proceedings for consistency with those used internally.

8. Identify NYISO's role in forecasting and determine how Central Hudson has tailored its forecasting structure, content, timing, and other factors to reflect that role.
9. Determine what public policies and requirements and what Central Hudson programs exist with respect to demand and energy usage reduction.
10. Determine who is responsible for the development and implementation of such programs at Central Hudson and how those resources involve themselves in forecasting their likely impacts.
11. Examine the methods used to forecast and bound the uncertainties associated with such programs.
12. Evaluate the term of the forecast for relevance with recent weather trends.

4. Liberty Resource Assignments

Lead Consultant: Mazzini (Electric), Teumim (Gas)

Mr. Mazzini is knowledgeable in the factors that go into making demand and use forecasts, how they interrelate, and the types of methods and systems used. Liberty also brings to this effort significant knowledge about demand and usage reduction programs, which have become an increasingly important and challenging aspect of forecasting processes.

Mr. Teumim has lead Liberty reviews of natural gas load forecasting at Duke Energy Ohio (two audits), Vectren Energy Delivery of Ohio, Dominion East Ohio, and Columbia Gas of Ohio.

Liberty also recognizes the closeness that should exist between forecasting and planning efforts. Liberty's assignments also bring to this effort significant knowledge about demand and usage reduction programs, which have become an increasingly important and challenging aspect of forecasting processes.

5. Potential Benefits and Costs

Forecasting, as an important driver of capital improvements, has significant impacts on utility costs. A tendency toward over conservatism, which Liberty has observed in a number of cases, can have noticeable impacts for customers. In cases where stockholders share in the benefits of off-system sales, there is an added inducement to apply such conservatism. Liberty has generally found it a fairly straightforward matter to identify areas where the assumptions, approaches, alternatives, systems, and methods can be changed. It is also often possible to identify categorically what cost magnitudes can be associated with blocks of change in incremental resources. The special difficulty in quantifying savings in this area arises because it is generally not possible to identify the precise changes in forecasts that would result from a particular improvement. Without knowing that change, it is therefore also not possible to know what changes in future resources would result. Therefore, estimates of savings in this area are generally often rougher.

Like some others, this is also an area where changes may impose added systems or operating costs. Given the significant long-term cost consequences that can attach to marginal changes in forecasts, Liberty will therefore be willing to recommend changes where it is clear that a material change in forecast accuracy will result. If there should prove to be reason to conclude that the asset portfolio is "rich" and that forecasts have been recurringly high, more costly solutions will be justified.

C. Supply Procurement

1. Study Guidelines

a. General and Electricity-Specific

Commodity prices have experienced significant overall price increases and volatility in the period following industry restructuring in most states. Changes in energy markets have thus contributed to significant rate increases; in jurisdictions applying transitional rate freezes, those increases have bordered the catastrophic for some customers. Effective management of price volatility simply cannot take place any more without the use of a structured, comprehensive, and flexible approach to portfolio design and risk management. The utility industry has thus undergone significant advancement in these areas in recent years.

Setting comprehensive and specific objectives lays the cornerstone of effective management of energy procurement. The old approach of many companies, which was to "stay close to the market" is rapidly, and fortunately, disappearing. There is no reason to believe that utilities, despite their especially large energy requirements, have special competence or foresight about market directions. Accordingly, they should adopt objectives, and support them with sound physical and financial transactions that focus on removing the particularly high degree of speculation that comes with attempts to divine market directions. Without first specifying objectives to offer guidance and limits, it is impossible to design and manage a portfolio effectively. Providing the required control necessitates a portfolio that diversifies supply in many key parameters, which include but are not limited to term, firmness, supplier, sourcing region, volume flexibility, fuel quality, and transportation, With respect to hedging, it is also necessary to provide a clear definition of purposes, transaction types, counterparty qualification, and fuel use targets.

Goals and objectives must carefully balance price minimization, volatility mitigation, and supply reliability. Not all can be optimized at the same time. It is also important, which Liberty has stressed in a number of prior examinations of electric and natural gas energy procurement audits, that the utility and its regulators and stakeholders develop a mutual understanding of the way to strike this balance. Otherwise, the same utility may find itself popular when it has hedged in times of rising prices and questioned when pursuing the same goals and hedging targets when prices fall. Even in generally rising markets over time, there can, as recent years demonstrate, still be significant periods of weakness in energy prices. Liberty will therefore pay special attention to how well the program objectives are defined and the degree of mutual understanding of those objectives between the Commission and Central Hudson.

With respect to the direct procurement activities, utilities have far more experience, although the vagaries of the commodity markets make for a more complex undertaking. It will be important to assure that the process is efficient, conducted at arm's length, and transacted consistently with program objectives and that customers are getting prices consistent with the market. The degree to which the Company facilitates a strong market response through its process will be of particular interest.

For the same reason, the need for strong controls and oversight is critical. A program handling sums of this magnitude must be above reproach, avoiding even the slightest appearance of

conflict or impropriety. Liberty will focus on the control elements of the process including the oversight roles of management, risk management, auditing and other organizations as appropriate.

Liberty also understands that the Commission has before it an open proceeding intended to address a pattern of increasing energy use in the state. This proceeding may lead to the adoption of an electric and natural gas Energy Efficiency Portfolio Standard (EPS). If so, Central Hudson may face targets for energy efficiency, similar to the existing Renewable Portfolio Standard and other programs. Recognizing that no particular standards or targets exist yet, Liberty will examine overall Central Hudson preparedness to respond, should the near future make such targets an element of its supply procurement processes.

b. Natural Gas

Liberty's examination of natural gas procurement will address:

- Organization, Staffing, and Controls
- Management of Transportation and Peaking Assets
- Commodity Procurement, Pricing, and Price Risk Management
- Measurement and Balancing.

The U. S. Federal Energy Regulatory Commission (*FERC*) Order No. 636 required separation of natural gas, the commodity, from the transportation, storage, and redelivery capabilities that transform the commodity available to supply on-demand, utility-type service. The FERC broke the supply function for LDCs into two parts: acquiring the necessary amounts of the commodity, and contracting for (or building) the delivery capacity required to make supply services available.

The particular questions relevant to assessing management of these two parts differ. Key areas of inquiry for commodity supply include inventory levels, contract/spot mix, and short-term and long-term mix. Examining performance of the capacity part of the function includes inquiries into the adequacy of peak-day capacity resources; optimal mix of base-, intermediate- and peak-load delivery capacity for a given load shape, capacity planning for firm versus interruptible load, and the effectiveness of demand-side initiatives.

Capacity planning and acquisition is difficult for LDCs, who as a group have exhibited a natural tendency to retain more capacity than they really need. The FERC's preferred method of pipeline rate design, straight-fixed-variable (*SFV*), makes it expensive for an LDC to hold capacity that it under-utilizes. The SFV method loads all capacity costs into reservation fees, which firm customers typically bear. SFV rates also invite questions of equity among user classes, because interruptible customers may avoid paying any pipeline capacity costs. These concerns create considerable pressure on LDCs to demonstrate that their performance of this part of the supply function is effective.

The organization structure and the people who populate it provide basic framework for managing and conducting gas procurement activities. A well-designed organization structure brings all required talents to bear, without fractionalizing decision-making responsibility and accountability. The structure bears directly on the sufficiency and speed of communications

flow, the maintenance of necessary controls over decisions, and the capabilities and experience required to fulfill important roles.

Gas supply management activities require a trained and capable staff with particular skills in the planning, engineering, and operational areas, coupled with knowledge of and experience with gas markets. Staffing efficiency also requires avoiding duplication of effort among different departments and the combination of related responsibilities within single individuals or groups. Liberty's review will examine the background and experience of company personnel, the level of streamlining and consolidation of staff and functions, potential gaps or overlaps in the organization, and training and development programs.

The cost of gas delivered to the city gate is far and away the most significant item in an LDC's cost structure. Comprehensive goals and objectives for the procurement and purchasing functions and activities form primary contributors to successful performance. Top management should devise measurable targets. On a more detailed level, policies and procedures provide added definition and control to the management and conduct of activities in the pertinent functions. Those policies and procedures should cover gas supply planning, short- and long-term procurement, establishment of pre-approved supplier lists, bidding procedures, documentation of contract negotiations, contract accounting and administration, measurement and sampling, among other items. Other written process definition and control measures, such as job descriptions, also evidence the degree of comprehensiveness and clarity management has provided for key activities and functions.

Evaluating the management of natural gas transportation and peaking portfolio assets, including pipeline capacity and storage contracts, peaking facilities, and contracts, comprises another key subject of Liberty's examination. An LDC's fundamental mission is to provide sufficiently reliable service at the lowest price reasonably securable. Most LDCs develop and maintain an asset portfolio incorporating a variety of sources and delivery paths, which display a range of price, quantity, contract-term, and delivery assurance. In successfully meeting the critical need to assure the availability of supply options stands, all LDCs face geographical and infrastructure constraints. An important inquiry is to determine whether and to what extent the LDC has examined all reasonable alternatives.

LDCs must use an in-depth understanding of current and anticipated load and of the relationships between load and the capacity portfolio to operate the supply portfolio so as to achieve deliveries having the appropriate degrees of reliability to customers at the lowest overall cost. Portfolio operation involves activities that take place throughout the year -- some seasonally, some monthly, and some daily. Activities include those necessary for delivery of supply to the city gates; equally important is placing into secondary markets that portion of the delivery capacity that is under contract, but is temporarily not required for serving on-system customers. Secondary-market transactions may involve additional gas deliveries, as in off-system sales, or the temporary assignment of delivery capacity to other users, through capacity releases. Regulators generally require the crediting of revenues realized from secondary-market activities to an LDC's purchased-gas cost mechanism. This approach lowers the effective cost of gas supplies to on-system customers.

Securing natural gas commodity will comprise the next major element of Liberty's review of gas procurement. Commodity purchasing processes should thoroughly evaluate available options,

such as contract type and supplier alternatives. There should exist means for gathering market intelligence regularly, and the Company should pursue pre-qualification and verification of various suppliers in order to assure an adequate complement of alternatives when purchase commitments become necessary. Liberty will review process and supporting documentation for evaluating and selecting among alternatives, including selection criteria and relative weights given to factors such as price and diversity of supply. Physical and financial risk management now supply an important dimension of gas supply management[1] in light of changes in wholesale gas markets. Liberty proposes to place particular emphasis on the LDC's relationships with wholesalers, including:

- What contractual arrangements does the LDC have directly with wholesalers?
- Are any affiliates of the LDC involved with wholesalers in any way that might affect the LDC?
- What actions, if any, has the LDC taken in light of changes in wholesale markets?

Liberty's next field of inquiry in the gas procurement area will be to verify that the LDC has taken reasonable steps to quantify and minimize lost and unaccounted-for gas; ensure that balancing procedures and practices are equitable and properly allocated among supply and transportation customers and classes. Lost and unaccounted-for gas losses generally come primarily from the following sources: metering differences, actual physical loss, company use, and accounting discrepancies. Metering differences also includes inaccuracies or errors introduced through the conversion of pipeline supply, typically billed by energy content, and end use sales, typically billed volumetrically (except, perhaps, for the largest customers).

Meters at gate stations measure the gas coming into a distribution company's system and meters at each customer's location measure the amount sold (or transported) to each customer. Before the advent of transportation of customer-owned gas, the distribution company simply compared the total of the amounts going to its customers to the amount it received, less any adjustment for quantities stored. The difference was assigned among company-use gas, such as gas for compressor fuel and space heating of company facilities, and unaccounted-for gas. Rates were computed by dividing total purchased gas cost by the number of units sold.

Safety concerns and other reasons led to metering strategies designed to isolate unaccounted-for gas from company usage. Moreover, LDCs designed metering strategies to locate where gas was being lost as a means of guiding and prioritizing line repair and replacement programs. The development of improved leak detection technology, especially gas ionization detection devices, has aided these efforts.

Transportation of customer-owned gas has made the problem vastly more complicated by requiring that purchased-gas cost computations recognize and allow for specific streams that enter the distributor's system at the same points as the supply-system customer gas. Customer-owned volumes being transported by the LDC must bear a separate charge for any company-use gas and unaccounted-for gas volumes.

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[1] Risk management as used here relates to the security of supply and the potential failure of a supplier to deliver, with the potential supply shortages and financial losses that may ensue. It is distinct from commodity price risk management, which is addressed in the next task area.

Another new problem arises from imbalances associated with customer-owned gas. These imbalances occur when the customer's supplier delivers into the LDC's system a quantity different from what the customer burns. Imbalances occur because of the physical design of the transmission and distribution system, and because of the nature of the measurement and billing process. On the system configuration side, the customer's gas and system-supply gas are co-mingled in the same pipe. If the quantities received differ from the quantities delivered, the customer must be made responsible for the difference in order to avoid imposing costs on system-supply customers. On the measurement and billing side, there exists a time lag between when the supplier puts gas in at the upstream end of the pipeline and when the customer takes gas out at the downstream end. Measurement and billing cycles must account for these lags.

Other complications also arise. Customer-owned gas may be subject to interruption on the pipeline system, upstream of the distributor. The customer may, however, choose to not interrupt its own usage. In that event, the customer's bill must reflect the gas actually used, rather than just the gas for which it contracted.

2. Evaluation Criteria

a. General and Electricity-Specific

1. A comprehensive, structured portfolio approach, that derives from appropriate pricing, reliability, and volatility mitigation goals should guide supply procurement.
2. Clear goals should be established for the hedging program including specifically targets relating to maximum rate impacts and out-of-market risk.
3. Program goals should be clearly communicated and mutual agreement established between the Company and the PSC.
4. Portfolio design should be continually evaluated for consistency with goals and objectives, desired results, and regulatory guidelines and requirements.
5. Portfolio design should incorporate the established objectives, expected results of, and uncertainties surrounding demand and usage affecting programs and activities.
6. Portfolio design should incorporate the flexibility necessary to respond to other major uncertainties; *e.g.*, supply disruptions, customer migration to competitive suppliers.
7. There should be ongoing, senior management and board review of supply procurement effectiveness, including review of portfolio components and targets, conformity of purchases to the portfolio, compliance with price mitigation and risk management programs and targets, and performance benchmarking against energy markets and other utilities.
8. The Company should take a proactive approach to NYISO's operations and contemplated changes in order to mitigate consequences to supply costs and reliability where it may be able to influence them, and in order to respond as effectively as possible where it may not.
9. Procurement decisions should be consistent with portfolio design, should balance short- and long-term considerations appropriately, and should generally apply competitive approaches.
10. Central Hudson should take steps to assure a robust response by suppliers to assure competitive results representative of market conditions.
11. There should be separate and focused responsibility for each of the energy types procured and for financial energy transactions, and that responsibility should be exercised by personnel with levels of experience commensurate with the size of the energy portfolio the company is required to procure and manage.

12. Procurement decisions should be clearly documented, subject to levels of approval commensurate with their costs and risks, and made according to comprehensive, appropriate procedures.
13. Non-competitive purchases should require and routinely exhibit sound and complete documentation of their justification.
14. Counterparty pre-qualification and credit limits should operate under structured and rigorously applied criteria, with exceptions and violations regularly and faithfully reported and subjected to affirmative response.
15. Hedging transactions should take place under a comprehensive program that applies volatility standards, identifies allowable transaction types for meeting those standards, establishes targets for total and by-transaction type, appropriately limits authorized traders, requires regular reporting of results, and faithfully reports and provides for an effective response to exceptions and violations.
16. There should exist a comprehensive risk management program that is approved and overseen by the board and, in turn, an appropriate senior management committee.
17. The risk management program should contain all of the elements required to mitigate appropriately the risks that energy-related financial transactions impose.

b. Natural Gas

18. The organization structure should be consistent with established mission, goals and objectives of gas procurement groups.
19. There should adequate coordination with other corporate departments involved in or supporting gas procurement activities, and particularly with those responsible for electricity procurement.
20. Key managers' experience levels should be consistent with those generally found in the industry in similar positions.
21. Internal measurement systems should comprehensively address performance quality on a comprehensive, ongoing basis.
22. Approval processes should be consistent with magnitude and risk of commitments involved and with process applicable to other, major corporate commitments.
23. Gas procurement policies and procedures should be consistent with work requirements and gas procurement and marketing objectives.
24. There should exist well-defined document creation and maintenance objectives and requirements.
25. Documentation of procurement actions should be adequate to support regulatory oversight and review.
26. Capacity contracts should be consistent with quality and reliability objectives.
27. The Company should promote the identification and use of sufficient numbers and types of vendors to meet needs.
28. There should exist appropriate efforts to identify and establish alternate sources of supply.
29. There should be a close "fit" between capacity profile and load duration curves.
30. The interests of on-system customers should be the predominant drivers of policies and procedures for operation of the Company's capacity portfolio.
31. Performance should be consistent with supply plans and supply asset specifications.
32. There should be aggressive marketing of unutilized assets.

33. Objectives for purchasing and price risk management activities should be clear, comprehensive, and supportive of utility needs.
34. There should be a strong focus on liquid, transparent markets in gas procurement and price risk management.
35. There should exist a sufficient number of suppliers identified and pre-qualified to meet likely short-term or emergency needs.
36. There should be adequate information maintained for identified and pre-qualified vendors.
37. Bid evaluations, including application of specific criteria, weightings, responsiveness, and supplier performance history should be conducted with analytical rigor and without bias.
38. Metering and testing programs should conform to industry standards.
39. Balancing strategy and practices should be fair to each customer class.

3. Work Activities

a. General and Electricity-Specific

1. Identify the process and participants in the portfolio design process.
2. Examine the goals and objectives that drive portfolio design.
3. Examine recent changes in portfolio components and targets and determine the reasons for those changes.
4. Examine model results used to optimize hedging parameters.
5. Examine any recent evaluations conducted of portfolio effectiveness.
6. Determine what outside assistance and benchmarking information is used to assist in designing or gauging the effectiveness of portfolio performance.
7. Determine the process for incorporating demand and usage affecting programs and activities into portfolio design and into procurement decisions.
8. Examine recent forecasted and actual impacts of demand and usage affecting programs and identify any significant supply cost impacts that may have resulted from variances.
9. Examine recent forecasted and actual impacts of customer migration to competitive suppliers and identify any significant supply cost impacts that may have resulted from variances.
10. Determine the existence of and impacts of any recent supplier performance issues on supply reliability and cost; determine what actions were taken in the event of any significant issues of this type.
11. Determine the board's and senior executive management's role in and level of awareness of portfolio design and performance measurement.
12. Examine the process for amending, overseeing, reporting, responses to exceptions and violations associated with the risk management and hedging programs as they relate to energy procurement.
13. Review risk management and hedging plan documents, targets, transaction detail and results reporting, information provided to senior executive management and the board, and exception and violation reporting and processing.
14. Examine policies, procedures, and other controls applicable to the making of physical and financial energy transactions.
15. Review the qualifications and experience of personnel responsible for physical and financial energy transactions.

16. Examine the methods used to define personnel responsibilities, reporting, performance measurement, and rewards; determine their consistency with the assurance of supply reliability and economy.
17. Select a sample of procurement decisions (both electricity and gas and both physical and financial) to test for conformity with procedures, good-utility practice, arm's-length dealing, and consistency with the assurance of supply reliability and economy.
18. Examine methods for measuring volatility and the impact of hedging transactions on volatility.
19. Select a sample of counterparty credit limit, value at risk, and other key risk management results reports for conformity with program requirements and with good utility practice.
20. Examine the process used to keep abreast of potential changes to NYISO requirements and activities, to assess their impacts on the Company, and to exert proper influence on the process of making those changes
21. Examine the experience and awareness of personnel responsible for conforming company operations and activities to NYISO programs, requirements, and activities.
22. Examine plans for addressing the possible supply impacts of the electric and natural gas Energy Efficiency Portfolio Standard.

b. Natural Gas

23. Identify and evaluate the organization responsible for gas supply planning, acquisition and management.
24. Examine the training, experience, and performance of gas procurement staff.
25. Evaluate whether there is a clear and definitive system of approval authority by: a) type of commitment, b) value of commitment, c) level of approval required, d) stage at which approval is required, and e) documentation of approval.
26. Identify and evaluate the policies and procedures that control procurement-related activities.
27. Examine documentation requirements concerning development and evaluation of alternatives.
28. Confirm that requirements are being observed and maintained.
29. Examine policy and practice regarding internal audit reviews of the gas procurement function.
30. Examine the rationale for the various capacity and storage services utilized by the utility.
31. Examine the various peaking facilities and contracts and other peaking services utilized by the utility.
32. Examine how relationships with affiliates affect management of the Company's capacity portfolio.
33. Examine whether and what improvements in contract terms and conditions are being sought during periodic negotiations.
34. Examine the performance of the Company's capacity portfolio during periods of peak demand.
35. Examine the performance of the Company's secondary-market program.
36. Examine the Company's philosophy and approach to commodity purchasing.
37. Examine the Company's efforts to find and qualify prospective suppliers.
38. Examine the Company's efforts to maintain diversity of supply sources and pricing mechanisms.

39. Examine the Company's strategies and programs for minimizing lost-and-unaccounted-for gas.
40. Examine the Company's approaches to balancing for each customer class.

4. Liberty Resource Assignments

Lead Consultant: Vickroy (Electric), Teumim (Gas)

The particular challenges of default supply differ considerably for electricity and gas. Both are large and complex and impose particularly large sources of customer cost. They also both depend on a number of common activity types and their relevant markets overlap to a degree. Nevertheless, those markets differ enough to merit the use of different, senior Liberty consultants, each of whom have highly focused skills and significant experience in utility procurement of each of the respective commodities. While each will concentrate on his own applicable area, they will jointly address the processes and activities carried out in common or subject to common outside forces, factors, and events. For example, hedging principles (but not necessarily targets) will be equally applicable and the same fundamentals should apply to both commodities. Such common areas will be defined completely in the work plan and managed so as to assure a consistent audit approach.

The phasing of this audit element is not considered critical in that the ties to other audit elements are relatively loose. The work will therefore be conducted in parallel with other audit elements.

5. Potential Benefits and Costs

This element of the audit has an above average potential for tangible financial benefits. This conclusion is based on the large sums involved and not any presumed weaknesses on Central Hudson's part. Any procedural and control issues found are not as likely to lead to quantifiable benefits, other areas lend themselves to quantification. If possible, improved hedging protocols, process changes to achieve more competitive pricing, initiatives to expand the number of bidders, steps to lessen bidders' uncertainties and needs for contingencies and portfolio management improvements are typical of potential benefits that can and will be quantified.

Cost benefit is somewhat less of an issue here because the cost of program implementation is likely to be small in comparison to supply costs. Nevertheless, Liberty will estimate implementation costs to assure a full and accurate assessment of all recommendations.

D. Long-Term System Planning

1. Study Guidelines

In the context of the logical flow of the eight audit elements, System Planning may be viewed in some ways as the keystone. It is the engine that is fueled by the Company's needs and then produces rational, economic solutions to those needs.

This process will form the focus of our review. Sub-plots in this story include expansion for new customer facilities, reinforcements for "normal" load growth, reliability improvements, replacement of old facilities, system redesign, cost effective loss reduction, and system changes to meet other local needs.

Of particular interest is the degree to which new technology can make a contribution. Central Hudson invests in research, and the degree to which these investments come back to help system design will be evaluated. The role of "hot topics" such as smart grid initiatives, load management and advanced metering as well as Central Hudson efforts to redesign its system with newer, more efficient, or faster operating equipment will be included.

In studying methods, Liberty will be especially focused on economic decision-making and the techniques Central Hudson uses to meet its objectives in the most cost-effective way. The models used, the guidelines applied, spending constraints, values for key planning parameters, methods for balancing capital and operating costs, ratemaking considerations and payback criteria will all be examined. Also, the techniques for incorporating non-financial benefits (reliability, safety, customer service) will be studied.

2. Evaluation Criteria

1. A long-term master plan should be in place that offers a credible strategy for how the system will evolve over an extended period, including expansion requirements, aging issues, reliability goals, growth of technology and other factors important to a long-term planning horizon.
2. Shorter term changes to the system should be compatible with the longer-term plan.
3. A strategy should be in place that describes how the system will avoid over-extended lives for equipment and facilities, including an overall repair versus replace strategy.
4. Standard planning parameters should be published and updated as appropriate.
5. Guidelines for economic evaluations should be in place and uniformly applied.
6. Policies for weighting the benefits of non-financial attributes should be in place.
7. A system of prioritization of projects should be in place and uniformly applied.
8. Suitable investments should be made in defining new technologies that can be integrated into future system design or redesign of the existing system.
9. Optimum use of present technologies and the state-of-the-art should be an appropriate part of the planning process.
10. Central Hudson should have a system planning staff with the appropriate quantity and quality of skills.
11. Non-traditional and innovative options should be considered in the planning process.
12. The inputs to the planning process should be credible and in a form and content compatible with the planners' needs.
13. Major projects should be specified by planners in a way that permits their subsequent design and installation to be optimally managed.
14. Standard decision-making rules for design options (overhead versus underground, etc.) should be documented.
15. Planning processes, guidelines and standards should reflect regional differences where appropriate.
16. A structured approach to cost benefit analysis should be in place, with specific instructions for the handling of various financial and non-financial benefits.
17. Decision-making processes should consider risk, preferably in a quantitative way.
18. Mechanisms should be in place to provide planners with feedback on field results that should influence future decisions.
19. Ratings for equipment loading should be in place; they should reflect the operation expected

and should be determined to maximize equipment use while maintaining equipment integrity.
20. Models, both static and dynamic, should be appropriate for the conditions simulated and their limitations understood by those that use them.

3. Work Activities

1. Evaluate Central Hudson's master plan for the long-term evolution of the system.
2. Evaluate the processes and procedures in use in the system planning functions.
3. Evaluate the organizational structure used for system planning functions and the skills and capabilities of the key personnel.
4. Evaluate the inputs that trigger system planning responses and their contribution to facilitating optimum outcomes.
5. Evaluate Central Hudson's strategy for coping with the aging infrastructure issue and their specific tactics to assure the long-term viability of the system as a whole, as well as individual facilities and equipment.
6. Determine the degree to which Central Hudson's current planning standards and processes can continue to meet long-term system needs, or if alternate approaches need to be considered.
7. Evaluate Central Hudson's use of uniform planning parameters and the degree to which they are kept current.
8. Evaluate Central Hudson's procedures and methodologies for economic evaluations, including how various parameters are used in the decision-making process (for example, capital versus O&M costs).
9. Study how Central Hudson incorporates non-economic costs and benefits into the decision-making process.
10. Review how new projects are prioritized and the ramifications of those priority levels to getting the projects completed.
11. Evaluate the linkages from system planning to the capital budget, including how any financial ceilings are established and the voice of planning in project scope and budgets.
12. Evaluate Central Hudson's investments in R&D as they relate to long-term system planning, including the degree of investment and the past history of payback.
13. Evaluate how current technologies are evaluated and brought into the planning process.
14. Evaluate how non-traditional reinforcement options (distributed generation, load management, loss reduction, system redesign, etc.) are brought into the planning process.
15. Evaluate the policies and procedures guiding standard design strategies (e.g., overhead versus underground).
16. Evaluate how Central Hudson planning decisions vary among the four regions and the degree to which they reflect local priorities.
17. Evaluate cost benefit techniques and how they relate to decision-making.
18. Evaluate risk analysis techniques and how they relate to decision-making.
19. Evaluate how planners remain current with field realties.
20. Determine the degree to which planners facilitate management of installation work through their specification of project requirements.
21. Evaluate the equipment ratings employed by Central Hudson for duration and time.
22. Review the static and dynamic models used by Central Hudson for appropriateness of application.

4. Liberty Resource Assignments

Lead consultant: Mazzini
Support: Teumim (Gas), Weber (Electric)

Our intent is to take special care to maintain what might be extremely important "big picture" conclusions while giving proper attention to the more "nuts and bolts" system planning responsibilities. This is an area where dialog with Staff, including PSC staff personnel assigned to monitor Central Hudson on an ongoing basis, will be especially critical and valuable. As noted, the stakes are high here, and it is imperative that the members of the team (Staff and consultants) are on the same page.

There is also a high need for integration with several other audit elements. The ties from load forecasting and to budgeting and project management are strong and important. Accordingly, aggressive steps to maintain close communications among the consultants assigned to each of these elements will be in order.

5. Potential Benefits and Costs

If and when reliability becomes the paramount issue for a utility, the balance shifts and cost increases become more likely than cost benefits. Our objective is to produce real tangible benefits for Central Hudson and its customers, but that goal should not unduly prejudice us from recommending higher costs if there is a compelling need and clear service benefits, which could possibly be the case in this audit element. Liberty feels strongly, however, that in any such case, the burden is on the consultant to fully justify the need for any added costs.

We would also, of course, expect more traditional cost savings opportunities as well and will apply the same ground rules as used elsewhere in the audit: quantify the benefits, estimate implementation costs and perform the requisite cost benefit analysis where appropriate.

E. Capital and O&M Budgeting

1. Study Guidelines

The RPF sets forth an extensive list of the items to be examined under this audit element. Liberty has categorized them into the four principal processes we generally use for conducting reviews that address items such as these:

- Strategic Capital Allocation
- Planning and Analyses Processes
- Prioritization Techniques
- Management Reporting and Monitoring
- Post-Auditing.

The following list places the RFP list into these categories and into the general flow of issues that Liberty proposes to examine specifically:

Strategic Capital Allocation

- Roles of Central Hudson Boards of Directors and executive and senior management in budgeting processes

- How dollars are allocated to utility capital expenditures and O&M from a top-down perspective
- What strategic financial criteria and objectives must be met
- When and to what extent they get involved in the capital and operation and maintenance budgets
- Whether there is a "negotiation" with bottom-up budget requests
- Whether executive management sets a "hard cap" for capital and O&M levels
- Level of detail seen by Boards
- Board approval responsibilities
- Whether allowed revenues/rates and financing opportunities or constraints affect budget levels and priorities

Planning and Analysis Processes

- Capital budgeting process, including project authorization, project appropriation, increase/decrease of authorization/appropriation, capital budget status reporting, validation in advance of appropriation, funding control
- Budgeting guidelines, practices and procedures, including "zero–based" and other alternative methods
- Economic analysis, modeling techniques and systems providing key financial inputs
- Bottom-up and top-down processes for developing the budgets
- Use of economic analysis in assembling the budget
- Roles and relationships of field and centralized planning and budgeting functions
- How management determines adequacy of capital and O&M planned expenditures
- Financing plan that supports the capital and O&M budgets
- Robustness of consideration of alternative methods of raising capital

Prioritization Techniques

- Methods for prioritizing and determining which capital projects get approved
- Examination of modeling software for capital and operation and maintenance budgeting
- Construction/capital priority setting decision process; consideration and balancing of economic feasibility and operational requirements
- How a top-down, "hard cap" on expenditures is used, if present
- Optimization of repair versus replace decisions
- How incremental O&M associated with new construction factors into budgeting

Management Reporting and Monitoring

- Management reporting systems' use
- Variance reporting
- Actions taken in response to budget variances; specific remedies and actions required
- Cost control systems and processes from a top-down and bottom-up perspective
- Sufficiency of controls to ensure that increases and decreases to the construction budget/expenditures are justified and appropriately approved
- Expenditure management and control in the field
- Methods to control and manage total company, program and project capital costs in the near and long term
- Comparison of planned/budgeted expenditures, rate case proposed expenditures, and actual expenditures

- How budget forecasts are incorporated into rate case revenue requirements

Post-Auditing

- Existence of a "feedback loop" exists for examining previous economic analyses and prioritization decisions to evaluate budget process effectiveness
- Whether any such effectiveness audits have caused the process to improve over time
- Specific auditing of management reporting processes for timeliness and effectiveness
- Apparent improvement in processes time.

Liberty will also examine the integration and coordination between capital-expenditure planning and financial market realities. It is important to verify that there exist proper strategies for responding to changing conditions in the financial marketplace. Financial planning should effectively support utility capital requirements, while also recognizing that constraints may arise that may require changes in spending plans to secure required funding at the overall lowest cost of capital, considering near- and long-term requirements.

The RFP indicates the need to analyze the capital budgeting process and the resulting capital allocations from both a top-down and bottom-up perspectives. The top-down perspective should provide the overall view of goals and objectives for the corporation and their incorporation into the capital and maintenance budgets. Central Hudson should have clearly identified corporate goals and objectives that it should reflect at the state and local level through the capital budgeting and strategic planning processes. The Company should incorporate these strategic goals and objectives in planning analysis reports or some similar types of directives furnished to planners. In addition to examining these top-down aspects of the capital budgeting process, Liberty will evaluate bottom-up budgeting.

At the corporate level, there should exist an organization responsible for strategic and network planning directives. This organization should provide the engineering guidelines and planning analysis directives that supply the directives to the local planners and engineers to assist them in initiating, designing, and evaluating network rehabilitation projects and expansions. Such guidelines should be current.

A business analysis group or a similar financial management group is typically responsible for preparing the top-down network-capital budget. Corporate financial objectives and evolving financial market conditions usually drive the total capital budget. Changing financial conditions can result in additions to or reductions in the capital budget. Liberty will assess the process used to develop the capital budget at the corporate level and identify the factors used in allocating the capital budget among the various competing entities. This information will provide the Commission a clearer understanding the importance that Central Hudson places on quality of service.

Typically, a capital budget takes a multi-year view. The first two years or so are for immediate planning purpose while the remainder (often three years) provide strategic direction for the network. Liberty will verify that Central Hudson has in place a capital and maintenance budget that is adequate for funding growth, modernization, obligatory capital projects, maintenance or operating improvements, and specific programs. Growth spending is typically driven by forecasts of increased usage, either overall or in particular areas of the serving region. Modernization projects are required to replace facilities to meet new service needs. Things such

as relocation of facilities due to road construction drive obligatory type of spending. Maintenance or operating improvements are projects to replace or relocate existing facilities.

In Liberty's experience, corporate net income objectives frequently dictate the overall maintenance budget. The maintenance budget typically includes preventive maintenance, corrective maintenance identified by the required by the National Electrical Safety Code inspections, and proactive repair programs. Because the primary expenditures are force driven, Liberty will concentrate its budget analysis on the effect of changes in the maintenance budget on force planning. In addition, Liberty will review accounting changes that may result in reallocation of hours charged between capital and expense. This is necessary to establish an accurate baseline for comparison of the year-over-year changes in the capital spending as it relates to quality of service.

Bottom-up budgeting consists of identifying the capital requirements starting on a project-by-project basis at the exchange level. In preparing the bottom-up view, Central Hudson should have personnel responsible for implementing planning guidelines. These planners may be assigned either to the utility-wide or region level. Using network-engineering guidelines, planners identify growth requirements, facilities needs, technology improvements, public requirements, and service-improvement initiatives. Each category consists of the number of projects for each year during the planning period. The planner develops and prices out the project. In determining the capital requirements for each region, costs of all projects identified for that period are summed including routine expenditures and maintenance improvement programs along with line of business requirement and/or other company initiatives. This provides the bottom-up budget requirements for plant.

In preparing the bottom-up capital budgets, planners should quantify the effect on installation and maintenance head count for each project work plan. One effect may be a reduction in the number of dispatches. Liberty will compare budgets with any expected improvements in service quality metrics. In addition, with the reduction in dispatches, Liberty will examine changes in head counts both historically and on a prospective basis, comparing them against engineering plans, work orders, and force load models.

A number of companies have used the process of allocating the capital budget to each region from the top down. Liberty will assess the process used to allocate budgets among the various regions. After receiving its allocation, management at region state level is typically responsible for reconciling the bottom-up and top-down budget effort. Top-down budget allocations are generally not sufficient to fund all the requirements identified in the bottom-up budgeting process. Regional engineering management typically assigns priorities to the plans for funding purposes. Liberty will examine the methods used to assign priorities to the various projects. Liberty will review the process used for assignment and determine how each of the proposed projects are assigned priority levels by management. Liberty will evaluate whether quality of service analysis is included and the role it plays in setting the priorities for the competing plans and projects. An industry best practice is to perform risk analysis to assess the impact on service quality when assigning priorities to work items for the initial capital budgeting process and where it later becomes necessary to reduce approved expenditures.

Liberty will assess recent capital spending levels in total, by utility service type, by overall category, and at the regional or district levels as applicable. In addition, Liberty will analyze the capital spending by class of plant and category of plant.

2. Evaluation Criteria

1. Senior parent executive management and the board should take reasonable efforts to assure that Central Hudson needs receive sufficient priority as overall spending priorities are set and budgets are consolidated at the parent level.
2. Senior Central Hudson executive management and its board should take reasonable efforts to balance the needs of the electric and gas businesses in the budgeting process.
3. The Board of Central Hudson should take direct responsibility for budget approval, and should support their responsibility to do so by securing from management information about expenditures, operations performance, and the relationship between the two sufficient to allow them to exercise that responsibility on an informed basis.
4. The board, executive management, and managers with significant budget development roles should operate under a common understanding of the values, goals, and objectives that apply when setting priorities among potential objects of expenditure.
5. Those values, goals, and objectives should be consistent with good utility practice and with the expectations of the Commission with respect to promoting service adequacy, while considering efficiency and economy in the long run.
6. The capital budget should be derived primarily from a bottom-up examination of system needs; it should not be unduly driven by top-down financial considerations.
7. The detailed budgeting process should involve all of the organizations whose distinct contributions to utility service require material capital expenditures.
8. The budgeting process should take place under guidelines, procedures, and schedules that are uniform enough to produce results that are sufficiently uniform to combine into a consolidated, overall budget.
9. There should be sufficient available support to assure that budget work can be performed effectively in light of the other duties that involve the line managers that must provide detailed budget inputs.
10. The budgeting process should include sound methods for addressing the range of cost uncertainty imposed by approved projects and categorical (aggregated by type) expenditures.
11. Budgets approved should be structured to allow for meaningful measurement, approval, and control of increases that may prove to be required as projects progress.
12. The budgeting process should make adequate provisions for disclosing the costs of multi-year projects approved in earlier years and for addressing carry-overs or shortages of funds budgeted at the categorical level, in order to allow for a proper assessment of total yearly budgeted expenditures and measurement of variances as the year progresses.
13. Budget categories and details should as nearly as possible conform to cost management and measurement bases.
14. Items of expenditure (at both the project level and the categorical level) should undergo modeling under consistent methods and with similar tools, which should produce a sound basis for objectively estimating and comparing their initial and total-life costs, and for allowing a comparison of the costs of alternatives for meeting identified needs.
15. There should be comprehensive, documented cost analysis and budgeting procedures, they should be required to be used routinely, there should be adequate efforts made to verify their

consistent use, and there should be sufficient reviews of modeling and budgeting results to allow for continuous methods and tools improvements.

16. Economic analysis should comprise an essential tool of financial requirements planning, and performance of it should include assumptions over the planning horizon (*e.g.*, inflation levels).
17. The modeling and estimating performed at the detailed level should include a robust and objective comparison of build versus replace options and should comprehensively capture annual and total-life O&M costs of capital additions.
18. There should be a clear and timely process for assuring that the expenditure prioritization process happens on a timely basis and with as much objectivity as can be incorporated into that process.
19. There should be periodic, structured examinations of the ultimate effectiveness and economy of past prioritization efforts (*i.e.*, projects that did and did not "make the cut"), in order to validate the effectiveness of prioritization processes and decisions.
20. Over time, there should be a reasonable level of conformity between budgets and actual expenditures at the overall, categorical, and individual (major) project level, with efforts taken to verify the reasons for material variances and to determine whether modeling or budgeting weaknesses are contributing to any material variances.
21. Budget variances should be identified, evaluated, and corrective action taken to effectively manage the process.
22. Other financial constraints should not operate as a bar to capital expenditures; sound analysis of financial alternatives and consequences should support the adoption of any financially-driven budget constraints.
23. Budgeting should not consider current rate levels to act as a cap on expenditure levels.
24. Budgets developed and used for internal purposes should be consistent with those incorporated into revenue-requirements analyses used and presented for regulatory purposes.
25. Audited feedback loops should be in place and operated effectively so that both the management of the budget and the quality of the financial information on which decisions are made constantly improve.

3. Work Activities

1. Determine what role the boards of directors and senior executive management have in budgeting and what documents determine, schedule, and show the results of the exercise of that role.
2. Examine how those roles have actually been carried out during recent budget cycles.
3. Examine the procedures, schedules, and process flows used for capital and for O&M budgeting. Determine actual constraints placed on capital and O&M spending on a "top-down" basis.
4. Review integration of budgeting and financial requirements planning.
5. Review the Company's analysis of alternative financing vehicles and capital expenditure schedules to optimize costs while meeting service goals and objectives.
6. Determine whether and how financing constraints more generally affect the budgeting processes.
7. Determine whether and how financing constraints affect actual expenditures made against approved budgets.

8. Determine whether and how any limitations on revenues imposed by allowed rates are considered in budget development and in actual expenditures made against approved budgets.
9. Determine how responsibility is assigned (and who has exercised it) for the bottom-up needs identification, modeling, analysis and preliminary project planning work in each area that contributes significantly to capital and to O&M expenditures.
10. Determine how responsibility for bottom-up budget development is aligned with any field operating responsibilities.
11. Examine the policies, procedures, schedules, modeling and analytical techniques and other controls that apply to these bottom-up activities.
12. Select and review a sampling of bottom-up budget preparation work products for conformity with processes, procedures, schedule, and work quality.
13. Identify any budget categories and their amounts incorporated routinely into annual budgets without requiring independent analysis and validation.
14. Determine all sequential steps required to authorize project commencement (*e.g.*, who must approve, how, and when, any authorization or appropriation for projects included in approved budgets).
15. Determine what processes and procedures govern the use of blanket versus individual project budgeting, authorization, and appropriation.
16. Examine the controls that limit budgeted, authorized, and appropriate projects as to commencement date, completion date, and expenditure amount.
17. Identify the policy, goals, processes, and modeling/analytical techniques applied to evaluating repair versus build decisions.
18. Identify the policy, goals, processes, and modeling/analytical techniques applied to evaluating annual and project-life O&M costs associated with capital improvements and additions.
19. Identify all other factors considered in modeling and evaluating potential expenditures and examine the policies, goals, processes and modeling/analytical techniques applied in connection with them.
20. Determine what benchmarking or other information underlies any applicable guidelines or metrics (*e.g.*, age, frequency of repair) used to guide replacement, maintenance, inspection, or other key budget-affecting decisions.
21. Identify when and how the process for prioritizing work among entities and among projects within Central Hudson, and follow the continuation of the prioritization and re-prioritization processes through budget completion.
22. Examine any post-budget approval re-prioritization processes that take place as the budget year unfolds.
23. Determine the levels at which budget development and performance accountability is assigned and how that accountability corresponds to job responsibilities.
24. Examine the methods used to measure expenditures against budgets at each level monitored (*e.g.*, total company, program, project).
25. Examine how and when measurement results are reported and to whom.
26. Examine processes and review and approval authorities for rolling-up individual budget preparation work into higher level categories.
27. Select and examine a sample of the work products generated by those processes.

28. Examine how the company uses multi-year experience in examining the need for expenditure reductions or reallocations (*e.g.*, are potential expenditure reductions from budget looked at the same or differently, depending on whether expenditures in recent prior years have been above versus below normal).
29. Evaluate any auditing or organized feedback loop that analyzes management performance to budget levels.
30. Evaluate any organized feedback loop that investigates the quality of projected information used in economic analyses versus actual results experienced.
31. Identify any association in recent years between changes in budgets and expenditures with tangible measures of work performance (*e.g.*, backlogged maintenance items).
32. Determine how any recent, observed changes in productivity get factored into budgeting.
33. Verify the consistency of internally generated and used budgets with submissions made to support revenue requirements in regulatory proceedings.

4. Liberty Resource Assignments

Lead consultants: Vickroy
Support: Berger, Nunnery, Weber

Budgeting is generally coordinated by a central group in utilities, and it takes place at the overall direction of senior executive management and boards of directors. Liberty has assigned the lead role to a former utility manager with corporate budgeting responsibilities. He has examined budgeting in many Liberty engagements, including Liberty's recent Management and Operations audit of Con Edison. His assignment brings to this audit element the technical, financial, and corporate experience it will take to examine effectively the budgeting processes and results at one of the country's largest utilities. Despite its importance and visibility at the senior corporate level, budgeting requires extensive participation by the organizations responsible for planning and operating the electricity, gas, and steam businesses. This is so because both systems planning and project execution should have major impacts on the budgeting processes. Liberty therefore has assigned its lead in each of the two businesses of interest, electricity and natural gas to this audit element.

5. Potential Benefits and Costs

The linkage between effective budgeting and cost efficiency is clear. Nevertheless, it is generally difficult to associate a particular improvement with a specific dollar magnitude of savings. Moreover, more effective budgeting may cause increased expenses, to the extent that it improves the process for meeting needs related to service quality. Sound budgeting involves a sophisticated balancing of cost and service needs; improving the process may have the effect of tipping the balance, at least in some cases, in favor of service needs. However, to the extent that budgeting is linked to the other elements being studied in this audit, changes in budgeting may in fact support changes that are better able to be quantified in connection with those other elements.

The costs of budgeting changes typically is only marginal, unless the conclusion is that there is a wide-spread failing in budgeting support from line organizations, or substantial weaknesses in the systems used to support the processes involved. That has not been the case in Liberty's past experience, and we would not expect it at Central Hudson, although the team is capable of responding to weaknesses like those, should they be found.

F. Program and Project Planning and Management

1. Study Guidelines

Firms requiring large investments in plant, like utilities, by necessity have developed their own approaches to project management. While some projects can at times lend themselves to "turn-key" efforts by contractors, they are the exception, not the rule. Project management is too important for the typical utility to delegate; therefore large utilities all have dedicated programs of project management, although they are of varying approach, sophistication and quality.

The fundamental notion behind project management in a utility is the coordination and management of multiple organizations for the completion of significant cross-functional endeavors. The test then for applying project management concepts is not accounting (capital versus O&M), nor size (large versus small), nor criticality, nor terminology (project versus program), although each has an important role. The critical test is the degree to which it is impractical to manage the overall challenge within the confines of a single organization, or "silo." The necessity to manage work that spans numerous organizations requires a cross-functional approach, and that forms the foundation for project management.

Project management programs come in many variations, but should all include a number of standard components to meet key requirements. The diagram illustrates them. An effective program will contain all of these elements and perhaps more, but three will always emerge as the bottom line objectives: cost, schedule and quality. And in fact, it is the balancing of these three parameters that represents the real challenge and skill of project managers.

Liberty has found utilities to employ two basic approaches, according to whether they use "strong" or "weak" project manager. In the latter case, the project manager is charged with coordinating various organizations in a matrix-type relationship, but he or she has no real direct control over those organizations. The opposite is true in the strong approach, in which the project personnel report to and are directly accountable to the project manager. Needless to say, there are infinite variations in between designed to temper the negative features of each extreme.

The degree of support service provided to project managers is especially critical to success. In many organizations, the project manager is expected to perform many tasks, and is not provided with the skilled support necessary. This is especially true for planners, schedulers and cost engineers, and the lack of such professionals on large efforts will handicap a project management program and render the project manager ineffective.

Perhaps the single most important ingredient in project management is scope definition. Without such a strong baseline to begin the project, all of the key elements become moving targets, precluding any effective control. This makes the initial "hand-off" to the project manager especially critical. Liberty will focus on this "hand-off," including the linkages from the other

appropriate audit elements which in this case are System Planning and Budgeting. The success of a project is often directly proportional to the completeness and credibility of the initial baseline.

Liberty will look for a logical flow to the project management process. This would generally include tasks such as:

- Definition of project charter
- Definition of project scope
- Preparation of a project management plan
- Direction and management of execution
- Monitoring and control of the work
- Control of changes
- Project closure.

Liberty will document this flow and examine how all of the project management elements (cost, schedule, quality, etc.) are treated within that flow. The bottom line of this evaluation is the degree to which the project management program fills its role in the construction program chain of events.

Liberty will also select a sample of specific projects or programs for a more definitive "case study" approach, the purpose of which will be to examine how the policies, plans and procedures actually translate into results. Our sample will include projects in each of the following three stages: early stage (<25%), mid-stage (30-70%), and completed. Each case study will consider how the various elements of the program contributed, or failed to contribute, to project success. We will be looking for corrective action opportunities that were taken or missed, and how the project management program facilitated, or should have facilitated, those opportunities.

Our criteria for selection of these case studies, in addition to their completion status, will include:

- The size of the project should be relatively large.
- All key organizations should be represented on the project.
- The project should be considered an important, or at least typical, element of the construction or O&M effort.
- The project should be traceable through our audit elements (*e.g.*, how was its need defined in load forecasting, how did its design emerge from system planning, and how did it get into the budget). This will also allow us to test the final compliance of the project with its originally defined needs.

Liberty will also take steps to determine the degree to which the case studies are truly representative of the full project management program.

2. Evaluation Criteria

1. A project management program should be in place that addresses all of the elements of project management and is targeted at appropriate cross-functional projects.
2. A team of project managers should exist that have experience in all elements of project management and have suitable credibility within the necessary work processes.
3. Large projects should be provided with dedicated support resources, including planning, scheduling and cost engineering skills.

4. The role and responsibility of the project manager should be clearly defined and understood throughout the organization.
5. Expectations for project managers should be consistent with the authority and resources given the project manager.
6. Project management requirements for project participants should be generally consistent across all projects.
7. Project management principles should also be applied to significant O&M efforts requiring cross-functional participation.
8. The philosophies, principles and methods of cost management that are described in further detail under "Workforce Management" should be applied in the project environment. This includes the holistic approach, appropriate systems, measures, analysis, reports and corrective action requirements.
9. Major components of the work should have their own tailored "cost management plan" that describes the baseline cost, who is accountable and how costs will be managed. Such plans should include the specific actions required of the cost manager and the supporting cost engineer.
10. Formal approval and kick-off of projects should not be permitted in the absence of reasonably firm scope definition and a cost estimate whose quality is consistent with the current design status.
11. Large projects should contain "exit ramps" early in the job to permit management re-consideration if costs begin to escalate.
12. A program of scope control should be in place that identifies scope deviations early, requires analysis of such deviations and the mandatory specification of alternates to mitigate the effects of the deviation.
13. The construction program should have provisions for the collective management of small projects, as opposed to the standard project management approach.
14. The project management program should apply to all organizations participating in a project, whether Central Hudson or contractors.
15. The role of quality and its relationship to cost and schedule achievement should be clearly defined and understood by all project participants.
16. There should be a clear linkage between project management and the budgeting systems, characterized by input from and feedback to those systems.
17. The relative priority of projects and programs should be defined in the planning and budgeting process and, once projects have been approved, assigned and scheduled, those priorities should be moot (i.e., the project manager should not have to compete for resources).
18. A process for the handling of contingencies should be defined and the "owner" of budgeted contingency funds for purposes of funding approvals should be identified.
19. Project management principles that define requirements for contractor project management programs on "turn-key" projects should be in force.

3. Work Activities

1. Evaluate Central Hudson's approach to project management, including the PM approach (weak or strong), applicable projects and organizational dynamics.
2. Evaluate the quality of the project management and support organizations, including the skills and experience of the key incumbents.

3. Evaluate the degree of support given project managers and its consistency with the expectations for project managers.
4. Test the relationships among project managers and the functional organizations and the degree to which the organizations support and are supported by the project manager.
5. Evaluate the cost management systems in use for projects and the effectiveness of their utilization by the project managers and the functional organizations.
6. Evaluate the quality systems in use for projects and the effectiveness of their utilization by the project managers and the functional organizations.
7. Evaluate the schedule management systems in use for projects and the effectiveness of their utilization by the project managers and the functional organizations.
8. Evaluate project management expectations and performance in other critical project elements, including safety, procurement, materials management, communications, contractor interfaces, labor relations, HR, bookkeeping and administration.
9. Prepare at least three case studies of actual projects (one <25% complete, one in mid-stage and one complete) and determine how project management systems have worked, where opportunities have been taken or missed, and where improvements may be possible.
10. Determine the degree to which case studies are representative of broad project management performance.
11. Evaluate how projects are initially prioritized and then slotted in the budget, and the impact of this decision on subsequent execution.
12. Evaluate how initial scope is defined, including its credibility, relative "sanctity" and its ability to serve as a good baseline for control. Determine if there are any propensities to approve and start projects without sound baselines for control.
13. Determine the degree to which mechanisms exist to stop, re-consider and, if appropriate, cancel projects that exhibit early out-of-control tendencies. Examine the triggers to alert management to the need for such a re-consideration.
14. Evaluate how the balance of the construction program (i.e., those projects that do not come under a project management approach) are managed.
15. Evaluate how contractors are managed within the context of the project management program, including those with turn-key responsibilities.
16. Determine how Central Hudson project managers are expected to balance cost, schedule and quality, among other priorities, and what guidelines, training, policies or other aids exist to help meet this challenge.
17. Evaluate how project managers maintain conformance to the project's "intent" with the restraints experienced in day-to-day management (budgets, scope changes, contingencies, design errors, etc.). How is the project manager's ability to stay true to the intent monitored?
18. Evaluate the flow of projects from the budgeting process into the project management jurisdiction, including how project budgets are then set (in relation to what is in the capital or O&M budget) and how design intent is maintained.

4. Liberty Resource Assignments

Lead consultants: Nunnery (Electricity), Berger (Gas)
Support: Kozlosky, Weber

Project management is perhaps the most structured element of this audit. The standards applicable to its practice are better defined and more universally accepted than the other audit elements. It lends itself to academic considerations and much has been published about how to do it right.

However, there is also a softer side here, and one that is more correctly characterized as art rather than science. Because project management, by definition, spans many "silos," it has a large people-component. And the coordination of those people is complicated by what is often a lack of authority, requiring the project manager to "jawbone" his or her way to success.

Liberty notes these academic and human elements in order to emphasize the importance of evaluating the program in the real world. In other words, consultants with both (1) the extensive technical knowledge of how project management and its systems work and (2) the experience of bringing disparate and at times competing organizations together for a common objective. (And any competent project manager has learned to respect the latter far more than the former.)

Liberty has proposed a team for this work that meets both criteria, having the technical skills required of a project manager and having the hands-on experience of managing across multiple "silos," Only in this manner can both the science and the art of Central Hudson's program be effectively evaluated.

In managing this element, there are important interfaces with other audit elements. Liberty will coordinate this effort with the drivers of projects - load forecasting and system planning. Budgeting will play a big role and interfaces with that element and will likewise be managed. Finally, the workforce management element plays a large role in project management's ability to control costs, both from the management of physical workers and the broader requirements of cost management discussed under that audit element.

5. Potential Benefits and Costs

Liberty is hopeful of making real contributions to Central Hudson's project management efforts. Perhaps their current efforts are already quite effective, but in this arena, there is generally opportunity for improvement in even effective organizations of their size. We respect that there are many approaches to effective project management and we hold no illusion that one approach is always best. Recommendations will therefore only be made because they produce real and tangible benefits, and not simply because they are our ideas.

The structure of project management, and its clear objective of meeting cost, schedule and quality targets, makes the evaluation task somewhat easier than other areas of the audit. The activities of project management have a defined desired outcome, and that serves as a reasonable criterion from which to measure improvement.

As elsewhere in this audit effort, quantification of benefits is highly desirable, and it is our intention to provide such quantification in all possible cases. Similarly, implementation costs will be estimated and suitable cost benefit analysis provided as appropriate.

G. Work Management

1. Study Guidelines

Effective work force management is necessary to conduct work effectively and efficiently in large utility organizations. Other sets of processes may nominally have a bigger impact on the bottom line, or on other key operating parameters, but this element tells the observer a great deal about the quality of management, systems, people and a firm's ability to get things done. Therefore, its study has ramifications beyond the cost penalties or savings that emerge.

Liberty's approach to evaluating workforce management is likely to differ from the approaches traditionally taken by consulting firms who do audits of this type for regulators. That traditional approach focuses on cost systems and tools, both in terms of activity costs and costs per unit of output (productivity). Liberty has found this focus to be far too narrow for effective management. Rather, we encourage a more holistic approach, in which the cost challenge is attacked on a number of fronts. Without that broader approach, if all that exist are "systems and tools," however good, strong results should not be expected.

"Cost" is indeed the bottom line, and reflects the effectiveness of one's management approach. Nevertheless, focusing too narrowly on what drives costs can ignore the reality that tools and systems are merely vehicles and accomplish nothing in and of themselves. It is the surrounding culture, management philosophy, responsiveness of people, willingness to take corrective measures, desire for continuous improvement, analytical skills, and allocation of remedial resources that drive results, and not just from a cost perspective. They drive the vehicle.

This more holistic view is essential to understanding cost effectiveness. This is not meant to minimize the importance of systems and tools; the bigger the organization the more important those systems and tools are. Liberty will therefore place a strong emphasis on the quality of tools as well as the many inputs and outputs. But it is their application and the surrounding attitudes and infrastructure supporting work management that will tell the more complete story.

Workforce management is a complex undertaking that is too readily thought of as a task any reasonable manager will just intuitively know how to do. This attitude gives short shrift to the knowledge and skills really needed in this endeavor. And those skills are extensive. Illustrative of the wide body of knowledge required for effective workforce management is the following list of attributes, each of which directly impacts the organization's ability to manage costs associated with physical work:

- The "cost culture" of the organization, which defines employee attitudes and underlying employee assumptions about cost management
- The philosophy of cost management, which indicates where cost lies in the hierarchy of the company's priorities
- Management and worker attitudes towards "continuous improvement," overall quality management, employee participation and other vehicles for efficiency improvement
- The effectiveness of work planning – the degree to which work packages facilitate timely and efficient completion of the work
- Scope control, preventing in-progress job growth
- Quality control, preventing unnecessary re-work
- Supervision

- Technical support
- Timely provision of materials
- Training
- Ample and effective equipment and vehicles
- Crew structures that enhance efficiency
- Enabling labor agreements and constructive relationships between management and the bargaining units
- A strong safety ethic and supporting program
- Controlled work hours preventing excessive productivity-robbing overtime
- Judicious use of contractors
- Judicious application of so-called "low end" resources to avoid applying higher-paid workers to routine unskilled tasks
- Accounting and cost collection systems that meet the needs of managers, and not just the needs of accountants
- Skilled cost analysts with the knowledge to identify corrective action opportunities from cost data
- Reports that do more than "report;" i.e., they also serve to stimulate management action.

This list, which is not necessarily complete, demonstrates that workforce management requires a complex set of integrated activities, which are best practiced by experienced and skilled professionals. The tendency to focus on just a few of the above attributes will lead to an ineffective evaluation and severely limit improvement opportunities. Liberty will therefore evaluate Central Hudson from this holistic approach in the confidence that such a broad yet coordinated study will unquestionably produce the best results.

2. Evaluation Criteria

1. The relative "place for cost" in the hierarchy of priorities (for example, with safety, quality, schedule, etc.) should be clearly defined so as to be understood by all employees.
2. A culture of continuous improvement should be in place that encourages management and employees to enhance work processes.
3. Work packages for physical workers should be designed to clearly communicate the key elements of the work and allow employees to optimally complete the work.
4. Supervision should effectively function to facilitate the work, including assurance of adequate personnel, support resources where necessary, material availability, management of travel and other downtime, adequate work packages, crew instruction, safety measures and all other local facilitation activities.
5. An effective program of quality control should be in place that blends with the work flow and avoids checkpoints or delays that unnecessarily disrupt the work while also capturing defects early enough to minimize the need for extensive re-work.
6. Work crews should have timely access to good technical support.
7. A materials management program should be in place that is integrated with the work planning process and assures timely availability of necessary components.
8. Training requirements for physical workers should be formally defined and compliance should be monitored.
9. Equipment and vehicles should be ample in quantity and their design should be consistent

with efficient completion of the intended work.
10. Standard crew sizes, or crew structure tailored to specific projects, should be optimal.
11. Management should emphasize the need for efficient work rules and practices in labor agreements and ongoing negotiations.
12. A formal safety program should be in place, with suitable oversight by an independent organization.
13. Guidelines for the scheduling of overtime should be in place to prevent excessive overtime during normal operations. Similarly, guidelines for shift strategies for multi-shift operations should be in place.
14. The Company's labor contracting strategy should be defined and should provide for the optimum use of the Company's fixed resources.
15. Lesser cost resources should be used for "low end" work (flagging, digging, material delivery, clean up, etc.) in order to optimize use of skilled resources.
16. A clearly defined work breakdown structure (WBS) should be in place that parses the work in logical categories consistent with the managers' needs.
17. Costs should be collected consistent with the WBS and be structured to facilitate analysis.
18. Physical quantities (for example, feet of conduit, number of transformers, yards of concrete) should be collected consistent with the WBS and directly linked to their associated installation costs.
19. Productivity should be measured wherever practical and meaningful and compared to credible standards. Such measures should be on both a macro (collective) basis and micro (detailed tasks) basis. Definitive productivity standards should be cataloged for all standard work activities and specialized productivity standards designed for unique substantive tasks.
20. A credible estimating process should be in place with standard work tasks, procedures, unit rates, estimating guidelines and capable estimators.
21. Reports on workforce performance should relate costs to production and achievement of other job objectives. Credible analysis should be included in all management reports, and that analysis should include corrective action recommendations for cost deviations.
22. A management process should be in place that forces response to cost deviations.
23. The workforce management process, encompassing all of the above criteria, should link seamlessly with established project and program management systems.
24. The workforce management process should be consistent with the Company's budgeting system and link to that system where appropriate.

3. Work Activities

1. Evaluate Central Hudson work management processes for all types of physical work, including routine T&D work, routine new construction, major projects and extensive O&M endeavors.
2. Determine how all workforce management activities interrelate to form an integrated program.
3. Construct a logical diagram defining interfaces that should be in place. Use the diagram as a checklist in evaluating the degree to which all necessary workforce management elements are in place, integrated and effective.
4. Determine the degree to which workers receive the support necessary to perform optimally, including technical support, adequate supervision, clean and safe working conditions, timely material delivery and clear instructions.

5. Determine the extent to which supervision has the systems, tools, staff support, logistical support and analytical capability to optimally support the workforce.
6. Evaluate the effectiveness of the work planning process and resulting packages that are used to define and structure work for physical workers.
7. Determine how Central Hudson balances work-related costs and productivity with the other important priorities for the workforce, such as safety, quality and schedule, and the degree to which workers understand and effectively balance these priorities.
8. Evaluate reports relating to cost performance of the workforce.
9. Evaluate work breakdown structures used by Central Hudson for various physical work projects.
10. Evaluate how work plans are linked to organizational budgets.
11. Evaluate how workforce management processes are applied in a project environment and linked with project or program management processes.
12. Evaluate the cost management tools and systems in place and their effectiveness in meeting management needs.
13. Evaluate management's response to cost reports and the degree of corrective action applied to cost deviations on a routine basis.
14. Evaluate Central Hudson's benchmarking initiatives, including the Electric Utility Cost Group, and determine the effectiveness of such programs and their contributions to efficiency.
15. Evaluate Central Hudson's approach to productivity measurement and management. Review existing standards for common work tasks and processes for developing specialized unit rates.
16. Review Central Hudson's estimating process and estimating standards, guidelines and assumptions.
17. Evaluate how Central Hudson collects production data (including commodity quantities and other measureable production units), and how those quantities are integrated with costs for effective performance measurement.
18. Evaluate applicable Central Hudson quality programs and the degree to which they facilitate "getting it right the first time." Consider the impacts of inspection holds, inspector availability, and other necessary QC interactions on costs.
19. Evaluate the process by which materials are procured and/or requisitioned from inventory, made available to work crews and delivered to the work site.
20. Evaluate the scope and quality of training and its impact on worker effectiveness.
21. Evaluate the contribution of overtime to costs, including the degree to which overtime is large enough to cause productivity issues.
22. Evaluate Central Hudson labor agreements and work rules and the degree to which management and the bargaining unit work together to enhance efficiency.
23. Evaluate Central Hudson's contracting strategies and practices. Evaluate where contractors are utilized, how management of contractor forces complies with the same workforce management principles discussed here for Central Hudson and the relative effectiveness of contract labor.
24. Evaluate Central Hudson's resource allocation strategies to assure the fixed staff is optimally applied, and that lower cost alternates are used for unskilled work.

4. Liberty Resource Assignments

Lead consultant: Yu
Support: Berger, Kozlosky, Nunnery, Weber

Our approach to work management clearly requires leadership that is highly skilled and experienced in all elements of cost management, as well as the intricacies of utility field work in both construction and maintenance. Central Hudson should display a high level of sophistication in terms of their programmatic approach and the skill of their hands-on managers and workers. It takes commensurate skills and experience to examine and evaluate their performance. Accordingly, we have carefully selected a team leader and supporting consultants who will be in a position to add substantial value to the audit and to Central Hudson's future operations.

This team has special integration requirements in that its work links closely with the budgeting audit element and the project management audit element, both on the input side, and the performance measurement element on the output side. Liberty intends to phase the work accordingly; however, we see no harm in considerable overlap and will therefore not delay the start of this work significantly beyond the start of its predecessors.

5. Potential Benefits and Costs

This audit element is surely one that best lends itself to quantification of benefits as well as encouraging meaningful cost-benefit analysis. While improvements to systems and tools may be an exception to this expectation, most of the other components of Liberty's evaluation should result in tangible, measured outcomes with estimated implementation costs.

Interestingly, this area is also somewhat vulnerable to what we might call negative contributions, and Liberty will take special care to avoid such recommendations. We have seen well-intentioned firms and consultants add to administrative and overhead burdens in the belief that these will eventually lead to productivity improvements. In fact, investments in new controls, reports, systems and tools can often fall into this category. But this is a speculative approach, effectively forcing the utility to bet (with the customer's money) that added overheads invested today will produce direct savings tomorrow. Liberty has found that the status quo is often better than speculating on such future uncertain outcomes. In many cases, the physician's adage of "above all, do no harm" is particularly applicable to the auditor. Nevertheless, this audit element offers lucrative potential and it is Liberty's intention to manage the audit accordingly, with a focus on the real and the tangible.

H. Performance and Results Measurement

1. Study Guidelines

The RFP lists a number of specific areas of inquiry for this audit element:

- Processes for feedback of performance (reliability, productivity, etc.) to the corporate mission, objectives and goals for the purpose of improving processes, redirecting resources, and changing priorities
- Role and responsibility of the Board of Directors in this feedback loop

- Management accountability for performance improvements, e.g., cost savings and productivity gains anticipated from specific capital and O&M programs and projects, and specific corporate goals
- Goals, key performance indicators, metrics.
- Benchmarking, for identifying and developing performance targets
- Change management and continuous improvement processes, and any impediments that might constrain performance improvements and necessary changes
- Compensation and performance metrics
- Any additional performance measures or indicators that are needed to facilitate the corporate mission, objectives and goals, including leading indicators, metrics, key performance indicators and other measures that will help improve performance.

The reader will see less length in Liberty's discussion of this element. This relative brevity does not indicate that Liberty attaches less significance to this element; it is no less important than the other seven, with which it operates as part of an integrated, iterative set of activities. The fact that these activities are (or should be) so interdependent gives cause to the shortness of this proposal section. The seven that have preceded it already have addressed much of the guidelines and many of the criteria and work activities that should use the information that results from the measurements whose definition and data population fall under this element.

As the RFP's list of measurement inquiry areas makes clear, measurement has two important goals. The first is to assure that there is a sound basis for measuring in the short term the effectiveness and efficiency of the use of budgeted and assigned resources against clear and comprehensive benchmarks. The second purpose supports the somewhat longer term goal of seeking improvements. It is also somewhat broader, in that those improvements need not come only in improved project execution, but also in improvements in the other elements that the audit will address; *e.g.*, needs identification, system planning, budget development, and work force management. The key to successful accomplishment of the second purpose is to identify, take, report, use, and hold people accountable for a sufficiently broad and deep set of measures. At the same time, care must be taken to avoid the creation of reporting requirements for information that does not prove material to managing. It can take substantial resources to measure results effectively and timely. Measuring data that is not material can waste resources and divert attention from the real drivers of effective and economical performance.

Measurements must also be tailored to each of the different levels of people who need to use them. Obviously, data reported at varying levels of detail need to roll up accurately from the most detailed to the most general levels. The failure to use consistent sets of data must inevitably cause either a false sense of success or a misdirection of effort toward problems that either do not exist or have less importance than they may appear to show.

At the top level, Liberty has found that providing meaningful data to boards of directors to be probably the most problematic. It ultimately does not serve a board's purposes well to provide sophisticated, glossy budget presentations if the board does not get on a regular basis the data it needs to see: (a) if the work ends up consuming the levels of anticipated resources, and (b) the performance of the work actually produces the benefits that justified its authorization. Without good performance information, board budget involvement eventually becomes a blind process. Similarly, board questioning of management effectiveness in producing expected service results

becomes hollow. The board needs good performance information to deal effectively with the need to relate performance and personal rewards, both when it sets executive information and when it reviews the pools that assign rewards to lower levels on a group basis.

A board of directors thus, not only needs information generally, it needs it specifically when it performs what are generally milestone events in their yearly cycle of operations; *e.g.*, budget and compensation review and approval. Board members also need to see information that crosses the artificial (but useful) calendar separators (*e.g.*, calendar/fiscal, quarter/yearly) used to plan and budget work, in order to have the data needed to assess the propriety of future hopes (expected plans and activities) against past realities.

Looking from the bottom up, performance data needs to be collected, analyzed, and disseminated in a manner that is consistent with job responsibilities and accountabilities, at whatever management or supervisory level is relevant. Failure to do so makes it unnecessarily difficult for individuals to measure their own success, and for those to whom they report to do the same. This vertical integration of information reporting is not the only critical dimension, however. Horizontal integration is necessary to ensure that the results of those with similar responsibility in different geographical areas are consolidated accurately. Horizontal reporting is also important for identifying groups or regions that have particular strengths or weaknesses, in order to promote a culture of continuous improvement. Horizontal integration also matters for groups that are divided not by territorial region, but by functional responsibilities that are separate, but must work effectively together. Effective reporting uses measures that help identify on which side of the activity "border" lie the roots of performance weaknesses. Such reporting can also help identify when the problem is not on either side, but result from an inadequately designed hand-off process.

Effective reporting in large organizations also requires the support of systems and people. Data collection, analysis, and reporting can become unduly burdensome in large, complex organizations. There is clearly too much data for those who do the work to have too much of the burden for measuring the work. Dedicated work groups, supported by reasonably automated data systems are necessary for several reasons: (a) simply to spend the time necessary to get the data properly entered, (b) to aggregate the data into useable form, (c) to provide sufficiently for data completeness, accuracy, and integrity, (d) to design, populate, and assure the timely dissemination of a coordinated reporting system that must communicate at many different levels on a wide variety of measured performance, and (e) allow for the development of sufficient expertise to spot trends and anomalies, think "outside the box" about possible ways to move performance in a positive direction, and have the credibility with senior and line management to spur dialogue with responsible departments about structural, process, personnel, or other possible areas of change.

2. Evaluation Criteria

1. Senior management should give significant, recurring emphasis to the need for performance accountability that is determined through comprehensive and, wherever practicable, measurement of performance against clearly established goals.
2. These goals should be supported by a comprehensive set of metrics and key performance indicators addressing cost and service quality.

3. There should be a clear process for establishing and revisiting the performance metrics used, in order to assure that they address all material attributes of service effectiveness and efficiency including such items as overall system reliability, reliability of local areas, and loss reduction.
4. These metrics should correspond to specific, measurable goals and objectives at the detailed (lower) levels of the organization, at which day-to-day responsibility for conducting activities lies; they should bear a close relationship to the discrete activities necessary for accomplishing detailed goals and service-affecting processes.
5. There should be a dedication of specific resources, supported by sufficient automated systems, to assuring that all data necessary for addressing established metrics is: (a) collected, (b) verified, (c) aggregated by appropriate class, (d) stratified for use by ascending levels of supervision and management, (e) reported meaningfully, (f) analyzed for trends and concerns, and (g) used as a basis for identifying improvements in efficiency and effectiveness.
6. Such information should be benchmarked internally (*e.g.*, trends over time, differences among regions) and externally through the use of comprehensive, current industry information.
7. Measurements applied to individual departments, work groups, activities, and individuals should conform to their responsibilities and accountabilities.
8. Measured performance information should be directly and substantially tied to individual and group rewards as part of the compensation program.
9. Performance measurements at sufficiently highly aggregated levels should be available to the board of directors when it performs key annual activities, such as budgeting and executive compensation reviews.

3. Work Activities

1. Determine what linkage exists between corporate, department, work group and other specific goals and objectives and the performance metrics applicable to them.
2. Verify that performance metrics are comprehensive and quantifiable wherever practicable.
3. Determine whether metrics fail to include any key performance areas.
4. Identify those responsible for assuring that performance metrics are sufficient, regularly reviewed and updated, and accurately carried out.
5. Identify how the company uses performance information specifically to adjust plans and budgets mid-year, and to consider future changes as part of the ensuing planning and budgeting cycles.
6. Determine the scope, contents, cycle, and distribution of key metrics reports.
7. Construct and execute a sampling test of the consistency between data sources, completeness, and vintage/timeliness and metric design.
8. Discuss with personnel at all organizational levels their use of performance information.
9. Verify that board members and executive management have access to sufficient performance information, are able to and do examine recent performance data as part of key annual planning, budgeting, and compensation review activities.
10. Identify the internal and external benchmarks used to assess performance.
11. Through a sampling of positions, verify that job descriptions and individual understandings of responsibilities and measurement bases conform to measurements actually taken and used to assess performance and individual rewards.

12. Verify the existence of and study specific examples of structural, process, responsibility, and activity changes or enhancements resulting from use of metrics.
13. Determine whether there is focused responsibility for instigating change at the detailed activity level and for supporting that responsibility with specific performance information.
14. Assess the sufficiency of use of outside experts to assist in reviewing performance information and in identifying improvement opportunities.

4. Liberty Resource Assignments

Lead Consultant: Antonuk
Support: All

Liberty considers there to be an especially close linkage between the planning-oriented elements of Work Element I and performance and results measurement. Therefore, we have provided for common leadership of the two elements. Moreover, measurement is an important element of all work and therefore of the work of all the consultants on this engagement. In order to promote job efficiency, they will be asked by the lead consultant to provide specific data and analysis to support the work here. This work is expected to be less extensive in the supply and forecasting areas; therefore, no separate time has been budgeted for the team members examining those areas. Nevertheless, they, as all team members, will provide for Mr. Antonuk's assembly and analysis the information needed to produce an integrated evaluation of this element.

5. Potential Benefits and Costs

As is true for budgeting, it is easier to see the connection between measurement and cost effectiveness than it is to quantify it with precision. In addition, improvement costs are generally marginal, unless there is a major failing in the commitment to measurement, the creation of comprehensive metrics, or the assignment of accountability for taking measurements.

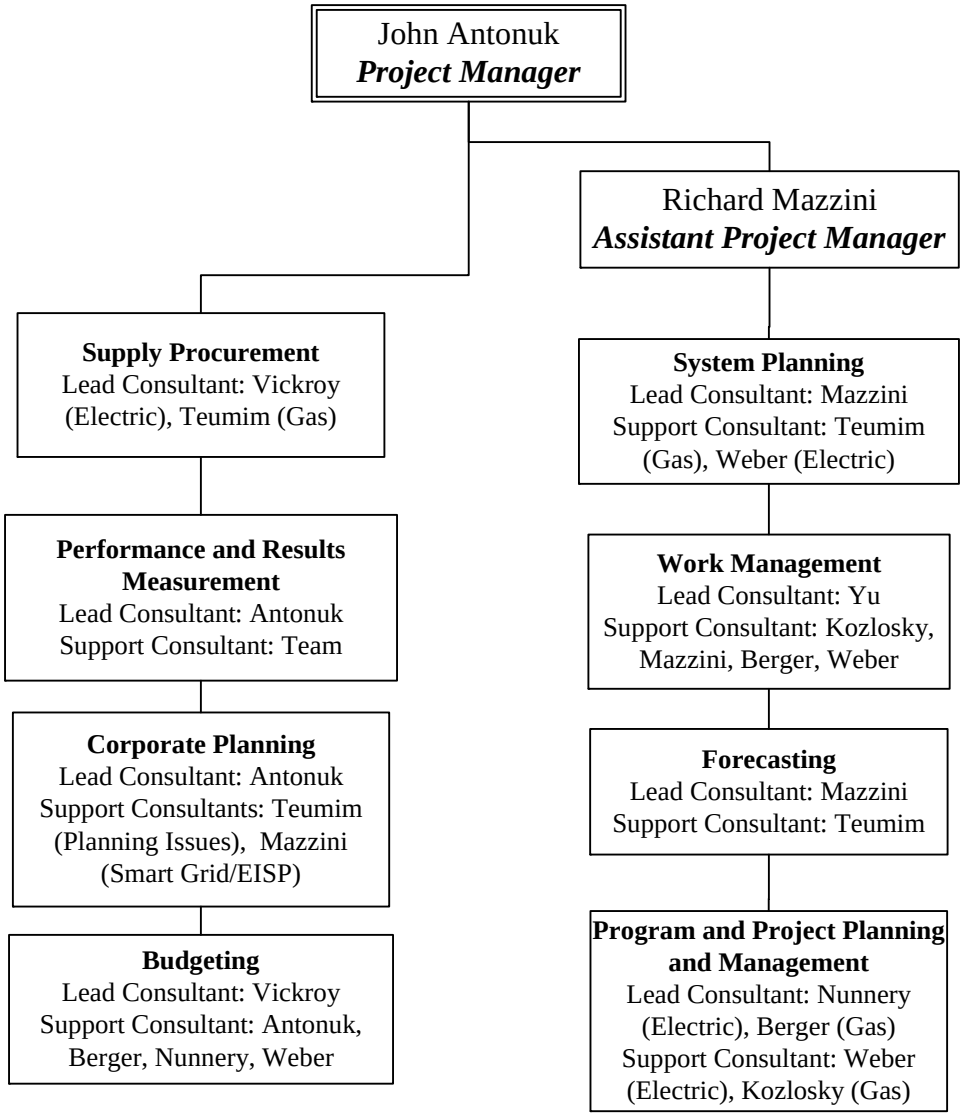
V. Project Team

A. The Proposed Team

Liberty has assembled a project team that has the depth and breadth to meet the challenges of this audit. The similarities between this audit and the review of Consolidated Edison put Liberty and Staff in a unique position to secure enormous intellectual and quality synergies, not to mention efficiencies and costs. To maximize these efficiencies, Liberty is recommending a very largely common project team as used for the Con Edison electrical reviews. This team is a known quantity to the Staff and can avoid a whole new learning cycle that would be required for another consultant.

B. Project Organization

The following chart shows the team organization Liberty proposes for this engagement.



C. Personnel and Resumes

Highlights of the senior team members' experiences and capabilities follow directly below. Appendix A to this proposal sets forth detailed resumes for all members of Liberty's proposed team. For references associated with these projects please see Section VII of this proposal and Appendix B: Project Summaries and References.

The following table shows that Liberty's core team has long experience with the firm. That experience included, for a number of Liberty's team members three prior management audits of New York electric and gas utilities, a number of management audits of the New York Power Authority for the state controller's office, and a review of CECONY's affiliate operating nearby, in the state of New Jersey.

Team Experience with Liberty

Consultant	Tenure	Projects	Regulators
J. Antonuk	20th year	150+	33
R. Vickroy	16th year	36	16
C. Kozlosky	16th year	13	7
P. Teumim	5th year	16	6
M. Antonuk	6th year	38	17
L. Nunnery	3rd year	3	3
R. Mazzini	2nd year	6	5
D. Berger	3rd year	5	4
A. Yu	2nd year	2	2
P. Weber	1st year	2	1

In all, Liberty offers what we consider to be team that optimizes the benefits of:

- Beginning from a core that has long experience working together on energy audits and examinations for utility regulators
- Seasoned operations managers who learned the "nuts and bolts" of energy utility construction and operations by doing them as utility managers, and who have broadened that background by performing office and field examinations addressing the drivers of operational costs and service reliability
- Specialists whose specific backgrounds are specifically suited to particular elements of focus in the RFP
- Continuity in team membership and a smooth work transition from the Con Edison audit.

Liberty also offers a team whose members are largely regionally based:

- The project director and project manager (a registered engineer) hail from central and eastern Pennsylvania.
- The team includes two engineers resident and registered in New York, and three other engineers.
- Four other consultants are based in the Washington/Baltimore area.
- The team's analyst works from a Hoboken, NJ location.

D. Team Members

Given the large and complex nature of the engagement, Liberty has divided direct project management responsibilities into three substantive sections, which correspond to the backgrounds of the two team members responsible for them:

- The first focuses on the audit work elements more corporate-oriented elements and supply planning (Work Elements I, III, V, and VIII). John Antonuk has been examining corporate governance, executive management, organization, planning, and fuel and energy supply activities at energy and telecommunications utilities over two decades for regulators. He will personally direct audit activities in these four work elements.
- The second focuses on activities whose principal execution lies with energy planning, construction, and operations groups (Work Elements II, IV, VI, and VII). Rich Mazzini's energy utility management background led to his assignment as project manager for the work in these four audit elements.
- The third focuses on coordinating the preparation of the detailed work plans, directing the work of Liberty's analyst throughout the project, and project management reporting to Staff. Liberty considers it important to conduct such activities through a single person, in order to optimize scheduling and performance of common, administrative and analytical support work. Rich Mazzini will fill this role.

1. John Antonuk

Project Manager and Lead Consultant for Corporate Planning and for Performance and Results Measurement

John Antonuk will serve as project director, in order to provide for a single source of overall accountability within Liberty for assuring successful satisfaction of all project commitments. John has managed or directed nearly all of Liberty's management examinations for public service commissions. This includes Liberty's recent management and operations audit of Con Edison. He has served for Liberty as project manager or engagement director on:

- 15 management and operations audits of public utilities
- More than 20 examinations of electric and gas utility fuel and energy procurement
- 7 utility governance examinations (4 involving utility holding company structures), three of which included Sarbanes Oxley and controls as a focus area
- 30 utility affiliate relationships and transaction reviews
- 2 examinations for district heating companies of a variety of construction, operations, and rate matters.

John manages the firm's work for public service commissions. He managed Liberty's commission audits of Arizona Public Service Company, Commonwealth Edison Company, and New Jersey Natural Gas Company, the reports (public versions) of which have been provided to the Commission along with this proposal as separately bound documents.

The breadth of John's work for public service commissions is shown by the following highlights:

- Manager or director of management and operations audits of:
    - Three New York electric and gas utilities
    - All three Connecticut natural gas LDCs
    - All three New Jersey natural gas LDCs

  - A Tennessee natural gas LDC
  - A Pennsylvania electric utility
  - Two audits of the largest New Hampshire electric utility
  - State operations of two major RBOCs
- Sale by Verizon of its northern New England land line business
- Code-of-conduct compliance audits of all four New Jersey electric utilities
- Public Service Electric & Gas: Affiliate cost assignment and allocation; corporate structure
- Merger Compliance/Affiliates Audit of Duke Energy Ohio
- Fuel and Energy Procurement and Affiliates audits of Nova Scotia Power
- Baltimore Gas & Electric: Development of code of conduct to manage relationships, information sharing, joint services between utility and non-utility segments (provided testimony before the Maryland Public Service Commission)
- Acquisition of UniSource (Arizona) and Portland General Electric (Oregon) by private equity firms
- All Delaware Electric Utilities: Review of restructuring filings, including code of conduct provisions
- Personal advisor to commissioners of the District of Columbia on restructuring and on transmission-line siting
- Northeast Utilities: Affiliate cost assignment and allocation (provided testimony before the New Hampshire Public Utilities Commission)
- Virginia Power: Affiliate cost assignment and allocation, corporate structure and governance relating to non-utility business segments
- K N Energy: Gas transportation and supply contracts from an affiliate of a local gas distribution utility in Wyoming.

His work for Liberty includes the provision of overall direction to Liberty's project for an upper Midwestern utility seeking to formulate long-range integrated infrastructure plans for its multi-state electric and natural gas distribution utilities. This project includes consideration of how to incorporate "Smart Grid" technology into infrastructure plans in a manner that will enable the Company to roll out new capabilities and services as technology makes them available, without undue acceleration of capital spending as uncertainties in this new marketplace become resolved.

John received a bachelor's degree in liberal arts from Dickinson College and a juris doctor degree from the Dickinson School of Law (both with honors). He has spoken on a variety of utility issues before a number of panels sponsored by NARUC's committees and regional associations, state bar associations, and as an invited panelist before the U.S. FERC commissioners on utility financial insulation in holding company structures.

2. Richard Mazzini

Assistant Project Manager, Lead Consultant for Load Forecasting and System Planning, and Support Consultant for Smart Grid/EISA Aspects of Corporate Planning and for Work Management

Richard Mazzini wills serve as Assistant Project Manager for this engagement, and will report directly to John Antonuk. Rich's work is familiar to the Staff; he served as Project Manager for

the Con Edison audit and recently served as a lead consultant in the audit of Con Edison's emergency planning and response capabilities. Rich will continue the strong team relationship he has demonstrated with Staff. He will foster a constructive audit environment. Importantly, his extensive utility experience is aligned with subject areas that form primary focuses of this audit. Rich's other, very recent work for Liberty includes service as project manager in Liberty's project for an upper Midwestern utility seeking to formulate long-range integrated infrastructure plans for its multi-state electric and natural gas distribution utilities.

Rich has more than 35 years of experience in the utility business, and served in executive positions with global consulting firms, including ABB, Navigant Consulting and the Washington International Energy Group. Prior to entering the consulting business in 1995, he had a long career in key management positions at Pennsylvania Power & Light Company (now PPL Corporation).

He has expertise in all elements of electric operations, and has consulted extensively in the areas of utility operations, cost management, power procurement (including energy marketing, trading and risk management), strategic business planning, strategic alliances, new business design and startup, restructuring and competitive repositioning for utilities, and asset valuation and optimization.

His clients have included investor-owned utilities, municipal and other consumer-owned utilities, Canadian provincial utilities, European utilities, Caribbean utilities, large energy consumers, regulatory bodies and various collective organizations representing electric suppliers or consumers. His assignments have particularly focused on improving operating and business results.

Mr. Mazzini has been a lead consultant in numerous management audits including:

- Seattle City Light, emphasizing risk management and sponsored by the City Council.
- The California ISO, emphasizing governance and market structure and sponsored by FERC.
- Consolidated Edison, covering emergency planning and response and sponsored by the New York Public Service Commission.
- St. Vincent Electricity Services (St. Vincent and the Grenadines), covering all elements of utility operations and sponsored by the Board and Prime Minister.
- The New York Power Authority, emphasizing risk management and sponsored internally.
- The New Jersey gas distribution companies, examining gas procurement hedging strategies and sponsored by the New Jersey Board of Public Utilities.

He has a B.E.E. (Electrical Engineering) degree from Villanova University and an M.S. degree in Nuclear Engineering from Columbia University. He is a Registered Professional Engineer in Pennsylvania, and is a member of the American Nuclear Society and the Institute of Electrical and Electronic Engineers. Rich works for Liberty under a personal services contract.

3. David Berger

Lead Consultant for Natural Gas Program and Project Planning and Management and Support Consultant for Gas Aspects of Budgeting, Work Management, and Performance and Results Measurement

Mr. Berger specializes in gas-infrastructure asset management, gas system operation, pipeline and system integrity management and security corrosion control. Dave has had the lead role in examining gas operations in two of the directly relevant examinations Liberty has completed in the past several months or is now completing for other public service commissions: AGLR/ETG for the BPU and Con Edison for the New York Public Service Commission. David served as Division Manager at KeySpan Energy, a large urban-suburban local gas distribution company (LDC). At KeySpan Energy, he managed programs in pipeline integrity (transmission system), system integrity (now known as distribution integrity), gas-metering operations, pressure regulation and gate stations, and corrosion control. While working in industry, Mr. Berger was the American Gas Association (AGA) representative on the joint industry-government task group that assisted the United States Department of Transportation (USDOT) in preparing the gas-transmission integrity-management rule. He was involved in writing the ECDA and ICDA industry standards through NACE (National Association of Corrosion Engineers) and GTI (Gas Technology Institute). He was also selected to be on a USDOT advisory panel for targeting federal grants to integrity and corrosion control research and development projects. Lastly, he was Chairman of the AGA Integrity Task Force and the AGA Corrosion Control Committee for several years in the early 2000s and was named Distribution Engineer of the Year 2002.

David has a lead role in Liberty's current examination for the Illinois Commerce Commission of the pipeline infrastructure of Peoples Gas, the LDC serving the Chicago metropolitan area. He is the author and instructor at Transportation and Safety Institute (TSI) on training modules for a number of areas involving pipeline integrity. In addition to his teaching assignment for the USDOT Pipeline and Hazardous Material Safety Administration (PHMSA), he assists in audits of interstate pipeline for integrity management (IM) under the recently passed transmission integrity management (IM) regulations.

David received a B. Ch.E. in Chemical Engineering from New York University, and has completed 32+ credits of course work toward an M.S. in Environmental Engineering from the University of Delaware, and is a Registered Professional Engineer in New York.

4. Philip Weber

Support Consultant for Electricity System Planning, Program and Project Planning and Management, and Budgeting

Philip Weber has over 25 years of professional experience in the electric utility industry specializing in reliability and maintenance of electric distribution systems, strategic planning, and construction and project management. In the past six months he has served Liberty as the project lead technical consultant in a transmission line need and siting case for the Kentucky Public Service Commission and as a lead technical consultant in Liberty's project for an upper Midwestern utility seeking to formulate long-range integrated infrastructure plans for its multi-state electric and natural gas distribution utilities.

During his career at PPL Corporation, Philip served as Project Manager in the Systems Operations Group where he was responsible for managing the consolidation of the transmission operations function (69 kV and above) to a single office from 5 regional offices, while simultaneously managing the separation of the transmission operations function from the distribution operations (12 kV) function, and consolidation to two regional offices from 5

offices. He also served as a System Maintenance Engineer in the Distribution Asset Management Group, where he managed the reliability and maintenance of the distribution system, including the inspection and maintenance of 27,600 miles of overhead and 6,000 miles of underground circuits and related devices.

Philip holds a B.S. in Industrial Engineering and a M.S. in Management Science from Lehigh University. He is a Registered Professional Engineer in Pennsylvania.

5. Larry Nunnery

Support Consultant for Electricity Program and Project Planning and Management, Budgeting, Work Management, and Performance and Results Measurement

Larry Nunnery has over 30 years of professional experience in the electric utility industry specializing in distribution engineering. Larry served as the lead on electricity distribution planning, budgeting, construction, and program management in Liberty's management and operations audit of Con Edison for the New York Public Service Commission. He has also conducted distribution system line inspections and evaluated distribution engineering standards in Liberty's review for the Illinois Commerce Commission of the infrastructure of the Ameren Illinois Companies. Larry served as Lead Consultant for Liberty's review of Program and Project Management – Electric during its audit of Con Edison.

As a consultant, Larry wrote distribution engineering training course modules for one electric utility and a training course on the National Electrical Safety Code for another. For Progress Energy in Raleigh, NC, Larry worked in the distribution standards group and retired as a Principal Engineer. He led a team of engineers responsible for distribution material specifications, distribution construction standards, and distribution manuals. The scope of his distribution system responsibility included both the Florida and Carolinas service areas with about three million customers. In earlier experience with Progress Energy, Larry worked in local district offices in various roles. He served as Area Distribution Manager with responsibility for line and service and engineering personnel. He also worked in a division office as a Division Engineering Supervisor.

Larry holds a B.S. in Electrical Engineering with honors and a B.S. in Civil Engineering from North Carolina State University. He is a Registered Professional Engineer in North Carolina and South Carolina.

6. Phillip Teumim

Lead Consultant for Natural Gas Supply Procurement, System Planning, and Load Forecasting and Support Consultant for Corporate Planning

Phillip Teumim is an expert in utility operations, strategic and business planning, corporate governance and regulatory matters, and has extensive and varied experience as a regulator and a consultant. Liberty offers him as the lead for the work in gas planning, forecasting and supply areas and as a support consultant in the corporate planning and performance measurement areas.

Phil was lead consultant for Liberty's management audits of some or all of the following areas -- gas supply planning, load forecasting, supply procurement and operations -- for a number of gas

utilities or gas businesses of combination utilities, including Duke Energy Ohio (two audits), Vectren Energy Delivery of Ohio, Dominion East Ohio, and Columbia Gas of Ohio. He also reviewed more specialized aspects of the gas businesses in Liberty's audits of NUI/Elizabethtown Gas, SJI/South Jersey Gas, NJR/New Jersey Natural Gas and in Liberty's focused examination of AGLR/Virginia Natural Gas. In Liberty's audit of Con Edison for the PSC, he was the lead consultant for the Planning Issues component of Corporate Planning and a Support Consultant for Performance Measurement.

He has also examined a variety of issues in a number of regulatory management audits before joining Liberty. They include audits of Consolidated Edison, LILCO, The New York Power Authority, Washington Gas Light, Niagara Mohawk, and the North Carolina Electric Membership Cooperative. Phil began working with Liberty under a personal services contract after serving as a Director with the New York Public Service Commission. There, he was responsible for a number of additional examinations of planning and budgeting, which addressed all of the state's major natural gas and water utilities.

As a Director for the New York PSC, he has reviewed the strategic direction and planning of New York's energy utilities in a number of areas. For example, after FERC Order 636 was issued, the NY PSC instituted a proceeding to determine whether and to what extent changes were necessary at the state level to accommodate FERC's changes and to determine the strategic direction of the natural gas industry in New York. Mr. Teumim was personally involved in assessing the LDCs' strategic direction at the time, the extent to which changes in LDC behavior and regulatory policy were required, and in negotiating with LDC executives to institute such changes. He also established the Natural Gas Reliability Advisory Group and chaired its meetings until he left the Commission in 2002.

Phil holds M.B.A. and B.S. degrees (Electrical Engineering) from Rensselaer Polytechnic Institute, Troy NY.

7. Randall Vickroy

Lead Consultant for Electricity Supply Procurement and for Capital and O&M Budgeting and Support Consultant for Corporate Planning and Performance and Results Measurement

Randy Vickroy has worked for Liberty across a period of more than 16 years. He has had major roles in many of the directly relevant projects that Liberty has completed in the past several months, or is completing now. He has examined finance, planning, and budgeting of the AGLR/ETG management audit for the BPU. He examined electricity supply in Liberty's audit of Con Edison for the New York Public Service Commission. He was the lead in Liberty's audit of affiliate relationships and transactions of Duke Energy Indiana and Duke Energy Kentucky. He was also an expert witness in the Delmarva debt issuance matter.

As part of Liberty's comprehensive, multi-year examination for the Illinois Commerce Commission of transmission and distribution expenditures of Commonwealth Edison (the Exelon subsidiary whose service territory is dominated by the Chicago metropolitan area), Randy was lead consultant in the evaluation of capital program planning, budgeting, and reporting, and he supported the review of O&M spending. His other examinations of budgeting in management and operations audits for regulatory authorities include:

- New York Power Authority (State Controller's Office): Two projects. Included capital budgeting and power contracting alternatives
- Connecticut: Three projects at separate natural gas utilities, each including capital and O&M budgeting
- New Jersey: Three projects at separate natural gas utilities (subsidiaries of NUI, SJI and NJR), each including capital and O&M budgeting
- United Cities Gas: capital and OM budgeting
- GTE South
- Bell Atlantic : Capital and O&M budgeting
- Verizon New Jersey.

His other reviews of energy utility budgeting include:

- Pacific Gas and Electric: Budgeting and analysis systems
- Kentucky Utilities
- Big Rivers Electric
- Dayton Power and Light: Capital project analysis.

In addition to Leading Liberty's review of Electric Supply Procurement during the Management and Operations audit of Con Edison, Randy has examined similar functions at Arizona Public Service and Nova Scotia Power.

Randy holds a B.A. in Business Administration from Monmouth College and an M.B.A. in Finance from the University of Denver

8. Albert Yu

Lead Consultant for Work Management and Support Consultant for Performance and Results Measurement

Al Yu has more than 30 years of experience in utility cost management more generally, and in workforce management specifically. Al has served in key management positions with a large utility and two major construction firms where he specialized in all elements of cost management associated with capital projects, large-scale O&M programs, continuing maintenance work and outage management. Al served as Lead Consultant for Work Management during Liberty's audit of Con Edison for the New York Public Service Commission.

Al Yu's most recent experience has included more than 10 years in the management of physical work for T&D projects. In this capacity, he had "cradle-to-grave" responsibility for execution costs, including estimates, budgets, standard productivity rates, cost collection, cost analysis, reporting and corrective action for cost deviations.

Al is a leader in his field as demonstrated by his key role in the industry's Electric Utility Cost Group (EUCG), serving as Treasurer and a member of the Board. As the only utility-sponsored benchmarking organization, EUCG provides utilities with a wealth of credible cost data that is simply not available anyplace else. Mr. Yu was responsible for development of several of the most important EUCG data bases, including the nuclear O&M and nuclear retrofit programs. He also contributed to the development of the EUCG T&D program.

As a Certified Cost Engineer, Mr. Yu has been recognized by his peers as a practitioner of the highest caliber. Certification demonstrates a high skill level and a three year recertification cycle requires continuing education, self-improvement and contributions to the profession.

Al has a B.S. degree in Electrical Engineering and is a Registered Professional Engineer in New York.

9. Christine Kozlosky

Support Consultant for Natural Gas Program and Project Planning and Management, Work Management, and Performance and Results Measurement

Ms. Kozlosky has worked with Liberty on 13 projects over a period of more than 15 years. On this engagement, Chris would be supporting Liberty's review of Natural Gas Program and Project Planning and Management. Ms. Kozlosky has extensive experience in assessing key elements of the planning and execution of LDC operations activities. As part of various management audits and company-initiated improvement efforts, Ms. Kozlosky has reviewed operations functions and processes of gas, electric, water, and telephone companies, including AT&T, Exelon, Verizon, Entergy, Yankee Gas, Washington Gas Light, Jacksonville Electric Authority, Nashville Electric Service, and FirstEnergy. Most recently she examined gas operation issues for Liberty at several natural gas utilities, including Elizabethtown Gas, New Jersey Natural, and South Jersey Gas.

As part of other Liberty engagements, she also recently conducted a management review of outage communications at Ameren Illinois for the Illinois Commerce Commission and at Nova Scotia Power for the Utility and Review Board of Nova Scotia.

Chris also has extensive experience in competitive, functional, and process-based benchmarking, both inter-company and multi-company performance comparisons. Her experience in this area includes the design and development of a multi-level performance measurement framework for customer service functions, including customer relations, customer call center operations, credit, collection, billing, remittance processing, field services, meter reading, meter services, front office operations, and customer satisfaction measurement. She has extensively benchmarked the credit and collections functions of hundreds of utilities and non-utilities.

Chris has a B.S. in Information & Computer Science from Georgia Institute of Technology.

10. Michael Antonuk

Senior Analyst

Michael Antonuk specializes in energy and telecommunications data system analysis and research and project management. On Liberty's recent audit of Con Edison, Michael served as Project Coordinator and Senior Analyst. Michael served on the Liberty team that performed for the Illinois Commerce Commission a massive, detailed, multi-year evaluation of the T&D capital and O&M planning, budgeting, and expenditures of the electric utility serving the Chicago metropolitan region (Commonwealth Edison, a part of Exelon). He has also served as Project Coordinator and Senior Analyst for Liberty's review of procurement activities at Arizona Public Service, Nova Scotia Power, New Jersey Natural Gas, South Jersey Gas, Elizabethtown Gas,

People's Energy, and Virginia Natural Gas. These audits involved extensive reviews of natural gas sales and purchases conducted by both regulated and non-regulated entities and the controls systems related to these transactions. Michael has participated in over 20 Liberty engagements in the gas, electric, water, and telecommunications sectors, assisting in reviews of affiliate relationships, fuel procurement, EDECA, executive compensation, and utility finance issues.

Michael holds a B.A. in finance from Lehigh University, and his work location is in Hoboken, NJ.

E. Consultant Assignment Matrix

Liberty's proposed Consultant Assignment Matrix can be found on the next page.

F. Absence of Conflict of Interest

Neither Liberty nor any of its employees, nor any team member for this project has any conflict or appearance of conflict as contemplated by "The Guide."

Consultant Assignment Matrix

Steps/Tasks	Antonuk	Berger	Kozlosky	Mazzini	Nunnery	Teumim	Vickroy	Weber	Yu	Analyst	Total
I. Orientation	7	4	2	5	4	4	4	3	3	3	39
II. Technical Review											
1. Corporate Planning	26			4		10	4				44
2. Load Forecasting				20		15					35
3. System Planning				20		12		18			50
4. Supply Procurement											
a. Electricity	3						32				35
b. Natural Gas	2					17					19
5. Budgeting	6	3			4		24	4			41
6. Program & Project Planning & Management											
a. Electricity				6	24			24			54
b. Natural Gas		14	8								22
7. Workforce Management		2	2	4	4			4	26		42
8. Performance and Results Measurement	14		4		2	4	8	2	4		38
Sub-total	58	23	16	59	38	62	72	55	33	3	419
III. Report Preparation	6	3	2	5	4	5	5	3	4		37
IV. Project Management	15			13							28
V. Analytical Support										80	80
Total Days	79	26	18	77	42	67	77	58	37	83	564

VI. Schedules and Budgets

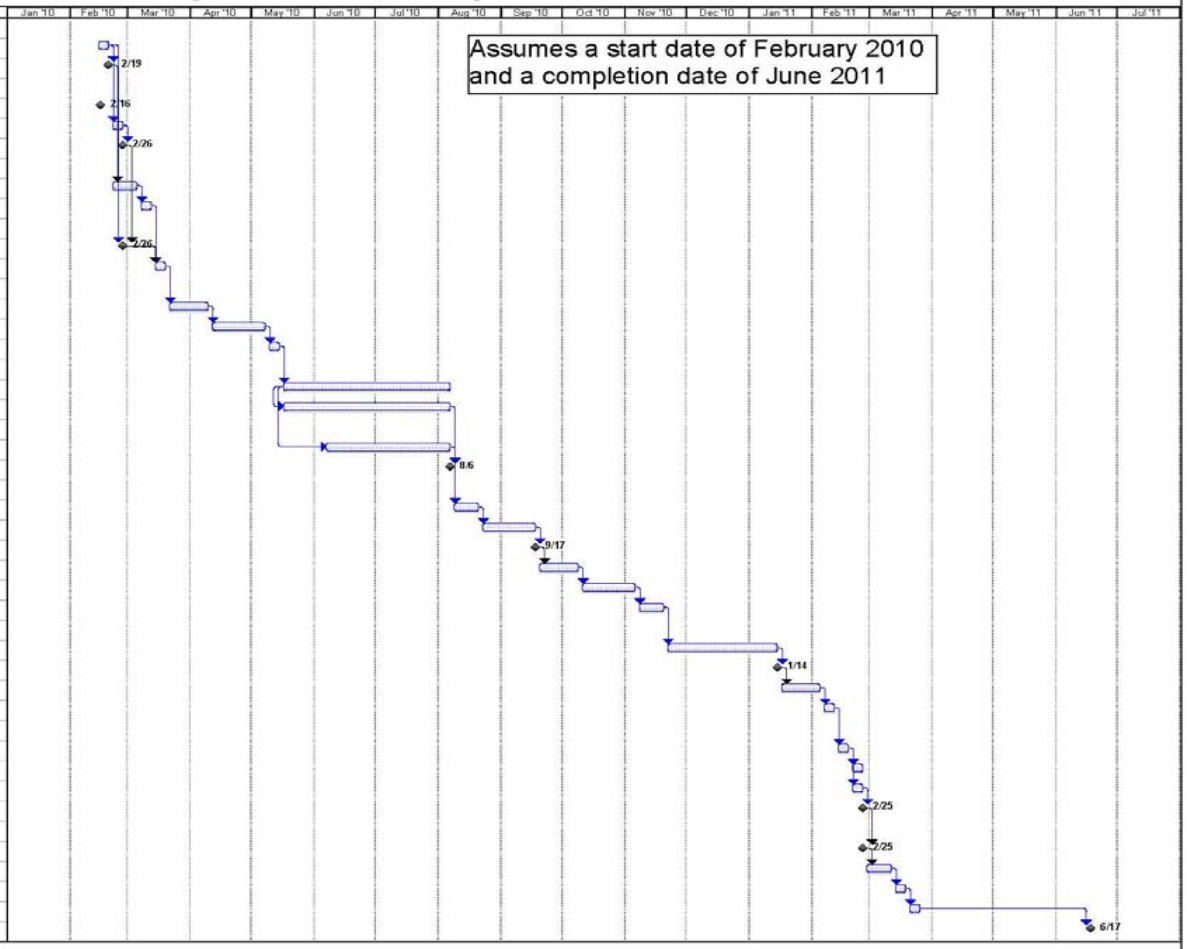
The next page shows the project schedule. The page following that sets forth the project cost estimate. The estimate separates for estimating purposes the costs of professional services, travel expenses and other expenses (primarily support services and copying). At present, Liberty does not have a basis for assuming different percentages of travel/home office days by consultant, or for separating individual time between discovery and analysis.

Liberty offers to perform the services described in this proposal for a not-to-exceed project cost of $1,014,340, inclusive of all expenses associated with the creation of the deliverable, including travel and incidentals. This not-to-exceed cost includes the production of all draft reports, but not the final report. If Liberty is required to provide printed final copies, it will do so under separate cost reimbursement.

Liberty will bill for services at the billing rates per day shown in the following cost estimate. Those rates include all expenses. There will be no separate charges for any travel or other expenses. Team members will charge time by the hour, rather than by the day; therefore, invoices will show (by individual) hours worked, with each hour charged at 1/8th the daily rate. For any day in which an individual works more than 8 hours, the charge for that day shall not exceed the daily rate.

CH Management Audit
Proposed Preliminary Schedule

ID	Task Name
1	**1. Initial data requests**
2	Prelim work planning
3	Submit initial requests
4	**2. Orientation**
5	Kick-off Staff conference call
6	Prepare consultant presentation
7	Orientation meeting
8	**3. Initial document review**
9	Receive initial documents
10	Review initial documents
11	**4. Introductory / planning interviews**
12	Request initial interviews
13	Conduct initial interviews
14	**5. Detailed work plans**
15	Prepare draft work plans
16	Staff review and approval of work plans
17	Finalize and issue Rev. 0 work plans
18	**6. Data gathering**
19	In depth interviews
20	Added data requests
21	**7. Issues review**
22	Identification of emerging issues
23	Team presentation
24	**8. Conclusions and recommendations**
25	Development of hypotheses
26	Screening of hypotheses
27	Team presentation
28	Testing of live hypotheses
29	Drafting of recommendations
30	Testing of recommendations
31	**9. Draft report**
32	Complete initial drafts
33	Finalize for formal Staff review
34	Formal Staff review
35	Revise for Staff comments
36	**10. Closure of field work**
37	Final data gathering
38	Final refinements
39	Reconciliation of facts
40	Complete "final" draft
41	**11. Final report**
42	Provide final draft to CH
43	Receive CH comments
44	Resolve CH comments with Staff
45	Prepare final report to Staff/CH
46	Issue final report



Page 1

Audit Costs

Steps/Tasks	Antonuk	Berger	Kozlosky	Mazzini	Nunnery	Teumim	Vickroy	Weber	Yu	Analyst	Total
I. Orientation	7	4	2	5	4	4	4	3	3	3	39
II. Technical Review											
1. Corporate Planning	26			4		10	4				44
2. Load Forecasting				20		15					35
3. System Planning				20		12		18			50
4. Supply Procurement											
a. Electricity	3						32				35
b. Natural Gas	2					17					19
5. Budgeting	6	3			4		24	4			41
6. Program & Project Planning & Management											
a. Electricity				6	24			24			54
b. Natural Gas		14	8								22
7. Work Management		2	2	4	4			4	26		42
8. Performance and Results Measurement	14		4		2	4	8	2	4		38
Sub-total	58	23	16	59	38	62	72	55	33	3	419
III. Report Preparation	6	3	2	5	4	5	5	3	4		37
IV. Project Mgmt.	15			13							28
V. Analytical Support										80	80
Total Days	79	26	18	77	42	67	77	58	37	83	564
COST INFORMATION											
Billing Rate $/Day	$2,175	$1,855	$1,855	$1,975	$1,855	$1,855	$1,855	$1,855	$1,855	$1,055	
Total Fees	$ 171,825	$ 48,230	$ 33,390	$ 152,075	$ 77,910	$ 124,285	$ 142,835	$ 107,590	$ 68,635	$ 87,565	
Cost Summary	**Total Fees**		**$1,014,340**		Hourly Rate Portion			$920,514			
					Travel Expense Portion			$83,683			
					Other Expense Portion			$10,143			

VII. Qualifications

Liberty has earned a strong reputation for service delivery, however novel, complex, or time constrained the issues it has had to address. Liberty has been serving utility regulators for 20 years. This portion of the proposal summarizes the firm's experience, and provides references for prior work that is both very recent and directly relevant to this engagement's scope. Liberty has conducted many examinations of management, operations, and supply procurement of energy utilities. Liberty has an exceptional breadth of clients and strength of reputation for candor, thoroughness, and objectivity in dealing with a wide variety of issues, many of them novel and complex. Liberty has broad experience in the electricity, natural gas, and telecommunications businesses.

A. Nationwide, Multi-Decade Service to Utility Regulators

Liberty has performed comprehensive and focused management audits, fuel and energy procurement and management audits, reviews of corporate governance in utility holding company structures, focused reviews of construction program expenditures and results, and reliability assessments, and other consulting engagements for two-thirds of the country's state public service commissions, which the table below lists.[2] Liberty has performed or is performing many projects for U.S. regulators, and has conducted management, operations, and affiliate reviews for utility authorities in Canada and in Central America.

Liberty's Utility Regulatory Clients

Alberta	Idaho	Nebraska	Ontario
Arizona	Illinois	New Hampshire	Oregon
Arkansas	Indiana	New Jersey	Pennsylvania
Colorado	Iowa	New Mexico	South Dakota
Connecticut	Kentucky	New York	Tennessee
Delaware	Maine	North Carolina	Utah
District of Columbia	Maryland	North Dakota	Vermont
Florida	Minnesota	Nova Scotia	Virginia
Georgia	Mississippi	Ohio	Washington
Hawaii	Montana	Oklahoma	Wyoming

A testament to the strength of Liberty's performance is the number of commissions that asked the firm back to perform repeat engagements, sometimes in circumstances or on subject areas far different and more challenging than those under which Liberty first served them. The unifying attribute of Liberty's work for commissions in its long service to them is the ability to help them to deal with the especially difficult regulatory challenges that take place when regulatory policy intersects with complicated operations requirements. Liberty does its best work in managing the "traffic" that flows through these crossroads. Dealing with highly technical or controversial

[2] These other projects include evaluating restructuring proposals and impacts, affiliate examinations, assessments of utility financial separation and integrity, merger and acquisition reviews, revenue requirements analysis, among others.

management or operations issues that fall out from important changes in regulatory policy or major unforeseen events have characterized Liberty's work for commissions. Appendix B contains Liberty's project list.

B. Utility Industry Experience

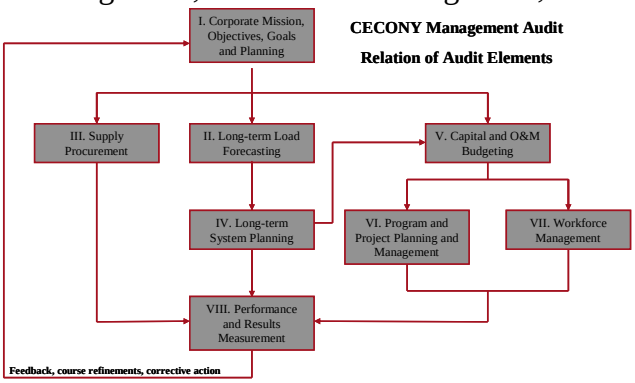
Liberty's understanding of the utility business comes from much more than its work for commissions, although that work has been very extensive in its own right. Most of Liberty's senior consultants developed significant experience as utility managers before beginning their consulting careers. Moreover, Liberty has performed many engagements for more than 40 electric and gas public utilities across the country. These engagements included a wide variety of management, technical, operating, finance and accounting, and other subjects. Liberty's work specifically includes examinations of electric and gas reliability, customer service, affiliates, and many assessments of a broad range of electric and gas operations issues. Appendix B also lists Liberty's industry engagements.

C. Liberty's Most Recent Projects

The next section ("*D. Directly Relevant Past Projects*") details Liberty's long history and many projects comparable to the one proposed here. Before listing them, however, Liberty presents in this section a list of relevant firm projects that, among others not listed, demonstrate that Liberty's is continually engaged in major engagements, mostly for utility regulators, in areas relevant to both electricity and natural gas construction and operations program planning and execution. This list of projects, performed largely through the same personnel who will comprise the team for this engagement, shows our consultants work regularly together and remain current in industry approaches and developments on a continuous basis.

1. Con Edison Management and Operations Audit

Liberty recently completed a management and operations audit of Consolidated Edison Company of New York for the New York Public Service Commission. This audit came in response to a commission request for detailed analysis of the forces and factors producing what has become for the company a greater than $2 billion annual construction budget, as it strives to address aging infrastructure in the country's most densely populated metropolitan area. Construction program planning and execution for the company's three utility businesses (electricity, natural gas, and steam) formed a major focus of this audit. Liberty also examined governance, planning, budgeting, work force management, contractor management, field procurement and fleet management, performance measurement, and compensation. Other focus areas included the procurement of electricity capacity, energy, and ancillary services (including hedging), and the development and management of a natural gas supply, transportation, storage, and hedging portfolio, the procurement of natural gas commodity, and the maximization of portfolio value (through, *e.g.*, off-system sales and capacity releases).



Liberty recommended and performed an audit that examined the Commission's established focus areas (seen in the accompanying table) as elements in a cycle of inter-related functions and activities that combined to drive the utility's expenditures. This audit was also notable for its experimental approach seeking to build consensus among utility, commission, and Liberty about the most significant findings and conclusions (and particularly recommendations to address improvement needs found) while audit field work remained underway.

2. AGLR/ETG Affiliates and Management Audit

Liberty is in the final completion stages (work to be completed before commencement of this engagement) of a management and operations audit of AGLR/Elizabethtown Gas. This is the third such audit Liberty has performed of New Jersey natural gas LDCs for the Board of Public Utilities. Its scope includes reviews of organization structure, risk management, utility focus within a holding company structure, energy transactions between the utility and affiliates, resource numbers and qualifications, procedures, policies, systems, practices, and activities associated with the planning, execution, and details of energy purchases and sales and of corporate and infrastructure planning, budgeting, performance measurement, compensation, system construction, operations, and maintenance.

3. Electricity and Natural Gas Delivery Infrastructure

Liberty is engaged in a project designed to assist a major Midwestern electricity and natural gas distribution utility (with no interests in the Eastern utility or energy markets) to develop a long-term (15 – 20 year) plan and cost recovery regime for identifying, prioritizing, planning, and budgeting infrastructure needs and improvements. The engagement includes an overall assessment of U.S. infrastructure (energy and non-energy) declines, major governmental support initiatives for infrastructure improvement, Smart Grid opportunities and risks, novel utility/regulator plans for participatory infrastructure planning and cost recovery methods, and other issues surrounding the full integration of planning across both short and very long horizons.

4. Potomac Edison Distribution System Transfer

For the Virginia State Corporation Staff, Liberty is examining the public interest questions associated with the transfer by an Allegheny Energy's utility operating subsidiary (Potomac Electric) of all of its electricity distribution operations business and facilities in Virginia to two rural electric cooperatives. This engagement includes a review of infrastructure plans, performance, and costs, comparing them between those likely under continued utility ownership versus cooperative ownership. The engagement encompasses a similar comparative review of wholesale power supply (currently provided entirely through market purchases and to be supplied through a combination of owned/operated Old Dominion Electric Cooperative units and market purchases.

5. Standard Offer Service for Maryland's Four Electric Utilities

Liberty worked for the Maryland Public Service Commission in the conduct of the last five auctions held to provide supply for Standard Offer Service by the state's four major electric utilities. Liberty provided this assistance through a series of pre-bid, bid-day, and post-bid activities. Liberty first assured that all pre-bid activities (pre-bid conference, supplier solicitation,

bidder qualification, web postings, bid plans, bid form spreadsheets, and other important documents, bid room and communications setups, information security) were adequately addressed by the utilities. Second, on bid-day, Liberty observers at bid rooms for each of the four companies assured effective security measures, equipment functionality, regular bidding, independent bid logging and establishment of reference prices for bid comparisons, validation of winning bidders, compilation of a Commission database for analysis of all historical bids since SOS bidding inception, and verifying the execution of appropriate transaction documents. Liberty also calculated the benchmark price for determining whether bids were at a level that justified their acceptance, considering market conditions, worked with utilities and other stakeholders to address issues and concerns about that calculation. Third, following bid completion, but before a Commission decision on accepting the winning bids, Liberty prepared comprehensive analyses of the bid results and current and expected market conditions, provided a confidential briefing on that analysis to the Commission, and then provided testimony at hearings whose purpose was to provide a record for the Commission's decision on bid acceptance.

6. Duke Energy Affiliates Audits

Liberty recently completed a comprehensive audit addressing compliance with affiliate standards applicable to the Company in the wake of the acquisition of Cinergy by Duke Energy. Liberty also performed a companion audit of compliance with the merger-related agreements that formed part of the Kentucky Public Service Commission's and Indiana Utility Regulatory Commission's approval of that acquisition. This second audit included a comprehensive examination of cost allocation and assignment systems, methods, procedures, calculations, organizations, and results, as well as a similar review of the multiple agreements governing services among affiliates and the Indiana and Kentucky utility operations that came to Duke Energy as part of the Cinergy acquisition. This audit followed Liberty's comprehensive, detailed affiliate relationships and transactions audit for the North Carolina Utilities Commission staff. That audit addressed many of the same functions, organizations, systems, and activities, and also addressed compliance with affiliate-related merger conditions required in North Carolina.

7. NSPI Integrated Resource Planning, Fuel, and Renewables Portfolio

Liberty has performed a number of projects for the Nova Scotia Utility and Review Board, including participation in a major integrated resource planning proceeding, monitoring of fuel and energy costs (coal, natural gas, electricity, and hedging) under a recently adopted automatic adjustment mechanism, and the review of a proposed biomass project as a principal means for meeting the province's requirement for renewable energy as an element of the utility's supply portfolio.

8. Delmarva Affiliates Audit

Liberty has in the past month completed for the Delaware Public Service Commission a diagnostic audit of the affiliate costs borne by Delmarva Power, a member of the multi-state holding company, PHI. This review includes an examination of the central services organization structure and operations, the procedures and methods used to allocate and assign costs, and test work to verify that execution of methods and procedures conforms to company procedures and to good utility practice.

9. Delmarva Debt Issuance

Liberty recently reviewed for the staff of the Delaware Public Service Commission a Delmarva Power (a PHI subsidiary) filing for expedited treatment of debt issuance, coming in the wake of the financial market collapse last fall, and involving a parent with operations (a major energy trading business) of the type placed in acute liquidity distress at that time. Liberty's review examined utility, affiliate, and parent debt and equity conditions, timing of utility need for capital, and the impact of the turbulent market conditions and credit tightness on the nature and timing of the utility's proposed debt issuance.

10. EKPC Governance, Planning, Finance, and Budgeting

Liberty is completing for the Kentucky Public Service Commission an examination of governance at a generation and transmission cooperative serving 16 distribution cooperatives across the state. This study comes in the wake of significant financial difficulties and will also address planning, budgeting, financial, and risk functions and activities.

11. Duke Ohio Fuel/Energy Procurement and Fuel Clause Financial Audit

Liberty recently completed an audit of fuel and energy management by Duke Energy Ohio for the Public Utilities Commission of Ohio. This examination addressed all aspects of fuel and energy procurement and management. The scope also included a financial review of the operation of the automatic adjustment mechanism employed to recover fuel and energy costs from customers choosing to take energy supply from the utility, rather than a third-party supplier. The financial review addressed the accuracy and completeness of clause calculations and customer charges, as well as conformity to tariff and commission orders and regulations.

12. LIPA Evaluation of Fuel and Purchased Power Cost Adjustment

Liberty was selected by the Long Island Power Authority ("LIPA"") to conduct of an independent evaluation of LIPA's recovery of costs through its Fuel and Purchased Power Cost Adjustment (FPPCA) clause. This evaluation included an examination of:

- The reasonableness of costs recovered
- The accuracy of the costs recovered through the FPPCA clause
- Board authorization of the clause
- Comparison to other clauses.

13. WGL Gas Pipe Leaks

Liberty served as technical consultant to the District of Columbia PSC as they examined the usage and cost recovery of a hexane injection strategy used by Washington Gas Light. Liberty prepared a report and assisted in the preparation of testimony relating to the:

- Prudence of the hexane injection strategy of Washington Gas Light (WGL) to respond to the effects of massive injections of liquefied natural gas into its distribution system
- Recovery of hexane injection costs
- Planning and recovery of costs associated with a significantly accelerated program for correcting increased leaks associated with the facilities affected by the introduction of LNG

- Safety and cost impacts on the District and its customers.

14. Transmission Siting and Reliability

a. Maine Power Reliability Program

Central Maine Power Company has proposed a 345 kV line from Orrington, ME to Portsmouth, NH, in addition to several other upgrades to its 115kV system. The upgrades proposed in the MPRP have preliminary cost estimates that range from $1.5 to $1.7 billion. Liberty is now engaged in assisting the Maine Public Utilities Commission in reviewing the proposed line's engineering aspects, assisting in analyzing the risks and benefits of the MPRP to consumers in Maine, making recommendations for any appropriate approval that would maximize benefits, and conducting a assessment of whether benefits to Maine customers justify the costs they would bear.

b. KY PSC – LGE Hardin Temp Line

Liberty reviewed for the Public Service Commission the planning, routing, design, and costs for a rerouted transmission line required by a large Kentucky utility to respond to litigation surrounding the ability to obtain easements for its preferred routing.

D. Directly Relevant Past Projects

1. Management and Operations Audits

Liberty is a national leader in the performance of management and operations audits for public service commissions. Liberty has performed over 20 of them at energy utilities across a period of close to 20 years. Liberty has performed management and operations audits of electricity utilities, including investor-owned, cooperative, municipal, and statewide authority entities. The following table lists Liberty's prior management audits.

Client	Utility	Client	Utility
Alabama Electric Coop	Alabama Electric Coop	New Jersey BPU	NJR/New Jersey Natural Gas
Arkansas PSC	Arkansas Western Gas	New Jersey BPU	SJI/South Jersey Gas
Connecticut DPUC	Connecticut Natural Gas	New York PSC	Consolidated Edison of NY
Connecticut DPUC	So. Connecticut Gas	New York PSC	NYSEG
Connecticut DPUC	Yankee Gas	New York PSC	Central Hudson G&E
Dayton Power & Light	Dayton Power & Light	NY Controller	NY Power Authority
Kentucky PSC	East Ky. Coop. (G&T)	NY Controller	NY Power Authority
New Hampshire PUC	NU/Public Service NH	Pennsylvania PUC	West Penn Power
New Hampshire PUC	NU/Public Service NH	Pennsylvania PUC	Bell Atlantic
New Jersey BPU	AGLR/ Elizabethtown Gas	Stillwater, Oklahoma	Municipal Elect. Utility
New Jersey BPU	NUI/Elizabethtown Gas	Tennessee RA	United Cities Gas

References for Liberty's most recent management audit engagements follow:

Dennis Moran
Director, Division of Audits
New Jersey Board of Public Utilities
Two Gateway Center

Christopher Moschella
Director, Strategic & Financial Planning
South Jersey Industries
1 South Jersey Plaza

Newark, NJ 07102
(973) 648-2162
dennis.moran@bpu.state.nj.us

Folsom, New Jersey 08037
(609) 561-9000, ext. 4245
cmoschella@sjindustries.com

Thomas B. Getz, Chairman
New Hampshire Public Utilities Commission
21 South Fruit Street, Suite 10
Concord, New Hampshire 03301-2429
(603) 271-2431
Tom.getz@puc.nh.gov

John Rogness, Manager Audit Branch
Kentucky Public Service Commission
211 Sower Boulevard
Frankfort, Kentucky 40601
(502) 564-3940
jarogness@ky.gov

2. Commonwealth Edison Capital and O&M Spending Audit

Liberty performed an audit of Commonwealth Edison's (ComEd's) capital and O&M expenses across a multi-year period in order to determine the impacts from the Company's massive responses to the consequences of a series of significant outages. Liberty's audit sought to determine whether ComEd's revenue requirement elements, *i.e.*, operating expenses or rate base, reflected any atypical, abnormal, or unreasonable costs that arose from the commitments that the company had made following the outages. Liberty investigated and analyzed ComEd's capital and O&M planning, budgeting, scheduling, program and project management, performance measurement, use of contractors, and management of internal resources.

3. Electric Systems Operations and Reliability

Liberty has performed many focused reviews of electric system reliability within the past five years. Both commissions and utilities have taken advantage of Liberty's expertise in examining system planning, design, dispatch, maintenance, and operations in an effort to improve service reliability and to identify the causes of persistent problems or major outages. Liberty's prior work includes a six-year program of work for the Illinois Commerce Commission, during which Liberty has examined the reliability of Commonwealth Edison. The following table lists the focused examinations that Liberty has performed in the past five years – many of them within the past two. The Montana work includes both electric and gas systems. Multiple listings mean that Liberty performed a number of distinct engagements for a client involving the same utility.

Client	Utility	Client	Utility
Illinois CC	Commonwealth Edison	Maine PUC	Eastern Maine Elec. Coop.
Illinois CC	Commonwealth Edison	Maine PUC	Maine Public Service Co.
Illinois CC	Commonwealth Edison	Nova Scotia UARB	Nova Scotia Power
Illinois CC	Commonwealth Edison	NorthWestern Corp.	Montana Power
Maine PUC	Bangor Hydro	Southern Company	Alabama Power
Maine PUC	Central Maine Power	Southern Company	Georgia Power

More detailed explanations of these engagements follow.

1. Commonwealth Edison

Liberty has been engaged for over six years in a very extensive program of work for the Illinois Commerce Commission, for which Liberty has performed a variety of comprehensive investigative, monitoring, and ratemaking assignments associated with the Company's transmission and distribution reliability. These projects have included:

- 2000 Investigation: Comprehensive examination of T&D and supporting management systems and review of the reliability of Commonwealth Edison's transmission and distribution systems following major outages.
- 2002-2004 Reliability Monitoring: On-site, quarterly monitoring of corrective actions to address T&D management and operations improvement needs, and on-call consulting services to investigate any significant outages.
- 2003 Rate Examination: Investigation of the degree to which outage recovery costs affected test-year expenses as part of unbundled distribution service rate filing by Commonwealth Edison.
- 2004 Review: Detailed review of the performance capabilities of Commonwealth Edison's transmission system adequacy to prevent system blackouts in the wake of the major 2003 blackout.
- 2005 Investigation: Root cause analysis of major substation fire.

2. Ameren Illinois

Liberty was selected by the Illinois Commerce Commission to perform an audit of whether Ameren Illinois appropriately planned, designed, constructed, inspected, and maintained their electric delivery systems, and specifically, whether Ameren Illinois adequately planned, prepared, and executed storm-service restoration efforts following a July 2006 windstorm and a November 2006 ice storm that affected hundreds of thousands of customers. The windstorm caused service interruptions to almost one million customers in St. Louis and parts of southern and central Illinois. Over 300,000 electric customers lost service in Illinois. Restoring service completely took over a week. The winter storm caused nearly 235,000 Ameren Illinois customers to lose electric service and caused extensive tree damage, broken poles, downed lines, and the loss of nearly 100 distribution feeder circuits. On December 4, the company announced that about 150,000 customers remained without electric service.

3. Nova Scotia Power

The Nova Scotia Utility and Review Board selected Liberty to provide a review of the transmission system of Nova Scotia Power. Liberty has completed that report, and testified to its results before the Board in April 2005. The assignment came in the wake of a Fall 2004 outage for 100,000 customers, some of whom went without electricity for several days after pole, tower, and conductor failures. The outage also overwhelmed the utility's call center. Liberty's review examined: (1) system maintenance, inspection, structural design, materials, staffing, and related matters, (2) system planning, operations, system design, lessons learned, and other matters, and (3) utility communications, call center operations, staffing, outage management system, lessons learned, and related matters.

Liberty's examination included the following subjects:

- System Maintenance and Design

  - Field examination of structures to determine general condition
  - Field examination of structures to determine failure causes and prevalence of dangerous conditions
  - Utility assessments of failure causes
  - Pole, tower, hardware, and conductor inspection, maintenance and testing programs
  - Inspection records to assess adequacy of danger condition identification and response
  - Inspection frequency, documentation, quality, and conformity with company procedures and good-utility practice
  - Prioritization of corrective maintenance tasks identified by its inspection program and tracking and monitoring of corrective maintenance tasks to completion
  - Vegetation management program compared to programs employed by other North American utilities
  - Protective relay scheme designs, relay scheme maintenance programs, actual maintenance practices
  - Outage event review process
  - Process for identifying incoming major storms, precautionary actions, and operator training for major storm events
  - Controls for assuring operation of the system according to planning and ratings criteria
  - Dispatching of line technicians and materials, construction methods, and the level of staffing of line technicians
  - Inventorying of replacement poles, towers, hardware, and conductors
  - Emergency supply agreements with suppliers and other utilities
  - Pole and tower design criteria, including material and construction specifications
  - Process for incorporating lessons learned from prior events.
- Transmission System Planning and System Design
  - Single-line diagrams, load flow and other data and analysis concerning constraints to electricity flow in the system
  - Adequacy of the system to meet contingencies in accordance with applicable system design criteria
  - Monitoring program ability to isolate and minimize outage areas
  - Adequacy of fault indication devices
  - Adequacy of system design criteria and conformance with, coordinating council design and operations criteria
  - Load forecasting techniques
  - Ratings applied to system components to ensure they are not overstressed
  - System models employed and suitability for prediction of system study results
  - Operator procedures and capability at the Energy Control Centre during incidents.
- Communications and Outage Response
  - Call center ability to handle normal and emergency call volumes
  - Staffing levels of call center during normal and emergency operation, benchmarked against other North American utilities
  - Outage management system capabilities and performance
  - Basis for outage notification.

4. Maine's System Reliability

For the Maine Public Utilities Commission, Liberty examined the reliability of the four largest electric T&D companies in the state of Maine. The areas that Liberty examined generally fell into the following categories:

Budgeting and Expenditures	System Reliability	System Planning	System Design
Equipment Ratings	Inspections	Maintenance	Vegetation Management

5. New Hampshire Public Utilities Commission

As part of restructuring efforts, Liberty examined the management and operations of all corporate functions, including transmission and distribution, and performed a detailed analysis of the revenue requirements necessary to assure continuation of safe and reliable delivery service after divestiture of the Company's generation and power supply portfolio. Liberty recently completed a follow-up management audit of PSNH. Reliability formed a focus of that engagement.

6. Southern Services Company

Liberty performed assessments of T&D standards and practices in two separate engagements on Alabama Power Company and Georgia Power Company. The areas examined included:

System Protection	System Operations	Underground Network
Maintenance	Inspections	Distribution Mapping

7. Montana T&D Reliability

NorthWestern Corporation, which purchased the utility system of Montana Power, provides electricity and natural gas to over 600,000 customers in Montana, South Dakota and Nebraska. The electric system has more than 29,000 miles of transmission and distribution lines and associated facilities serving 299 communities and surrounding rural areas covering two-thirds of Montana, eastern South Dakota, and Yellowstone National Park in Wyoming. The Montana Public Service Commission became concerned about the maintenance of NorthWestern Energy's transmission and distribution system reliability resulting from financial problems experienced in non-utility operations. The Company selected Liberty because it was a firm recognized to be experienced in the field and having substantial credibility with regulators for candor and objectivity to perform an evaluation of the utility's overall transmission and distribution systems.

Liberty's review addressed the following subjects:

- Inspection, maintenance, replacement, and upgrading of equipment and overall transmission and distribution system
- System performance compared to other similarly situated utilities
- Collection, analysis, use, and adequacy of system reliability data and indices to evaluate system reliability
- Work priority guidelines and the sufficiency of the resulting expenditures
- Comparison of existing T&D standards and practices with good-utility standards and practices.

Liberty's examination addressed and produced recommendations in the following specific areas:

Interruption Frequency	Equipment Failures	Vegetation Management
Relays	Substation Maintenance	Pole Maintenance
Inspection Program	Distribution Planning	Cable Failures
Animal Induced Failures	Inspection Schedules	Financial Forecasts
	Staffing	

References for Liberty's most recent reliability assessments follow:

John Stutsman, Manager, Reliability
Illinois Commerce Commission
527 E. Capitol Ave.
Springfield, IL 62706
(217) 524-0337
jstutsman@icc.illinois.gov

George Smith
Nova Scotia Utility and Review Board
P.O. Box 1692, Unit "M"
Halifax, Nova Scotia B3J 3S3
(902) 424-4448
uarb.george@gov.ns.ca

Roy Buxton, Manager, Engineering
Illinois Commerce Commission
527 E. Capitol Avenue
Springfield, IL 62706
(217) 785-5424
rbuxton@icc.illinois.gov

Charles Cohen, General Counsel
Public Utilities Commission, State of Maine
242 State Street, State House Station 18
Augusta, ME 04333
(207) 287-1394
chuck.cohen@maine.gov

William T. Rhoads, General Manager
Northwestern Energy Distribution Operations
Northwestern Energy
Butte, MT
(406) 497-3496
william.rhoads@northwestern.com

Daniel Lane
Manager, Internal Auditing
Southern Company Services
Birmingham, AL
(205) 257-3011
dlane@southernco.com

Many of Liberty's broader-scope examinations for commissions have included reviews of electric T&D and natural gas delivery system management, operation, maintenance, and reliability. The following table lists them. Multiple listings mean that Liberty performed a number of distinct engagements for a client involving the same utility.

Client	Utility	Client	Utility
Arizona CC	UniSource/Tucson Electric	Kentucky PSC	East Ky. Coop. (G&T)
Alabama Elec. Coop.	Alabama Elec. Coop.	New Hampshire PUC	Public Service NH
Belize Electric	Belize Electric	New Hampshire PUC	Public Service NH
Colorado OCC	Public Service of Colorado	New Jersey BPU	Elizabethtown Gas
Connecticut DPUC	Connecticut Natural Gas	New Jersey BPU	South Jersey Gas
Connecticut DPUC	So. Connecticut Gas	New York PSC	Central Hudson G&E
Connecticut DPUC	Yankee Gas	New York PSC	NYSEG
Dayton Power & Light	Gas Business Unit	Pennsylvania PUC	APS/West Penn
Industrial Customer Group	Portland General Electric	Tennessee RA	United Cities Gas

4. Energy Procurement - Electric Companies

Liberty has performed for public utility regulators examinations focused on fuel and energy procurement and sale by electric utilities:

- Liberty completed an extensive review of fuel procurement and management at Arizona Public Service Company for the Arizona Corporation Commission. This audit included reviews of all physical and financial purchases of both gas and electricity, and a review of procurement relationships between the utility and an affiliate.
- Liberty completed an audit of Public Service Company of New Hampshire fuel procurement and management for The New Hampshire Public Utilities Commission.
- Liberty completed an audit of the affiliate relationships of Nova Scotia Power for the Nova Scotia Utility and Review Board. This review included examinations of electric power and natural gas procurement, and relationships amongst NSPI and its affiliates.
- Kentucky PSC: Focused management audit of all operational and managerial aspects of the fuel procurement functions of Kentucky Utilities, including an examination of the organizational structure and the operational interrelationship of fuel procurement management among affiliates. Fuels involved included coal, natural gas and fuel oil.
- Kentucky PSC: Focused management audit of all operational and managerial aspects of the fuel procurement functions of Louisville Gas & Electric, including an examination of the organizational structure and the operational interrelationship of fuel procurement management among affiliates. Fuels involved included coal, natural gas and fuel oil.
- Nova Scotia UARB: Review, evaluation, and ratemaking adjustments of Nova Scotia's 2007 fuel and energy costs based on an examination of fuel and energy procurement and management, and a review of the reasonableness of major fuel procurement transactions.
- Nova Scotia UARB: Review, evaluation, and ratemaking adjustments of Nova Scotia's 2006 fuel and energy costs based on an examination of fuel and energy procurement and management, and a review of the reasonableness of major fuel procurement transactions.
- Nova Scotia UARB: Review, evaluation, and ratemaking adjustments of Nova Scotia's 2005 fuel and energy costs based on an examination of fuel and energy procurement and management, and a review of the reasonableness of major fuel procurement transactions.

In addition to the preceding focused examinations of fuel and energy, Liberty has performed for public service commissions a number of general management and operations audits whose scope included an examination of fuel and energy management by electric utilities. These engagements include:

- Kentucky PSC: East Kentucky Power Cooperative (Generation and Transmission Cooperative)
- New Hampshire PUC: Northeast Utilities/Public Service Company of New Hampshire
- New York OSC: New York Power Authority
- New York PSC: Central Hudson Gas & Electric
- New York PSC: New York State Electric & Gas
- Pennsylvania PUC: West Penn Power Company

Liberty has also performed a number of energy purchasing and management engagements for electric public utilities. They include:

- Central Illinois Public Service Company

- East Kentucky Power
- Potomac Electric Power
- Public Service of Colorado

Over a period beginning 10 years ago, Liberty has performed many management and performance audits of fuel policies and practices of Ohio electric utilities. Liberty performed these audits for the Public Utilities Commission of Ohio, which oversees fuel and purchased power costs recovered through an automatic adjustment clause. The audits examined whether the companies applied procurement and management practices and policies to assure availability of sufficient supplies of adequate quality to permit efficient operation of generating stations at least cost. The audits examined coal, natural gas, and oil. The audit also sought to determine whether bulk-power system dispatch, economy sales, and emergency and reliability transfers were conducted to promote least-cost operation. An examination of fuel or power transactions with affiliates also fell within the scope of these audits. Liberty's work also addressed whether plans and activities for compliance with the Clean Air Act Amendments were reasonably designed and cost-effective. The Commission has used the reports of these audits in regular EFC hearings to address the reasonableness and accuracy of recovery from utility customers.

The companies whose management and operations Liberty has examined across its long period of service for the Ohio Commission include:

- American Electric Power
- Cincinnati Gas & Electric
- Cleveland Electric Illuminating
- Columbus Southern
- Monongahela Power
- Ohio Edison
- Ohio Power
- Toledo Edison.

5. Supply Planning and Energy Procurement Audits – Natural Gas

1. Peoples Energy Audit

Liberty performed for the Illinois Commerce Commission a major focused audit of natural gas forecasting, portfolio design and implementation, gas purchase and sale transactions, controls, organization and staffing, asset management, off-system sales, storage optimization, and all other issues related to gas supply over a period of eight years.

2. Dominion East Ohio Gas

Liberty completed the 2005 Gas Cost Recovery management/performance audit of Dominion East Ohio Gas Company for the Public Utilities Commission of Ohio. The areas of focus of the audit included supply planning; organization, staffing and controls; management of gas transportation assets; commodity procurement, pricing and price risk management; and operational issues. The overall mission of the audit was to assess the Company's effectiveness in natural gas procurement and determine if the Company was able to achieve an adequate and reliable supply of gas at minimum prices, while at the same time minimizing transition costs associated with the Choice Program. The audit also addressed revenues generated from non-

traditional capacity and commodity arrangements. Liberty did find that internal controls were weak, and that steps should be taken to improve documentation associated with the utility's gas buying strategies. Liberty's report to the Commission also documented those areas where management and operations were working effectively and efficiently.

3. Sequent/Virginia Natural Gas Audit

Liberty completed a detailed examination, in concert with the staff of Virginia's utility regulatory commission (the State Corporation Commission), of energy purchases and sales between the state's largest natural gas LDC, Virginia Natural Gas, and Sequent, which is the energy marketing and trading arm of AGLR, one of the country's largest holding companies in the natural gas distribution business. This audit examined the parent, service-company, and utility organizations and resources that performed material roles in the purchase and sale of energy whose costs flow through an automatic adjustment clause in Virginia. This examination included structured, wide-ranging tests to compare transactions of the affiliate with third parties, in order to assure that transactions with its Virginia utility affiliate were at arm's length, and reflected similar prices, terms, and conditions for comparable transactions. As Liberty did in the case of the NUI/ETG and SJI/SJG examinations, the audit team established objective criteria for determining which transactions were comparable, using structured, rigorous screens for assuring that the comparisons produced were meaningful. Liberty also examined closely the controls systems used to assure that the information recorded and reported was complete and reliable.

4. Gas Cost Adjustment Audits for the PUCO

Liberty has also been auditing natural gas procurement and portfolio management for the Ohio PUC for more than 10 years. The scope of these management/performance audits have routinely included supply planning, organization, staffing and control, gas acquisition strategy and transactions, transportation, affiliate transactions, balancing, regulatory management, and response to changes in regulation. The LDCs that Liberty has audited for the PUCO include:

- Dominion
- Eastern Natural Gas
- East Ohio Gas
- Pike Natural Gas
- Vectren
- CG&E

5. Focused Audits of Gas Procurement and Portfolio Management

Liberty has performed for three other commissions detailed reviews of natural gas procurement, portfolio design and operation, affiliate transactions, and maximization of portfolio value through off-system sales or use of portfolio elements designed to meet peak conditions, but providing at many times during the year more capacity than is necessary for utility customer needs. These projects include companies with a variety of size and system conditions:

- New Hampshire: KeySpan
- Virginia: AGLR/Virginia Natural Gas
- Wyoming: KN Energy

6. Other Gas Procurement and Portfolio Management Examinations

Liberty has performed many general management and operations audits of natural gas LDCs for public service commissions. Energy procurement and portfolio management have been primary focus areas in all of them. The companies Liberty has audited include:

- Arkansas: Arkansas Western Gas
- Connecticut: Connecticut Natural Gas
- Connecticut: Southern Connecticut Gas
- Connecticut: Yankee Gas
- Kentucky: Columbia Gas
- Kentucky: Delta Natural Gas
- Kentucky: Louisville Gas & Electric
- Kentucky: Union Light, Heat & Power
- Kentucky: Western Kentucky Gas
- Tennessee: United Cities Gas**.**

Liberty has also conducted evaluations of gas supply matters for utilities:

- Atmos
- Dayton Power & Light
- National Fuel Gas.

References for Liberty's most recent examinations of procurement engagements follow:

Tommy Oliver
Virginia State Corporation Commission
P.O. Box 1197
Richmond, VA 23218
(804) 371-9422
tommy.oliver@scc.virginia.gov

Thomas C. Pearce II
Public Utilities Commission of Ohio
180 East Broad Street
Columbus, Ohio 43215-3793
(614) 466-1846
thomas.pearce@puc.state.oh.us

Dennis Moran, Director, Division of Audits
New Jersey Board of Public Utilities
Two Gateway Center
Newark, NJ 07102
(973) 648-2162
dennis.moran@bpu.state.nj.us

Ross Young
Nova Scotia Utility and Review Board
3rd Floor, 1601 Lower Water Street
Halifax, Nova Scotia B3J 3S3
(902) 424-4448
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Chris Kempley, General Counsel
Arizona Corporation Commission
Utilities Division
1200 West Washington
Phoenix, AZ 85007-2996
(602)542-4251
ckempley@cc.state.az.us

6. Holding Company/Utility Governance, and Financial Insulation

Liberty has particularly broad experience in examining governance. Liberty's examinations of board structure, membership, governing documents, and operation now extend to more than 20 engagements for public service commissions. Liberty's work is also extremely current; the firm has already examined Sarbanes Oxley Section 404 compliance at three different utility companies operating as part of a holding company structure.

Liberty began almost 15 years ago to examine utility governance and the implications of poor non-utility financial performance on utility subsidiaries. In a groundbreaking study for the New Jersey Board of Public Utilities, Liberty conducted a detailed examination of how well the PSEG governing structure served its major subsidiary, PSE&G, which was one of the country's very large electricity utilities. That study followed poor performance by non-utility ventures, and included a focused examination of the impacts of historical non-utility performance on utility financial condition and a similar assessment of likely future harm to the utility.

Liberty examined the reasons for a widely publicized dispute between the directors and executive management of Virginia Power (the state's largest electricity provider) and their counterparts at the holding company, Dominion Resources (DRI). Faced with the need for a real-time response to a significant and very public governance crisis, the Virginia Commission asked Liberty to examine governance in detail.

Liberty's pre-eminence in this field has continued to the present. Liberty examined and prepared testimony for Commission Staff in an electric and gas utility acquisition proceeding, addressing a variety of governance and utility financial protection issues. Liberty's observations, conclusions and recommendations proved to be material factors in eventual public service commission rejection of the acquisitions. Liberty analyzed for the Staff of the Arizona Commission the proposed acquisition of UniSource by a group of private investors, whose purchase would end UniSource's history as a publicly traded company. UniSource owns three Arizona utilities: two electric and one natural gas. Additionally, Liberty recently completed a review of affiliate transactions of the Nova Scotia Power Company for the regulatory Board in that province. Liberty has just completed for the New Hampshire Public Utilities Commission an examination of whether the acquisition by FairPoint Communications of the New Hampshire, Maine, and Vermont landline telecommunications business of Verizon is in the public interest. Among many other issues, that examination included an assessment of board structure, governance, and senior management capability.

Within recent years, Liberty has conducted focused examinations of governance at seven holding company/utility subsidiary entities for the New Jersey Board of Public Utilities. At all four New Jersey electric companies, Liberty's governance review addressed the separation requirements imposed by comprehensive EDECA standards applicable to holding companies operating non-utility businesses in parallel with utility operations.

Among these recent reviews for the New Jersey Board, Liberty completed a focused audit of NUI and its affiliates. This engagement came in the wake of multiple downgrades of holding company and utility debt by rating agencies and an emerging threat of bankruptcy. Liberty looked in detail at governance and at the structure and transactions among utility and non-utility affiliates. This recent and important examination led or contributed ultimately to major changes

in management at the holding company and utility, strong action by the Board of Public Utilities to strengthen utility financial ring-fencing to protect it from problems at the holding company level, and the eventual sale of the holding company/utility to resolve the financial crisis.

Subsequently, the New Jersey Board asked Liberty to perform audits of two other major state gas utilities and holding companies, South Jersey Industries/South Jersey Gas and New Jersey Natural Gas/New Jersey Resources. Liberty examined in detail ring fencing and governance issues.

References for Liberty's most recent engagements including a review of governance follow:

Chris Kempley, General Counsel
Arizona Corporation Commission
Utilities Division
1200 West Washington
Phoenix, AZ 85007-2996
(602)542-4251
CKempley@cc.state.az.us

Susan Vercheak, Deputy Attorney General
State of New Jersey, Division of Law
124 Halsey Street
PO Box 45029
Newark, NJ 07101
(973)648-6255
Susan.Vercheak@law.dol.lps.state.nj.us

Victor Fortkiewicz, Executive Director
New Jersey Board of Public Utilities
Two Gateway Center
Newark, NJ 07102
(973) 648-2026
Victor.fortkiewicz@bpu.state.nj.us

Kate Bailey, Telecommunications Director
New Hampshire PUC
21 South Fruit Street
Concord, NH 03301-2429
(603) 271-2444
kate.bailey@puc.nh.gov

VIII. Offer to Serve

This proposal constitutes an offer to provide the services described in this proposal under the terms and conditions hereof. This offer shall remain in effect through the close of business on March 31, 2010, and, in the event it is accepted, its terms and conditions, except as may be modified by any final contract, shall continue in force thereafter till completion of all Liberty's responsibilities hereunder or under the RFP to which it responds. Liberty indicates its agreement to be bound by the terms of this offer by the signature of its duly authorized officer, which appears below. This officer is authorized to negotiate an agreement to perform the services described in this proposal.

Accepted for:

The Liberty Consulting Group
65 Main Street
P.O. Box 1237
Quentin, Pennsylvania 17083
717-270-4500

by:

_____

John Antonuk
President

This 1st day of December, 2009

Appendix A

Resumes

John Antonuk A-2
David B. Berger A-11
Christine K. Kozlosky A-13
Richard Mazzini A-21
Larry B. Nunnery A-26
Phillip S. Teumim A-28
Randall E. Vickroy A-32
Philip Weber A-37
Albert M. Yu A-39
Michael Antonuk A-41

John Antonuk

Areas of Specialization

Executive management; management audits and assessments; service quality and reliability management and measurement, utility planning and operations; litigation strategy; management of legal departments; human resources; risk management; regulatory relations; affiliate transactions and relations; subsidiary operations; and testimony development and witness preparation.

Relevant Experience

Electricity

Project Manager for Liberty's management and operations audit of the electricity, natural gas, and steam operations of Con Edison for the New York Public Service Commission.

Project Manager for Liberty's audit of the fuel and purchased-power procurement practices and costs of Arizona Public Service Company for the Arizona Corporation Commission. Liberty completed audits relating to fuel procurement and management and on rate and regulatory accounting for related costs at Arizona Public Service Company for the Arizona Corporation Commission. The fuel and purchased power audit included extensive reviews of all physical and financial transactions of both the utility and a wholesale marketing affiliate, including the relationship between the two entities.

Project Manager for Liberty's examination of governance at a generation and transmission cooperative serving 16 distribution cooperatives across the state of Kentucky.. This study comes in the wake of significant financial difficulties and will also address planning, budgeting, financial, and risk functions and activities.

Project Manager for Liberty's independent evaluation of LIPA's recovery of costs through its Fuel and Purchased Power Cost Adjustment (FPPCA) clause. This evaluation included an examination of: the reasonableness of costs recovered, the accuracy of costs recovered, Board authorization of the clause, and comparison to clauses in other jurisdictions.

Project Manager for Liberty's audit of Duke Energy Carolinas for the North Carolina Utilities Commission. Scope included compliance with regulatory conditions and code of conduct imposed by the Commission after the merger with Cinergy, and affiliate transactions and cost allocation methods.

Project Manager for Liberty's audit of affiliate transactions of Nova Scotia Power on behalf of the Nova Scotia Utility and Review Board.

Project Manager for Liberty's audit for the New Jersey Board of Public Utilities of the competitive service offerings of the state's four major electric companies. Scope included corporate structure, governance, and separation, service company operations and charges, inter-affiliate cost allocations, arm's-length dealing with respect to a variety of code-of-conduct requirements, and protection of customer and competitor proprietary information.

Project Manager and witness for the staff of the Arizona Corporation Commission addressing the merits of the proposed acquisition of UniSource by a group of private investors.

Project Manager and witness before the Oregon Public Utility Commission addressing the merits of the proposed acquisition of Portland General Electric by a group of private investors.

Engagement Director for Liberty's provision of engineering and technical assistance to the Vermont Public Service Board in connection with review of public necessity and convenience related to the Northwest Reliability Project, which would add a major new 345kV transmission plan to provide an additional source of electricity to serve Vermont's major load growth in its northwest region. The project involved transmission reinforcements at lower voltages and significant substation upgrade work. The proceedings had numerous public, private, and government interveners, who raised issues regarding project need, available electrical alternatives, routing and design, and electromagnetic radiation.

Project Manager for Liberty's support for the New Hampshire Public Utilities Commission in its charge to oversee the divestiture of the Seabrook nuclear plant as part of a major restructuring settlement. The sale produced record high compensation for nuclear facilities in the country.

Project Manager and witness for Liberty's assessment of fuel procurement, affiliate transactions, and automatic adjustment clause implementation for the staff of the Nova Scotia Utility and Review Board in rate case of Nova Scotia Power.

Project Manager for Liberty's engagement on behalf of Boston Edison to examine the company's affiliate relations, including issues of the valuation of assets transferred to an affiliate. Testified in proceedings before the Massachusetts Department of Telecommunications and Energy (formerly the Department of Public Utilities) on several telecommunications issues, including: (a) development of competition, and legislative and regulatory policy changes supporting it, (b) electric utility entry into telecommunications markets, (c) costs, prices, and market value of network elements, (d) requirements of the Telecommunications Act of 1996, (e) assessment of compliance with commission orders, company procedures, and service agreements regarding limits on affiliate interactions, (f) inter-company loans, guarantees, and credit support among utilities and their affiliates, (g) accounting for affiliate transactions, (h) obligations to allow nondiscriminatory access to network infrastructure to third parties, and (i) cost pools, overhead factors, and allocation of common costs among utility and non-utility affiliate activities and entities.

Project Manager for Liberty's major consulting engagement for the New Hampshire Public Utilities Commission. Liberty examined management, operations, and costs at Public Service

Company of New Hampshire/Northeast Utilities, which is engaged in the operational and cost-accounting separation of its network into segments, for the purposes of restructuring service offerings to allow competition in certain aspects of electric-energy supply. This engagement included an assessment of valuations of nuclear and fossil units, as well as supply contracts with independent-power producers. Liberty also assisted in efforts to settle rate case and restructuring disputes involving, among other issues, stranded costs associated with power plants. The scope of Liberty's work included the development of plans and protocols for power plant (fossil, hydro, and nuclear) and power supply contract assets, as well as the oversight of activities associated with asset auctions.

Engagement Director for Liberty's evaluation of corporate relations and affiliate arrangements of Dominion Resources, Inc. and Virginia Power for the Virginia State Corporation Commission. This project addressed all significant aspects of corporate governance, operating relationships, and affiliate arrangements between the two entities.

Project Director for Liberty's evaluation of a report prepared by a consultant to the Hawaii Public Utilities Commission on the relationship between Hawaiian Electric Industries (HEI), a diversified utility-holding company, and Hawaiian Electric Company (HECO), its principal subsidiary and operating electric utility.

Project Director for all aspects of Liberty's comprehensive management and operations audit of West Penn Power Company for the Pennsylvania Public Utility Commission. Managed focused reviews of the Company's affiliated costs, power dispatch and bulk power transactions, customer services, finance, and corporate services. Presented testimony before the PAPUC on behalf of the Office of Trial Staff regarding the results of the audit in West Penn's rate case.

Lead Consultant for affiliate relations for Liberty's assignment of providing assistance to Delmarva Power & Light Company in developing and implementing self-assessment and continuous-improvement processes.

Project Director for Liberty's reviews of fossil-fuel procurement and administration in Liberty's management/performance audits of the Centerior Energy Company's operating companies- Cleveland Electric Illuminating Company and Toledo Edison Company- and Ohio Edison, Monongahela Power (an Allegheny Power System operating company), and Cincinnati Gas & Electric, for the Public Utilities Commission of Ohio.

Served as advisor to the administrative law judge of the Delaware PSC responsible for hearing cases regarding the implementation of the new law that restructures the electric-utility industry in Delaware.

Engagement Director for nuclear-plant performance-improvement projects that Liberty conducted for Duquesne Light Company, Centerior Energy, Nebraska Public Power District, and Pennsylvania Power & Light Company (PP&L).

Engagement Director for a Liberty assignment for Florida Power Corporation, regarding a proposal by the Tampa Electric Company to construct transmission lines to serve the cities of Wauchula and Fort Meade, Florida. Liberty's testimony helped convince the Florida Public Service Commission that Tampa Electric Company's proposed line was uneconomic.

Directed Liberty's engagement to assist a regional electric generation and transmission cooperative, whose members' combined operations make it a major competitor in the state's electricity business, to conduct its first-ever comprehensive and formal strategic-planning process.

Natural Gas

Project Manager for Liberty's project for the District of Columbia PSC to examine the usage and cost recovery of a hexane injection strategy used by Washington Gas Light.

Project Manager for Liberty's examination of safety programs and activities of NiSource's Maine subsidiary Northern Utilities for the Maine Public Service Commission.

Project Manager for Liberty's focused and general management audits of NJR, New Jersey Natural Gas, and affiliates for the New Jersey Board of Public Utilities. This project included detailed examinations of affiliate relationships, governance, financing and utility ring-fencing, compliance with New Jersey EDECA requirements for affiliate separation, protection of confidential information, non-discrimination against third-party competitors with utility affiliates, and other code-of-conduct issues. Personally performed the reviews of governance, EDECA requirements compliance, and legal services.

Project Manager on a major focused audit of Peoples Gas/Integrys that Liberty performed for the Illinois Commerce Commission. Audit topics included natural gas forecasting, portfolio design and implementation, gas purchase and sale transactions, controls, organization and staffing, asset management, off-system sales, storage optimization, and all other issues related to gas supply over a period of eight years.

Project Manager and witness on three recent audits of fuel (primarily coal and natural gas) procurement and management practices of Nova Scotia Power, a review of the merits and mechanics of a company-proposed automatic recovery method for energy costs, and an audit of affiliate relationships (including coal, electric power, and natural gas procurement activities) performed for the Nova Scotia Utility and Review Board.

Project Manager for Liberty's focused and general management audits of SJI, South Jersey Gas, and affiliates for the New Jersey Board of Public Utilities. This project included detailed examinations of affiliate relationships, governance, financing and utility ring-fencing, compliance with New Jersey EDECA requirements for affiliate separation, protection of confidential information, non-discrimination against third-party competitors with utility affiliates, and other code-of-conduct issues. Personally performed the reviews of governance, EDECA requirements compliance, and legal services.

Project Manager for Liberty's work with staff of the Virginia State Corporation Commission to evaluate the services of an affiliate providing gas portfolio management services under an asset management agreement with Virginia Natural Gas, an operating utility subsidiary of Atlanta-based AGLR.

Project Manager for Liberty's focused audit of NUI Corporation and NUI Utilities. This audit included a detailed examination of the reasons for poor financial performance of non-utility operations, downgrades of utility credit beneath investment grade, and retail and wholesale gas supply and trading operations. Also examined performance of telecommunications, engineering services, customer-information-system, environmental, and international affiliates. The audit included detailed examinations of financial results, sources and uses of funds, accounting systems and controls, credit intertwining, cash commingling, and affiliate transactions, among others. Liberty's examination included very detailed, transaction-level analyses of commodities trading undertaken by a utility affiliate both for its own account and for that of utility operations.
Project Manager for Liberty's comprehensive management audit of United Cities Gas Company for the Tennessee Public Service Commission. Responsible for the focused reviews of affiliate interests, executive management and corporate planning, and vehicle management.

Lead Consultant in Liberty's management audit of Connecticut Natural Gas Company for the Connecticut Department of Public Utility Control (DPUC). Responsible for reviews of organization and executive management and legal management.

Lead Consultant in Liberty's management audit of Southern Connecticut Gas Company for the DPUC. Responsible for organization and executive management, affiliates, and legal management. Included valuation of a major, rate-based LNG facility being offered for sale.

Directed Liberty's management audit of Yankee Gas Services Company for the DPUC.

Engagement Director for Liberty's evaluation of regulatory needs and alternatives for the Georgia Public Service Commission in regulating the state's local-gas-distribution companies in the aftermath of FERC Order 636.

Project Director for Liberty's review of gas-purchasing policies and practices at Pike Natural Gas Company and Eastern Natural Gas Company for the Public Utilities Commission of Ohio. Responsible for the review of organization and staffing and regulatory-management issues.

Combination Utilities

Engagement Director for Liberty's examination of the cost-allocation methods of Baltimore Gas & Electric Company and its affiliates for the Maryland Office of People's Counsel.

Project Director for Liberty's focused management audit of affiliate transactions of Public Service Electric & Gas Company (PSE&G) and the unregulated subsidiaries of Public Service

Enterprise Group, Inc., the parent, for the New Jersey Board of Regulatory Commissioners. Task leader for the review of organization and planning, and executive management.

Project Director for Liberty's management and operations audit of New York State Electric & Gas Corporation for the New York Public Service Commission (NYPSC). Responsible for managing the review of corporate planning and organization, service centralization, specific corporate services, and finance and accounting.

Project Director for Liberty's management and operations audit of Central Hudson Gas & Electric Corporation for the NYPSC.

Telecommunications

Arbitrator named by the District of Columbia Public Service Commission to address industry-wide need for amendments to interconnection agreements as a result of the FCC's Triennial Review Order.

Project Manager for assistance being provided to the Administrative Law Judge of the Delaware Public Service Commission hearing the arbitration to address industry-wide need for amendments to interconnection agreements as a result of the FCC's Triennial Review Order.

Project Manager for Liberty's engagement to serve as advisors to commissioners of the District of Columbia Public Service Commission in their review of the Section 271 application of Verizon to provide in-region, interLATA service in the District.

Project Manager for Liberty's engagement to serve as advisor to the administrative law judge of the Delaware Public Service Commission in the review of the Section 271 application of Verizon to provide in-region, interLATA service in the state.

Retained by the Idaho PUC to serve as administrative law judge in complaint proceedings involving three paging companies and Qwest, involving a variety of financial disputes arising out of interconnection and tariff purchases.

Conducted wholesale performance metrics training for staff members and commissioners of the Pennsylvania Public Utility Commission as part of efforts to monitor service quality and payments under the Verizon Performance Assurance Plan adopted in connection with the RBOC's entry into the in-region inter-LATA market in Pennsylvania.

Engagement Director for Liberty's comprehensive financial review of Verizon New Jersey Inc. (VNJ) for the New Jersey Board of Public Utilities. The review had three parts: a financial evaluation; a review of merger costs and savings; and an assessment of affiliate costs and transactions.

Engagement Director for Liberty's audit of Ameritech-Ohio policies, procedures and compliance with service quality performance requirements under Ohio's Minimum Telephone Service Standards.

Engagement Director for Liberty's audit of Qwest's performance measures for the Regional Oversight Committee (ROC). Responsible for the evaluation of the processes and data tracking of several hundred wholesale and retail performance indicators including service areas such as provisioning, OSS access, maintenance and repair, and billing.

Project Manager and hearing administrator for Qwest's 271 hearings for the commissions of Idaho, Iowa, Montana, New Mexico, North Dakota, Utah, and Wyoming.

Engagement Director for Liberty's assistance provided to the Staffs of the Virginia State Corporation Commission and the New Jersey Board of Public Utilities in the implementation of the 1996 Telecommunications Act.

Project Manager for Liberty's assistance to Delaware PSC arbitrators in seven different interconnection cases arising out of the Telecommunications Act.

Served on an arbitration board in Mississippi, and as the sole arbitrator in two cases in Idaho regarding interconnection agreements between incumbent local-exchange companies and new entrants to the local telephone market.

Engagement Director for Liberty's work determining permanent prices for the unbundled-network elements of Southwestern Bell Telephone for the Oklahoma Corporation Commission.

Engagement Director for Liberty's provision of arbitration services to the North Dakota Public Service Commission and Nebraska Public Service Commission in cases involving implementation of the Telecommunications Act of 1996.

Engagement Director for Liberty's combined comprehensive management/affiliate-relations audit of Bell Atlantic - Pennsylvania for the PAPUC, and affiliate relations audit of Bell Atlantic - District of Columbia for the Public Service Commission (DCPSC) of the District of Columbia. Served as team leader with responsibility for the coordination of the review of executive management, finance, and support services.

Engagement Director for Liberty's examination of the accounting and allocation on lobbying costs of Bell Atlantic for an 8-year period for the DCPSC. Engagement included an examination of the propriety of policies and procedures for assigning and allocating lobbying costs.

Engagement Director for a management audit of GTE South, Inc. for the Kentucky Public Service Commission. This examination included a review of GTE's affiliate transactions.

Project Director for Liberty's evaluation of New York Telephone's transactions with affiliates for the NYPSC. Responsible for the review of affiliates involved in directories publishing, government affairs, international activities, information services, and the legal-affairs entity.

Project Director for Liberty's management audit of the affiliated interests of C&P Telephone of Maryland performed on behalf of the Maryland Public Service Commission.

Engagement Director for Liberty's two assignments for the DCPSC in reviewing Bell Atlantic - District of Columbia's construction-program planning and quality-of-service standards.

Other Companies

Set up and managed service and facilities section of the PP&L Regulatory Affairs Department. Counseled utility management on regulatory and legislative matters. Litigated rate related and facility construction proceedings before agencies and the courts.

Attorney for the PAPUC. Assigned as counsel to the Commission's Audit Bureau in developing a comprehensive management-audit system. Negotiated contracts for the first commission-ordered management audits in Pennsylvania. Revised Commission organization and practice to conform to regulatory-reform legislation.

Testimony

Nova Scotia Utility and Review Board – testimony on the prudence of fuel procurement, affiliate relationships associated with fuel management, and use of an automatic adjustment clause to recover fuel costs.

Arizona Corporation Commission – testimony on the merits and conditions of the proposed acquisition of UniSource by private investors.

Oregon Public Utility Commission – testimony on the merits and conditions of the proposed acquisition of Portland General Electric by private investors.

Virginia State Corporation Commission - testimony in arbitration cases regarding interconnection agreements between Bell Atlantic - VA and competing local exchange companies.

PAPUC - presentation of management-audit recommendations and benefits for selected conclusions in West Penn Power Company request for rate increase.

Maryland Public Service Commission - presentation and defense of management-audit conclusions, recommendations, and cost implications in C&P Telephone Company of Maryland (Bell Atlantic) rate case.

Illinois Commerce Commission - testimony about fuels organization, procurement, and management in fuel-cost reconciliation proceedings.

Maryland Public Service Commission - testified regarding Baltimore Gas & Electric Company's affiliate relations.

Tennessee Regulatory Authority - testified regarding Liberty's recommendations in a management audit of United Cities Gas Company.

Education

J.D., with academic honors, Dickinson School of Law
B.A., cum laude, Dickinson College

David B. Berger

Areas of Specialization

Mr. Berger specializes in pipeline integrity management, corrosion control, gas-infrastructure asset management, and gas system operation and security.

Relevant Experience

Lead Consultant for review Program and Project Planning and Management – Natural Gas, as part of Liberty's Management and Operations Audit of Consolidated Edison for the New York Public Service Commission.

Lead Consultant for Liberty's project for the District of Columbia PSC to examine the usage and cost recovery of a hexane injection strategy used by Washington Gas Light.

Lead Consultant for reviews of Contractor Performance and of System Operations and Maintenance as part of Liberty's Management and Operations Audit of Elizabethtown Gas for the New Jersey Board of Public Utilities.

Task area leader for the areas of corrosion control and emergency plans in Liberty's investigation of Peoples Gas pipeline safety for the Illinois Commerce Commission. The audit seeks to review and evaluate Peoples Gas' overall operations and maintenance activities and its pipeline safety program to determine the degree to which they are in compliance with federal and state regulations, and conformance of those activities and program with industry best practices and best practices determined by the ICC Staff in consultation with Peoples Gas.

Mr. Berger is under contract to United States Department of Transportation (USDOT) Pipeline and Hazardous Materials Safety Administration (PHMSA) to assist in developing and implementing a gas and liquid pipeline integrity management program and to assist in inspecting operators of pipelines through Cycla Corporation. He is the author and instructor at Transportation and Safety Institute (TSI) on direct assessment training modules for External Corrosion Direct Assessment (ECDA) (including a new course on ECDA indirect inspection techniques) Internal Corrosion Direct Assessment (ICDA), Stress Corrosion Cracking Direct Assessment (SCCDA), and Confirmatory Direct Assessment (CDA). In addition, he is a consultant to PHMSA on integrity management notifications and corrosion control issues.

Consulted with the Washington Utilities and Transportation Commission for corrosion control issues and expert testimony from an incident that resulted in a house explosion and death. Technical consultant for a risk model regarding distribution integrity issues with the LDC.

Mr. Berger is the lead author of a primer on corrosion control and cathodic protection for upper level USDOT administrators.

Until July 2004, Mr. Berger was the Division Manager, Asset Management, for KeySpan Energy. In this capacity, he managed a group of engineers, clerks, technician assistants,

supervisors, and field labor to maintain and improve the asset management of the gas infrastructure and the cathodic protection systems on all KeySpan Energy gas and electric facilities (Long Island, New York City, New England). He was the process owner of KSE's gas transmission system and directed the overall integrity management program for all KSE assets (gas, electric, electric generation). He provided guidance to corporate security on gas operation security issues and implemented security plans for the gas infrastructure in all service areas. He was a developer of the direct assessment method of determining gas pipeline integrity.

Also while at KeySpan, he provided strategic direction to reduce costs while improving the overall effectiveness of corrosion control to facilities. He was instrumental in reducing the hand-offs in constructing corrosion control repairs and improvements by bringing construction activities under one group from the several previously involved. He developed and implemented the complete rebuilding of the gas shop test equipment and data acquisition systems and updated them from 1960s technology to the most technologically advanced in New York State. He also directed the improvement and streamlining of the work methods and planning of the Regulator and Instrumentation group. He started computerization of the division by instituting the reporting of field test results via laptop computers for routine and periodic testing. He designed and instituted the installation of an AMR (Automated Meter Reading) systems for large gas and electric account gas meters to more closely monitor gas usage during curtailment periods and to provide special billing to customers.

In the position of section head of the Environmental Engineering Department for KeySpan, Mr. Berger managed a group of engineers that was responsible for all of the hazardous waste, industrial waste and petroleum storage facilities for the company. He negotiated permits and compliance schedules with all levels of regulatory officials (local, county, state and federal). He prepared and submitted all superfund and other legal notifications. He provided support to operating organizations, legal , and fuel management personnel for environmental matters.

Prior to his employment at KeySpan, Mr. Berger was the Director of Operations for Russell Plastics Technology Inc. and a Plant Manager for ICI Americas, Inc. - Aerospace Division.

Education

University of Delaware, course work (32+ credits) for M.S. in Environmental Engineering
New York University, B. Ch.E. (Chemical Engineering)

Other Honors, Societies, and Papers

Member A.I. Ch. E.
Member AWMA
Author and co-author of papers in WPCF, AGA, NACE
AGA Corrosion Control Committee Chairperson
AGA Distribution Engineer of the Year, 2002
CIS, PCM and ACVG Corrosion Tools
AGA Achievement Awards, 2003, 2004
Bass Trigon Corrosion Control Data Base
Numerous papers in various pipeline technical journals and NACE publications

Christine K. Kozlosky

Areas of Specialization

Ms. Kozlosky has 25 years of consulting experience with regulated industries. Her areas of expertise include customer-service operations, performance measurement and benchmarking, innovation and best-practice discovery, business-process re-engineering, and information-systems management.

Relevant Experience

Currently revising credit and collection policies and procedures for the City of Denton's Customer Service organization. As part of a prior management review, Ms. Kozlosky recommended improvement in the City of Denton's collection practices, including risk-based treatment of delinquent accounts, revised credit requirements, a more condensed collection timeline, writing off bad debt, and metrics to track performance. Currently assisting with the implementation of these recommendations.

Recently completed a management review of Denton Municipal Electric's (DME) meter reading department and the City of Denton's customer service operation. As part of this review, Ms. Kozlosky evaluated the business processes supporting the delivery of face-to-face and telephone customer service including: payment receipts, payment processing, billing, meter reading, field services, customer accounting, and credit and collections. DME's meter reading organization and the City of Denton's customer service operations were benchmarked against similar-sized utilities to establish a baseline of performance and to identify performance improvement opportunities. Recommendations were provided to the City of Denton, the Utility Review Board, and the City Council. The City of Denton is currently pursuing these recommendations.

Lead Consultant for Liberty's follow-up review of outage communication improvements at Ameren Illinois. This review follows a management study conducted in 2008 that examined Ameren Illinois' storm response and communications during two major storms. Currently assisting the utility in the implementation of recommendations.

Lead Consultant for Liberty's management review of outage communications at Ameren Illinois for the Illinois Commerce Commission. This review examined Ameren Illinois' storm response and communications during two major storms in 2006. Reviewed call center and telephony capacities and performance, web and IVR self-service response, public relations and communications, Outage Management System performance, and Estimated Restoration Times effectiveness. Recommendations for improvement were provided at the conclusion of the study.

Benchmarked First Contact Resolution strategies for AT&T to identify best practices and techniques to measure and improve first contact resolution. Ms. Kozlosky also benchmarked AT&T's National Consumer Sales organization's performance against a panel of similar companies. Recommendations were presented to improve AT&T's first contact resolution

performance as well as the internal processes supporting the achievement of first contact resolution.

Lead Consultant for review of customer service on Liberty's focused and general management audit of New Jersey Natural Gas, and affiliates for the New Jersey Board of Public Utilities. This project included detailed examinations of affiliate relationships, governance, financing and utility ring-fencing, compliance with New Jersey EDECA requirements for affiliate separation, protection of confidential information, non-discrimination against third-party competitors with utility affiliates, and other code-of-conduct issues.

Task Area Leader for review of customer service on Liberty's focused and general management audits of SJI, South Jersey Gas, and affiliates for the New Jersey Board of Public Utilities. This project included detailed examinations of affiliate relationships, governance, financing and utility ring-fencing, compliance with New Jersey EDECA requirements for affiliate separation, protection of confidential information, non-discrimination against third-party competitors with utility affiliates, and other code-of-conduct issues.

Conducted a study of customer service performance for the American Water Works Association Research Foundation (AWWARF). This study is developing and deploying a customer service benchmark framework for 1,000 member utilities. As part of the study, an interactive web-based benchmarking tool is being developed to collect benchmark data and disseminate benchmark results. Additionally, a customer satisfaction survey will be deployed to measure satisfaction among the member utilities. These tools will then be handed over to the AWWARF for ongoing benchmark comparisons and continuous improvement of its member utilities.

Examined customer service issues (*e.g.*, call-center and emergency communications) as part of Liberty's examination for the Nova Scotia Utility and Review Board of Nova Scotia Power.

Recently reviewed call center operations for OEConnection, a software company that provides hosted applications to help automobile dealers, parts managers, repair shops, and body shops find original equipment for automobile repair and maintenance. As part of the operational review and diagnostic, Ms. Kozlosky helped OEConnection identify opportunities to improve the level of service provided to customers. Ms. Kozlosky also compared OEConnection's call center performance against an industry peer group to identify further opportunities. The processes and systems supporting service and tech support representatives were also reviewed to identify opportunities for improvement. Recommendations and benchmarking results were presented to senior management.

Recently interviewed and researched "best in industry" leaders to document call center and customer care best practices and lessons learned. Companies included in the review: Southwest Airlines, FedEx, Tesco, First Direct, The Ritz-Carlton, USAA, Southern Company, State Farm, Dell, Lexus, and Yellow Freight.

Project Manager for a study funded by the Cooperative Finance Network of the National Rural Electric Cooperative Association (NRECA) to identify e-commerce initiatives and solutions for utilities and telecommunications firms. Ms. Kozlosky identified more than 400 initiatives

involving utilities and use of the Internet for both business-to-business and business-to-consumer products and services. Ms. Kozlosky designed a database and published the study results on a web site designed exclusively for use by NRECA member cooperatives.

Assisted Jacksonville Electric Authority's customer service re-engineering team in the identification and presentation of recommendations to improve JEA's customer service delivery. Recommendations were provided to reorganize around key business processes, implement new technologies, change existing processes to be more efficient and effective, implement additional training and development, and empowerment of front-line employees. JEA will implement the recommendations concurrently with the selection and implementation of a new Customer Information System.

Project Manager and Lead Facilitator for a "best in class" benchmarking study of Entergy's Retail Operating Support organization. Ms. Kozlosky was responsible for directing the benchmarking efforts of four company teams. Areas studied in detail included: telephone center operations, meter reading, billing, remittance processing, credit and collections, and payment agency operation. The study focused on Entergy's performance in a competitive environment.

Assisted a start-up Internet company with the design and development of a data acquisition and publication system for selling and syndicating content over the Internet. Ms. Kozlosky was responsible for designing the input mechanism and developing specifications for the development of the Internet knowledge-base distribution mechanism.

Conducted a competitive assessment of the many ways in which utility companies are acquiring new products and services to prepare for the competitive marketplace. For the past year, she examined the utility and telecommunications industries to understand the range of competencies that are being acquired through joint ventures, partnerships, acquisitions, and alliances. The research was conducted for Entergy's Marketing organization.

Project Manager for a benchmarking study of Integrated Voice Response Technology within ten industries. The study was commissioned by Illinois Power Company. Ms. Kozlosky was responsible for securing participation from companies and interviewing participants about their IVR strategy and deployment. The study examined how companies are deploying the technology, how it comes into play from a customer perspective, and how it fits into an overall customer service strategy.

Lead Consultant for customer service areas in Liberty's comprehensive examination of transmission and distribution (T&D) for the Illinois Commerce Commission following concerns about Commonwealth Edison's (ComEd's) performance in meeting its public service responsibilities. Evaluated ComEd's customer service performance, organization, staffing levels, and organizational effectiveness. Examined costs associated with customer service and communications contained as part of Liberty's investigation of ComEd rate filing.

Lead Consultant in Liberty's management audit of Bell Atlantic-Pennsylvania and Bell Atlantic-District of Columbia for their respective commissions. Responsible for review of customer service, including sales, service and support organization, credit and collections, billing,

remittance, and staff support. Also included in the study was the review of the information systems supporting customer service, billing, and collections.

Consultant for Liberty's audit of Ameritech-Ohio policies, procedures and compliance with service quality performance requirements under Ohio's Minimum Telephone Service Standards (MTSS).

Lead Consultant in Liberty's management audit of Southern Connecticut Gas Company, conducted for the Connecticut Department of Public Utility Control. Responsible for reviewing the company's customer-service organization, including planning, credit and collections, billing, remittance, telephone operations, business offices, and staff support. Also included in the study was the review of the information systems supporting customer service, billing, and collections.

Lead Consultant for the review of the work-management and manpower-planning processes of Rochester Telephone Company, performed for the New York Public Service Commission. Provided recommendations to improve existing and planned work-management and manpower-planning processes in the engineering, operations, and customer service functions.

Project Manager for the design and pilot implementation of an automated workforce management and manpower planning system for New York Telephone Company, in an engagement for the New York Public Service Commission. Responsible for ensuring that previous audit recommendations were fulfilled, as well as providing functional design guidance.

Consultant in Liberty's management audit of Yankee Gas Services Company, conducted for the Connecticut Department of Public Utility Control. Responsible for detailed analysis of selected customer-service issues.

Lead Consultant for a research study of billing operations for more than a dozen utilities. The study focused on how companies are looking to new billing products and services as the industry moves to deregulation and competition. Companies were interviewed to understand how quickly services like Internet bill presentation and payment and "weatherized" bills are being adopted and implemented.

Recently conducted market research for a large underground facilities locating firm based in Atlanta, Georgia. The research determined market size and potential for locating services throughout the United States.

Worked with a team to design and implement call center technology for the Electricidad de Caracas in Venezuela. Ms. Kozlosky provided assistance with procedural and systems development as well as best practice implementation.

Project Manager for a study of business office operations within five utilities that still operate full-service, walk-in customer service centers. The study focused on how these offices fit into an overall customer service strategy and how they impact customer satisfaction. Ms. Kozlosky also looked at the future of face-to-face customer service. The study was conducted for Entergy.

Lead Consultant on Liberty's study for Colorado Springs Utilities to assist this utility in addressing the organizational impacts associated with a transition to automated meter reading (AMR). Liberty's work included a survey of the experiences and lessons learned from 25 utilities that had already experienced the transition to AMR.

Project Manager for a multi-company meter-reading comparative-practices study. Detailed review of the meter-reading organization, practices, policies, and management of more than 20 electric, gas, and water utilities located across the U.S., Canada, and the U.K. Areas researched include: emerging technologies used in route optimization and meter automation, staffing strategies, training, performance-incentive programs, and approaches to resolve inaccessible meters, reduce off-cycle reads, address high-read-cost meters. Study findings were presented at a National Meter Reading Conference.

Project Manager for a study to determine the cost of service for the appliance-repair activities of Providence Gas Company.

Lead Consultant in a study that helped a large western electric utility's Distribution Business Unit develop its strategic plan. Tasks included identifying information-systems needs to prepare for deregulation and open access, support new product/service offerings, and improve customer service. This involved identification of new, strategic systems as well as modifications and enhancements to existing legacy systems. Also provided financial analysis to support strategic action items.

Lead Consultant for the review of performance-reporting systems for the distribution operations of a Southwestern electric utility. Led a client team in the design and implementation of a Crew Performance Reporting System to track regional performance of T&D line crews. The system provided information on crew productivity, job backlog, work flow, and job-completion status. Modified an existing Field Service Management system to better measure and track serviceman performance. Detailed action plans were developed to facilitate a successful implementation of recommendations.

Project Manager for an internal benchmarking performance study of Delmarva Power & Light's twelve district customer-services offices. Identified opportunities for improvement within the customer-call center, business-office operations, remittance processing, meter reading, field services, credit and collection, and customer accounting. Activity based analysis provided the foundation for a more balanced allocation of resources to the operating districts.

Project Manager for a diagnostic assessment of Detroit Edison's Customer Service operating performance compared against an industry benchmarking panel of more than 25 electric utilities. Presented findings to all levels of management in the Customer Service organization, conducted focus-group reviews for: business-office operations, remittance processing, meter reading, field services, credit and collection, and customer accounting. Recommended practices for improvement teams to evaluate for implementation.

Lead Consultant for the review of the human-resource functions and work-management/manpower-planning processes of Washington Gas Light Company for the

Maryland Public Service Commission. Provided observations and recommendations to improve existing and planned work-management and manpower-planning processes and human-resource processes and systems. Areas reviewed included: customer contact, meter reading, billing, collections, servicemen and appliance repair, and public affairs and community relations.

Project Manager and Lead Facilitator for the development of an executive-level conceptual design of a customer-response system for Boston Edison Company. The project developed an integrated vision for responding to customer inquiries that optimizes the use of information systems and technology. Facilitated an inter-departmental team in the design of the response system, drawing together industry best practices, process-mapping findings, and technology expertise.

Project Manager for a study to analyze and redesign Boston Edison Company's collection and customer-service correspondence. Recommendations were made to eliminate unnecessary correspondence and all remaining correspondence was rewritten to be more professional and more customer sensitive.

Project Manager for a study of customer expectations at Nashville Electric Service (NES). The study developed a baseline understanding of NES's customer and employee expectations and satisfaction. At the same time, an internal diagnostic of NES's business processes and practices identified areas of improvement opportunity as well as potential weaknesses in delivering customer service. The project then matched customer expectations and satisfaction feedback to the internal process-review results to delineate specific areas for improvement or process realignment. The customer-measurement process used to gather mail-survey, telephone-survey, and focus-group feedback was also established so that customer feedback can be obtained and reviewed by NES staff on an on-going basis.

Conducted and published the 1993-94 Electronic Data Interchange Billing Practices Utility Industry Study. This research study surveyed more than 160 electric, gas, water, and telecommunications companies to identify the use of Electronic Data Interchange for producing customer bills. Companies using this technology were profiled in detail, including: length of time that the service has been in place, participation level by customer segment, software and hardware specs required to offer service, marketing plans, and plans for expansion.

Project Manager for a custom-tailored assessment of Empire District Electric's Customer Service operating performance as compared to an industry benchmarking panel of more than 25 electric utilities. Presented findings to senior management as well as the entire customer-service management team.

Project Manager for a diagnostic assessment of Southern California Edison's Customer Service operating performance as compared to an industry panel of more than 35 utilities. Presented findings to all levels of management and staff through a series of focused review sessions. Areas evaluated included: telephone-center and business-office operations, meter reading, field services, credit and collection, and customer accounting.

Project Manager for an annual multi-company benchmarking study of customer service in the electric utility industry, for three years. Functions benchmarked by the study included: front-office operations, meter reading, customer accounting, field and meter services, telephone-center operations, remittance processing, and credit and collections. Designed, developed, and provided detailed industry comparison of operating-company expenditures, productivity measures, and key service-level indicators. Analysis highlighted the best performers in each function and detailed interviews were conducted with these companies to identify innovative practices.

Lead Consultant for a cost-reduction study of customer-service operations at General Public Utilities. Analyzed remittance processing, billing, customer-service operations, energy programs, and meter-reading work practices and procedures. Encompassed in the study was a detailed industry comparison of operating-company operation and maintenance expenditures and key service-level indicators. Identified significant manpower and dollar savings.

Engagement Director for focus-group research conducted with call-center customer-service representatives, collectors, and meter readers at Boston Edison, Sierra Pacific Power, Northeast Utilities, Duke Power, and Illinois Power. Focus groups were conducted to ascertain perceptions and effects of changes in the utility industry, including mergers and acquisitions, work group consolidation, office closings, and corporate re-engineering and downsizing.

Project Manager for the review of customer payment processing capabilities of Central Power & Light. Led a client team in a feasibility study to determine the cost/benefit of centralizing the payment processing facilities. Recommended remittance processing equipment, staffing, and processing procedures. Detailed action plans were developed to facilitate a successful implementation of recommendations.

Project Manager for a benchmarking study of integrated-voice-response technology for Illinois Power Company. Responsible for securing participation of companies from many industries and interviewing participants about their IVR strategy and deployment.

Project Manager for a study to uncover innovative products and services for the electric and gas utility industry. Coordinated a multi-client survey and investigation to detail the range of products and services currently offered; directed an intense literature search to document innovative products and services outside the industry that could be applied to the client; and developed a framework for assessing new products and services that fit with the client's current business strategy. The results from this study have been used to focus and enhance the product and service development efforts of Pacific Gas & Electric.

Education

B.S., Information & Computer Science, Georgia Institute of Technology

Publications

Ms. Kozlosky is the managing editor and publisher of *The Service Delivery Advantage*, a research publication dedicated to promoting customer-service excellence. Published reports include: Achieving First Call Resolution, IVR Improvement Strategies, Meter Reading Profiles & Best Practices, Call Center Strategies of Industry Leaders, Call Quality Practices, Call Center Case Studies, Competitive Credit Practices, Technological Service Improvement, Customer Satisfaction, Billing & Meter Reading, Revenue Recovery, Call Center Operations, Service Fulfillment, and Customer Satisfaction. Each volume contains more than 100 pages of original articles and research covering the latest utility and telecommunications industry customer service *best practices* and innovations.

Ms. Kozlosky is the editor and publisher of the *Customer Service Quarterly*, a research journal devoted to examining issues that are important to customer-service managers in the electric, gas, telephone, and water utility industries.

Ms. Kozlosky is managing editor and publisher of the *Call Center E-Journal*, a unique new electronic journal designed to provide call center managers and executives from all industries with actionable ideas and proven improvement techniques.

Ms. Kozlosky is the editor and publisher of an online call center and customer service benchmarking service for utilities and non-utilities. Subscribers can compare operational performance in call center operations, call quality monitoring, meter reading, billing, credit and collections, meter services, remittance processing, field services, and business office operations.

Richard Mazzini

Areas of Specialization

Management and regulatory audits; utility operations, including nuclear and other power production; power marketing and risk management; strategic planning; organization analysis and competitive re-structuring; project management; cost management; and tariff design and management.

Relevant Experience

The Liberty Consulting Group

Public Service Commission of New York – A management audit of Con Edison. Project Manager for a 13-member Liberty consultant team.

Maine Public Utilities Commission – Review and analysis of proposed new transmission project, the Maine Power Reliability Project (MPRP). Lead Consultant for economic analysis.

Public Service Commission of Maryland – Consultant supervising the various auctions for procurement of power for Maryland's standard offer service (SOS) customers and support for the PSC in their analysis of new approaches to SOS supply.

Management Audits

Public Service Commission of New York – An operational audit of Con Edison's reliability and emergency response planning and processes. Lead Consultant for corporate strategy and priorities, emergency planning and organization.

Federal Energy Regulatory Commission (FERC) – A review of the California ISO. Examined governance issues, operating procedures, transmission planning and analysis, organizational issues, interfaces with stakeholders and recommendations for the restructuring of the California market.

City of Seattle (Washington) – Review of the City's utility, commissioned by City Council and the Office of City Auditor, to analyze financial strategies, power market and risk management strategies and governance schemes. Lead Consultant for risk management.

St. Vincent Electricity Services, Ltd. – A management audit commissioned by the Board of Directors. Scope included generation, transmission, distribution, organizational assessment, safety, procurement and fuel.

New Jersey Bureau of Public Utilities – Evaluation of the gas supply and hedging programs of the four New Jersey gas distribution companies.

New York Power Authority – Consulting support for an internally sponsored audit of energy risk management functions.

Strategic Business Planning

Barbados Light & Power Company – Project Manager and Lead Consultant for a strategic planning initiative. Major areas of attention included new generation options, regulatory strategies, competitive threats, tariff design, new business opportunities, human resource issues, and planning processes.

Barbados Light & Power Company – Project Manager and Lead Consultant for the development of a model for the risk analysis of various new generation investments.

Electricité de France – Provided business planning and analysis services in the furtherance of the utility's wholesale and retail businesses. The work included research and analysis of potential gas partnerships, trading alliances and development of new retail markets throughout Europe.

SaskPower (Saskatchewan) – Project Manager and Lead Consultant for development of a strategic plan for the Power Production Business Unit. The project included asset valuation and optimization, transmission plans and strategies, efficiency improvement, market analysis and organizational options.

Omaha Public Power District – Project Manager and Lead Consultant for an extensive strategic business planning initiative. This multi-phase project spanned one year and included (1) asset evaluation, estimation of potential stranded costs and stranded cost mitigation strategies; (2) business growth strategies, including retail retention and expansion, new products and services, new utility businesses, wholesale marketing and bulk power trading; (3) corporate restructuring through the formation of four new business units; (4) organization design, including the creation of two new marketing organizations and a new trading floor; and (5) regulatory and legislative strategy development.

Omaha Public Power District – Project Manager and Lead Consultant for a follow-up analysis to the above project a year later to recommend added steps and course corrections. Provided new recommendations on organization design, customer service, stranded costs, energy marketing and trading initiatives, risk management, new business development, new products and services and strategic planning processes.

A Large Canadian Provincial Electric Utility – Strategic planning and business support in the analysis of future generation and transmission options associated with a major new generation construction project.

Tennessee Valley Public Power Association - Project Manager and Lead Consultant for development of a comprehensive new business strategy that reinvented the Association for a competitive environment. Key elements of the plan included a new expanded focus on government relations and the influencing of public policy, as well as the creation of four newly created business units and business endeavors.

City Council of Los Angeles (California) - Advice to the Council on the strategic plans of its municipal electric utility. Conduct of a workshop for the Council and staff on restructuring and competitive issues. Review of power marketing alliance strategies.

Riverside Public Utilities (California) - Analysis of the potential to sell all or part of the utility. Development of a new business vision and strategy. Analysis of outsourcing and alliance possibilities. Development of a power supply alliance, including design of the venture, development of RFP, evaluation of bidders, selection of finalist and negotiations. Organizational design and implementation. Planning and project management support for activities leading to open access.

Lower Colorado River Authority – Consulting support for strategic review and development of alliance strategies. Facilitation of management workshop to develop strategic responses to key issues and to examine options for strategic alliances.

ElectriCities of North Carolina – Business simulations and strategic planning for the North Carolina Power Agencies.

ElectriCities of North Carolina – Analysis of the Carolina P&L – Florida Progress merger with resulting strategies and negotiations on behalf of ElectriCities.

4–County Electric Cooperative - Strategic planning support for the Chief Executive Officer and Board of Directors. Designed and facilitated a planning workshop for the Board of Directors and key managers. Followed up with subsequent action plan for the Board.

Project and Cost Management

Omaha Public Power District (OPPD) – Lead Consultant responsible for design and implementation of a cost management program for a major overhaul of the Fort Calhoun Station. This $400 million project involved replacement of the two steam generators, pressurizer and reactor vessel head.

Power Marketing, Procurement and Risk Management

Public Service Commission of Maryland – Consultant supervising the various auctions for procurement of power for Maryland's standard offer service (SOS) customers and support for the PSC in their analysis of new approaches to SOS supply.

Electricité de France – Supporting services for the implementation of a large trading and marketing alliance in Europe, including reporting and control processes and training workshops for employees.

SaskPower - Project Manager and Lead Consultant for the expansion of the bulk power marketing program and creation of an energy trading floor. Work included extensive recommendations on corporate structure, organization, trading and marketing strategies, trading

floor characteristics, management controls, risk management strategies, training, alliance building and external interfaces.

Public Service Commission of Maryland – Provided consulting support to the PSC in the approval of the settlement agreement relating to Standard Offer Service (SOS).

New Businesses

BGE Corporation (Constellation Nuclear Services) – Project Manager and Lead Consultant for the business analysis, planning, design and startup of a new subsidiary business for the client. The business, provision of nuclear related services to U.S. and international utilities, was successfully started in July 1999.

Electricité de France – Provided support in the planning, analysis, structure and negotiation of a large international energy trading and marketing alliance (EDF Trading, based in London).

Tennessee Valley Public Power Association – Project Manager and Lead Consultant for a survey and analysis of the Association's more than 150 member utilities. Produced an analysis with recommendations for the products and services that can best serve the members in a deregulated environment.

Municipal Electric Association (Ontario) – Project Manager and Lead Consultant for the development of a definitive business plan for a new power procurement business on behalf of the Association's more than 250 municipal electric utilities. Work included initial feasibility assessments followed by a complete actionable plan for the creation of the new organization, including structure, organization, staffing, financing, market analysis, contingency plans, product offerings and promotional strategies. The resulting new company became a reality in late 1997.

ENERconnect (Ontario) – Served as interim Vice President of Marketing and Customer Service for the startup of this new power procurement and services company. Project Manager and Lead Consultant for the development of a detailed operational plan for startup. Assisted in all aspects of startup including organizational design, business strategies, product design and development and support to executive management and the Board.

ABB Energy Solution Partners – Consulting support for ESP-sponsored projects, including customer and project research, project structure, energy supply options, alliances and preparation of proposals. Included regulatory research and discussions in Nevada, Michigan, New Jersey and New York.

Ambient Corporation – Consulting support for strategic and tactical business planning for this startup firm specializing in power line communications (PLC), including development of commercialization plan and supporting management processes, support of business plan, product and service development, regulatory strategies and financing documentation.

PacifiCorp - Customer research with two groups of large industrial and commercial customers. Designed and managed interactive workshops to obtain their input, served as subject matter

expert for the sessions, produced and presented comprehensive analyses of the results with strategic insights for the client's marketing initiatives.

T&D Support

Alberta Electric System Operator – Analysis of transmission loss methodologies for the Alberta market.

A Large Canadian Provincial Electric Utility - Business planning support for the transmission business unit. Analysis of the business potential of new transmission opportunities. Analysis of U.S. transmission policies and their potential impact on a Canadian player in the U.S. markets.

Utility Management

Pennsylvania Power & Light Company - Served in a variety of management positions in a long career with the utility. Responsible for strategic business planning, rates, bulk power marketing, system operation, management of non-utility generation contracts, rate design, market research and contract negotiations with large customers. Key management roles in cost management, planning and scheduling for all Susquehanna nuclear station design, licensing, and startup activities including outage management.

Other Consulting Positions

Senior Vice President for ABB Energy Consulting, responsible for managing consulting engagements for a variety of U.S. and European energy firms.

Principal for Navigant Consulting, Inc., involved in numerous consulting engagements serving the electric utility industry in competitive initiatives.

Senior Vice President for the Washington International Energy Group, responsible for the firm's competitive positioning practice.

Education

M.S., Nuclear Engineering, Columbia University
B.E.E., cum laude, Villanova University

Registrations

Registered Professional Engineer – Pennsylvania

Memberships

Institute of Electrical and Electronics Engineers
American Nuclear Society

Larry B. Nunnery

Areas of Specialization

Mr. Nunnery has over 30 years of professional experience in the electric utility industry. He specializes in distribution engineering and has expertise on the National Electrical Safety Code. Larry has degrees in Electrical and Civil Engineering, and is a registered professional engineer.

Relevant Experience

Lead Consultant on Liberty's management and operations audit of the electricity, natural gas, and steam operations of Con Edison for the New York Public Service Commission.

Conducted distribution system line inspections and evaluated distribution engineering standards in Liberty's investigation and verification of wind and ice storm preparedness and restoration of the Ameren Illinois Companies.

As a consultant, wrote distribution engineering training course modules for one electric utility and a training course on the National Electrical Safety Code for another.

For Progress Energy in Raleigh, NC, worked in the distribution standards group and retired as a Principal Engineer. Led a team of engineers responsible for distribution material specifications, distribution construction standards, and distribution manuals. The scope of his distribution system responsibility included both the Florida and Carolinas service areas with about three million customers. Responsible for an annual distribution-material purchase volume of $250 million, and the content and publication of Overhead Construction Manuals, Underground Construction Manuals, and various engineering manuals.

From 1990 to 2005, was a member of the System Storm Center staff. Leader of the Crew Mobilization Team, responsible for mobilization of distribution line and service, and tree crew resources for all major storms. Developed a storm-modeling tool for crew resource predictions, designed and developed a system storm center website, and worked on a team to design and implement a web-based crew and storm personnel-tracking system. Drafted and maintained the company's Distribution System Storm Plan manual.

In earlier experience with Progress Energy, worked in local district offices in various roles. Served as Area Distribution Manager with responsibility for line and service and engineering personnel. Worked in a division office as a Division Engineering Supervisor.

Education

B.S. in Electrical Engineering with honors and B.S. in Civil Engineering from North Carolina State University

Registration and Affiliations

Southeastern Electric Exchange (SEE) Experience:

- Chairman – Overhead Distribution Committee (*1994)*
- Chairman – Mutual Assistance Committee (*2002 and 2003)*
- Coordinated Progress Energy mutual assistance with other SEE utilities

Registered Professional Engineer in North Carolina and South Carolina

Phillip S. Teumim

Areas of Specialization

Thirty-eight years of experience as a consultant and regulator in the utility industry, with approximately 14 years focused specifically on the natural gas industry. Experience in all facets of the natural gas business from senior level policy issues to technical matters. Specific experience in the areas of regulatory and competitive policy development and implementation, rate proceedings and ratemaking, annual reviews of LDC supply and capacity portfolios and gas costs, FERC regulation of interstate pipelines, and enforcement of gas safety requirements for interstate pipelines and facilities.

Relevant Experience

Lead consultant in Liberty's evaluation of company-owned storage and hub operations used to provide both utility and third-party services by Peoples Gas Light and Coke Company for the Illinois Commerce Commission. Performed analysis of management and physical operations of company-owned storage and transmission pipeline facilities, including storage injection and withdrawal patterns over the life of the storage field, expansion of the field, physical verification of storage inventory, utility vs. third party use of the field, and other operating parameters.

Project coordinator for Liberty's investigation and verification of the Peoples Gas Light and Coke Company pipeline safety program, including the compliance with federal and state regulations and conformance with industry best practices. Areas of investigation include excavation damage prevention, corrosion control, system integrity, operator qualifications, construction and program and record management.

Lead consultant in evaluation of rates and pricing, transportation of customer-owned gas, and marketing on Liberty's audit of affiliated transactions between South Jersey Gas and South Jersey Industries and its affiliates and general management audit of South Jersey Gas Company for the New Jersey Board of Public Utilities. Areas addressed included an evaluation of the implementation of the retail choice program, whether and to what extent the utility affiliate may have been show any favoritism, and the treatment of wholesale and retail marketers by the utility.

Lead consultant in an evaluation of the asset management services provided by Sequent, an affiliated wholesaler, to Virginia Natural Gas (VNG) for the Virginia Corporation Commission. Specific areas addressed included an analysis of the terms and conditions of the asset management agreements between Sequent and VNG, and other affiliated utilities and non-affiliated utilities, and the actual services provided by Sequent. Also included an analysis of all other services provided by Sequent and the affiliated service company to VNG, and the management of utility-owned and affiliate-owned propane peaking facilities.

Lead consultant addressing executive management, corporate governance, Board of Directors' performance, and planning on Liberty's focused audit of NUI Corporation and NUI Utilities for the New Jersey Board of Public Utilities. This audit included a detailed examination of the

reasons for poor financial performance of non-utility operations, downgrades of utility credit beneath investment grade, and retail and wholesale gas supply and trading operations. Also examined performance of telecommunications, engineering services, customer-information-system, environmental, and international affiliates.

Senior Consultant and Task Area Leader for commodity and capacity procurement and management, price risk management, and related operational matters in Liberty's Management/Performance audit of Duke Energy for the Public Utilities Commission of Ohio.

Senior Consultant and Task Area Leader for commodity and capacity procurement and management, price risk management, and related operational matters in Liberty's Management/Performance audit of Dominion East Ohio for the Public Utilities Commission of Ohio.

Senior Consultant and Task Area Leader for commodity and capacity procurement and management, price risk management, and related operational matters in Liberty's Management/Performance audit of Cincinnati Gas and Electric Company for the Public Utilities Commission of Ohio.

Senior Consultant and Task Area Leader for commodity and capacity procurement and management, price risk management and related operational areas in Liberty's Management/Performance audit of Vectren Energy Delivery of Ohio for the Public Utilities Commission of Ohio.

Served as Director, Office of Gas & Water for the New York State Public Service Commission. Senior policy and technical advisor to the Commission on all natural gas and water matters, and technical and administrative director of an office of some 70 engineers and analysts, with an annual budget of approximately $5 million. Responsibilities included regulatory and competitive policy development and implementation, rate proceedings and ratemaking, annual reviews of LDC gas costs, annual reviews of LDC supply and capacity portfolios, enforcement of gas safety requirements for interstate pipelines and facilities as agents for the federal DOT/Office of Pipeline Safety and for LDCs and intrastate facilities for New York State.

Earlier, worked as a management consultant in the areas of planning, organization, corporate governance, and rates and regulatory affairs. Also worked as a regulatory engineer and analyst in the areas of rates and valuation, management auditing, nuclear prudence auditing, and customer service.

Specific accomplishments and activities include:

- Lead role in conducting a series of some 15 roundtables, with a broad spectrum of gas industry stakeholders in the northeast, on development of competitive policies.
- Developed white paper that was subsequently adopted by the Commission, laying out a vision and policy for the natural gas industry in New York.

- Lead negotiator in negotiating settlements of multi-year rate and competitive issues with several large LDCs; senior team advisor on all such negotiations and settlements with all New York LDCs.
- Developed and implemented, after Commission approval, a policy statement on gas purchasing practices and risk management, which lays out the general guidelines for LDCs use of financial instruments ("hedging").
- Lead role in development and oversight of agency's positions as an intervener in FERC proceedings and rulemakings. Included appearances and testimony at various FERC technical conferences.
- Frequent speaker on gas, energy, water, and regulatory matters before utility groups, industry organizations, trade associations, NARUC conferences and committees. Guest instructor at Camp NARUC and various trade and industry conferences.
- Established and chaired New York's Natural Gas Reliability Advisory Group, a 24 member counsel, representing all stakeholder groups, which addresses pipeline capacity issues.
- Supervised the development and implementation of New York's program to issue financial penalties for violation of the regulations designed to protect underground facilities and avoid third party damages to those facilities.

Additional Experience:

Lead consultant on an investigation of the response to a series of gas leaks by a major metropolitan east coast gas utility, including field response, technical analysis, public relations and future plans from dealing with an ongoing problem apparently caused by the introduction of LNG into the system.

Lead consultant on the investigation of the application of tariff charges for new service lines and main extensions as the tariff has been applied by a major metropolitan East Coast gas utility, including customer contributions assessed, cost components, and cost allocations.

Advisor and technical consultant to the presiding commissioner and technical staff of a Northeastern regulatory commission on engineering and policy issues in a rate proceeding filed by a large investor-owned water utility. Key issues included depreciation expense, certain operating expenses, and treatment and use of proceeds from the sale of a large parcel of land.

Facilitator and advisor for a statewide planning council retreat in a Northeastern state, which has responsibility for all water planning activities state-wide. The council, and its supporting technical working group, includes representatives from all significant stakeholder groups, including state agencies, municipal water utilities, investor-owned water utilities, conservation groups, recreational water use groups, and other parties.

Lead consultant on an examination of wholesale water rates from a large Northeastern municipality to a group of smaller municipalities and investor–owned water companies. Key components include net plant investment, costs of debt, operations, maintenance and administrative expenses, cost and revenue allocations, and lost and unaccounted for water.

Project manager for a study of the gas supply and integrated resource planning, and affiliate relationships for a large, vertically integrated LDC in the Southwest; lead consultant in the area of organization, strategic planning and affiliate relations and transactions. Included testimony before the state Commission.

Project manager for a management audit of a Middle Atlantic LDC for a regulatory commission; lead consultant in the areas of organization, corporate governance and strategic planning.

Project manager for a management audit of a large Northeastern public power authority for a state agency; lead consultant in the areas of organization, strategic planning, governance, and ratemaking.

Education

M.B.A., B.S. (Electrical Engineering), Rensselaer Polytechnic Institute, Troy NY

Randall E. Vickroy

Areas of Specialization

Mr. Vickroy has over 20 years of experience in the utility industry, including ten years as a management consultant. He has managed and performed numerous high-level consulting assignments at companies and utility commissions in over 25 states. His areas of expertise include corporate finance and treasury management; capital markets and financing vehicles; utility industry restructuring; utility rates and pricing; non-regulated lines of business and affiliations; strategy and planning issues; asset valuations and decision-making; capital and expense budgeting and forecasting; corporate resource allocation; and financial and economic analysis.

Relevant Experience

Lead Consultant on electrical energy and capacity purchases and sales and hedging and capital budgeting on Liberty's management and operations audit of the electricity, natural gas, and steam operations of Con Edison for the New York Public Service Commission.

Served as Lead Consultant in an audit of the fuel and purchased-power procurement practices and costs of Arizona Public Service Company for the Arizona Corporation Commission. Responsible for reviews of its contracting and supply-management practices for natural gas. His assignment in the Arizona project included an examination of the reasons for differences in off-system sales between Arizona Public Service, including specifically PNM and Salt River Project

Lead Consultant for Liberty's independent evaluation of LIPA's recovery of costs through its Fuel and Purchased Power Cost Adjustment (FPPCA) clause. This evaluation included an examination of: the reasonableness of costs recovered, the accuracy of costs recovered, Board authorization of the clause, and comparison to clauses in other jurisdictions.

Led the review of finance and the protection and insulation of the utility from parent and non-utility operations and finances on Liberty's focused and general management audits of NJR, New Jersey Natural Gas, and affiliates for the New Jersey Board of Public Utilities. This project included detailed examinations of affiliate relationships, governance, financing and utility ring-fencing, compliance with New Jersey EDECA requirements for affiliate separation, protection of confidential information, non-discrimination against third-party competitors with utility affiliates, and other code-of-conduct issues.

Lead Consultant in Liberty's audit of Duke Energy Carolinas for the North Carolina Utilities Commission, focusing on issues of compliance with regulatory conditions and code of conduct.

Led the review of finance and the protection and insulation of the utility from parent and non-utility operations and finances on Liberty's focused and general management audits of SJI, South Jersey Gas, and affiliates for the New Jersey Board of Public Utilities. This project included detailed examinations of affiliate relationships, governance, financing and utility ring-fencing, compliance with New Jersey EDECA requirements for affiliate separation, protection of

confidential information, non-discrimination against third-party competitors with utility affiliates, and other code-of-conduct issues.

Lead Consultant for examination of financing and risk management on Liberty's focused audit of NUI Corporation and NUI Utilities. This audit included a detailed examination of the reasons for poor financial performance of non-utility operations, affect of affiliate operations, including commodity trading on utility credit and finance, downgrades of utility credit beneath investment grade, and retail and wholesale gas supply and trading operations. The audit included detailed examinations of financial results, sources and uses of funds, accounting systems and controls, credit intertwining, cash commingling, and affiliate transactions, among others. Liberty's examination included very detailed, transaction-level analyses of commodities trading undertaken by a utility affiliate both for its own account and for that of utility operations.

Served as Lead Consultant in Liberty's review of acquisitions of UniSource (Arizona) and Portland General Electric (Oregon) focusing on utility financial insulation, governance, service reliability, access to information, and community presence issues.

Lead Consultant in Liberty's comprehensive analysis of the ratemaking implications of Commonwealth Edison's Chicago electric service outages for the Illinois Commerce Commission. Responsible for investigating and analyzing ComEd's capital budgeting, resource allocation, project management, expenditure levels and rate base impacts for operations leading up to and in response to the outages.

Lead Consultant in Liberty's review of the financial integrity and earnings of Verizon New Jersey's rate regulated and competitive businesses for the New Jersey BPU. Responsible for the financial evaluation of VNJ's earnings, capital structure, rates of return, dividend policies, credit ratings, financial reporting, SEC reporting, and BPU surveillance reports.

Lead Consultant in Liberty's financial audit for ratemaking purposes of Verizon New Hampshire for the New Hampshire Public Utilities Commission. Responsible for a broad and comprehensive analysis of the financial status of VNH, including an audit of the books and records of the Verizon parent, in order to assist the commission in determining rate base, rates of return and appropriate adjustments for the test year.

Project Manager for the development and implementation of regulatory financial systems and models for deregulated ratemaking at Pacific Gas and Electric Company. The project involved developing regulatory strategy, California PSC earnings monitoring models, data bases, analytical models and reporting for all regulatory requirements of PG&E's regulated businesses.

Led the development of a framework and strategy to resolve all electric industry restructuring issues between the State of New Hampshire, Public Service Company of New Hampshire, and the NHPSC. Project included assessment and valuation of all key assets and development of a disposition strategy for all generation assets, contracts and obligations. The project also included the assessment of alternative rate paths; planning for the securitization and recovery of stranded costs; and the development of provisions for power supply purchases during a transition period.

Team leader for the review of the New York Power Authority's profitability, financial reporting, rate competitiveness, pricing policies, power plant economics and economic development programs in this management audit for the state of New York. NYPA is the largest generator and carrier of power in New York, providing over 25 percent of the electricity sold.

Team leader in providing consulting assistance to Kentucky Utilities in preparing its 1993 application for implementing an environmental surcharge. Responsibilities included analyzing legislation, analysis of capital expenditures, analysis of KU's Clean Air Act compliance plan, analysis of costs recoverable under the surcharge, and developing testimony, exhibits, special accounting systems, and rate tariffs.

Project Leader for providing consulting assistance to Big Rivers Electric in preparing its 1994 application for implementing an environmental surcharge. Responsibilities included a review and evaluation of the economics of a major investment in a flue gas scrubber, analysis of Big Rivers' Clean Air Act compliance plan, evaluating cost recoverable under the surcharge, and developing surcharge testimony, exhibits, accounting systems and rate tariffs.

Consultant in Liberty's management audit of GTE South - Kentucky for the Kentucky Public Service Commission. Responsible for the analysis of the financial-management of GTE as it relates to the operation of its GTE South subsidiary.

Lead Consultant in Liberty's management audit of Bell Atlantic - Pennsylvania and Bell Atlantic - District of Columbia for their respective commissions. Responsible for reviewing Bell Atlantic's capital structure, finance and controller functions, financial systems, and treasury operations. Focus areas included the impact of telephone industry competition on capital budgeting, financial management strategy, and treasury operations.

Leader for all financial areas in the review of affiliate transactions among Public Service Electric and Gas, its holding company parent, and the extensive diversified businesses of the holding company. Responsible for evaluating PSE&G's consolidated finance functions to determine whether the financial integrity, flexibility, and cost of capital of the regulated utility had been adversely affected by the activities of diversified affiliates. Work included the review and analysis of the long-term financing, cash management, direct and indirect credit support mechanisms, investor relations, and all transactions between and among the affiliates.

Led the review of finance, cash management, budgeting, and rates in Liberty's comprehensive management audit of Southern Connecticut Gas for the Connecticut DPUC. Responsibilities included operational audits of all finance, regulatory and budgeting processes of SCG.

Led the review of the finance, cash management, budgeting, accounting and rate functions in Liberty's comprehensive management audit of Connecticut Natural Gas for the Connecticut DPUC. Work also included a focus on the financial impacts of CNG's non-regulated businesses, which includes a large steam system in downtown Hartford.

Led the review of the finance, cash management, budgeting, rates, and tax functions in Liberty's comprehensive management audit of Yankee Gas for the Connecticut DPUC. Evaluation

included an in-depth analysis of the effectiveness of Yankee's capital and expense budgeting processes and the integration of market and competitive components into these processes.

Led the review of the finance, regulatory and accounting functions in Liberty's management audit of United Cities Gas for the Tennessee Public Service Commission. Responsibilities included a review of all financial functional areas, as well as a review of the impact of all affiliate transactions between the regulated and non-regulated businesses.

Led the evaluation of the financial relationships between Hawaiian Electric Industries and Hawaiian Electric Company for the Hawaii Department of Commerce and Consumer Affairs. The focus of the review was the credit and financial support provided by the utility company to the holding company and its diversified businesses.

Led the review and analysis of corporate governance, financial relationships and affiliate transactions between Virginia Power and its parent, Dominion Resources for the Virginia State Corporation Commission. The review included an evaluation of all utility and non-utility financing, governance and economic impacts. The engagement was in response to a well-publicized dispute between the holding company and Virginia Power.

Led the consulting and monitoring of contracting for electric supply by Western Massachusetts Power following the sale of its generation assets under electric deregulation.

Led the review and evaluation of the financial management practices of a major utility holding company. Engagement included an assessment of overall financial management and crisis-liquidity plans; strategic and business planning; asset valuations and their accounting impacts upon deregulation; independent power contract buy-downs; and rate reduction strategies.

Led the evaluation and recommendation of strategic lines of business for a major municipal utility facing industry deregulation.

Led the development of a strategic framework for the establishment and growth of non-regulated businesses for a major international electric holding company.

Led the development, analysis, and recommendation of alternative electric generation and power resource strategies for a regional generation and transmission company in preparation for electric deregulation.

Led the review and evaluation of all utility and non-utility financing, financial relationships, and affiliate transactions between a major utility holding company and its electric company subsidiary.

Leader for all financial areas in the evaluation of the diversified businesses of a major utility holding company. Engagement determined the impact on financial integrity, financial flexibility, credit mechanisms, and the cost of capital of the substantially diversified businesses of the holding company.

Led the development of an overall gas business strategy, capital asset allocation methods, financial analysis programs and gas main extension policy for a Midwestern combination utility.

Education

M.B.A., Finance, University of Denver
B.A., Business Administration, Monmouth College

Philip Weber

Areas of Specialization

Reliability and maintenance of electric distribution systems, strategic planning, and construction and project management. Energy sales and marketing and asset management, storm restoration and emergency planning, fuel planning & supply, integrated supply and demand resource planning, testimony before regulatory agencies, and business communications.

Relevant Experience

The Liberty Consulting Group

Consultant for Liberty's review for the Public Service Commission the planning, routing, design, and costs for a rerouted transmission line required by a large Kentucky utility to respond to litigation surrounding the ability to obtain easements for its preferred routing.

PPL Corporation

Project Manager – System Operations Group

- Managed the consolidation of the transmission operations function (69 kV and above) to a single office from 5 regional offices, while simultaneously managing the separation of the transmission operations function from the distribution operations (12 kV) function, and consolidation to two regional offices from 5 offices. Included physical, process, organization, technology, schedule and cost aspects.
- Coordinated transmission operations responses to NERC and PJM compliance audits, with zero adverse findings.

System Maintenance Engineer – Distribution Asset Management

- Managed the reliability and maintenance of the distribution system, including the inspection and maintenance of 27,600 miles of overhead and 6,000 miles of underground circuits and related devices. Established and managed associated budgets in excess of $50 million annually. Improved non-storm reliability (SAIFI, SAIDI) by 10%.
- Accountable for all reports to the Pennsylvania Public Utility Commission on reliability and responses to significant storm restoration activity, while developing and maintaining sound professional relationships with regulators and staff.

Manager - Business Consulting Group

- Managed a group of 8 cross-functional professionals providing value-added consulting services to internal clients encompassing change management, process review and improvement, business planning, meeting facilitation.
- Provided expertise in numerous business areas to assist managers implement change resulting in improvements in computer based mapping systems, vegetation management contracting, storm management, community development.

- Consultant on behalf of USAID to Ukrainian government and leadership on power pool structures and wholesale contracts. Lectures to multiple high-level audiences in Kiev, including Minister of Energy.

Energy Marketing Center

- Managed change, demonstrated leadership and innovation by creating a formal wholesale electricity marketing and trading organization, including: acquiring and planning physical facilities and infrastructure, recruiting, selecting and mentoring employees, establishing systems and controls, developing contracts and tariffs, and creating a business plan,
- Created a wholesale book of business with a value in excess of $500 million by developing and negotiating innovative power sales agreements.
- Eliminated litigation costs and developed new contracts with $6 million in profit through improving customer relations with previously antagonistic entities.
- Cited by major wholesale customer, as published in PPL's quarterly shareowner newsletter: "(PPL) understands the competitive wholesale electricity market, and uses (its) knowledge to provide us power at the best possible price."
- Coordinated and supervised efforts at regional and national trade shows to achieve brand recognition in new wholesale and retail markets.

Education

M.S. in Management Science, Lehigh University, Bethlehem, PA
B.S. in Industrial Engineering, Lehigh University, Bethlehem, PA

Professional Certifications

Registered Professional Engineer Pennsylvania

Publications and Presentations

"*Trim Cycles Influence Reliability & Cost,*" Transmission & Distribution World, July, 2007
Reliability Linkages, EPRI Asset Management Conference, Kansas City, MO, April, 2007
Defining Worst Performing Circuits, PSE&G Best Practices Seminar, Newark, NJ, May 2007

Albert M. Yu

Areas of Specialization

Cost engineering and management; work management; capital and O&M budgeting; productivity measurement, analysis and improvement; benchmarking; T&D construction and maintenance; power plant construction and maintenance; and project management.

Relevant Experience

Lead Consultant for Work Management on Liberty's management and operations audit of the electricity, natural gas, and steam operations of Con Edison for the New York Public Service Commission.

Omaha Public Power District – Developed and carried out an extensive cost management program for a $400 million nuclear retrofit project. The program had a critical role in producing savings in the many millions of dollars and a completion of the project ahead of schedule and under budget. Key elements of the designed program included culture, cost philosophy, systems, tools, scope control, accountability, productivity measurement and improvement, reporting and innovative approaches to facilitating corrective actions.

Pennsylvania Power & Light Company – Served in a variety of management positions, all of which addressed the cost management needs of the Company, with a focus on construction costs. Also served in a leadership capacity for the industry's Electric Utility Cost Group (EUCG), responsible for benchmarking initiatives in T&D and nuclear. Specific management assignments over a more than 20 year career at PP&L included:

- Cost management of T&D operations, including productivity measurement and improvement, benchmarking, production analysis, budgeting, cost analysis, reporting and corrective action for performance deviations.

- Cost management of the mobile work force, which was the corporate-wide group of physical workers that supplement local forces for construction and large O&M projects in T&D and power plants.

- Cost management of nuclear construction, maintenance and outages, including budgeting, productivity standards, outage planning, reporting and benchmarking.

- Cost estimating for construction work, including the creation of the estimating organization, development of standards, hiring of professional personnel, design of procedures and implementation of the process.

Stone & Webster Engineering and Construction – Served in key management positions during the construction of the Shoreham Nuclear Station, including:

- Supervisor of Electric Construction, responsible for electrical equipment and conduit installation, contractor oversight, engineering interfaces, resource planning and cost analysis.
- Chief Cost Engineer, responsible for cost management, analysis, productivity monitoring, reporting, forecasting and estimating.

Bechtel Power Corporation – Cost engineering, including field cost management, analysis, productivity studies and cost forecasting.

Education

B.S.E.E. – Ohio University
Graduate studies at Washington University

Registrations

Registered Professional Engineer – New York
Certified Cost Engineer

Michael Antonuk

Areas of Specialization

Energy and telecommunications data system analysis and research, project management and business planning.

Relevant Experience

Senior Analyst for Liberty's management/performance audit and financial audit of coal procurement and management of Duke Energy Ohio for the Public Utilities Commission of Ohio (PUCO).

Senior Analyst on three recent audits of fuel procurement and management practices of Nova Scotia Power, a review of the merits and mechanics of a company-proposed automatic recovery method for energy costs, and an audit of affiliate relationships (including coal, electric power, and natural gas procurement activities) performed for the Nova Scotia Utility and Review Board.

Senior Analyst in an audit of the fuel and purchased-power procurement practices and costs of Arizona Public Service Company for the Arizona Corporation Commission. Responsible for reviews of the gas and power transactions of the utility and a wholesale marketing affiliate.

Senior Analyst on Liberty's management and operations audit of the electricity, natural gas, and steam operations of Con Edison for the New York Public Service Commission.

Senior Analyst on Liberty's management and operations audit of Columbia Gas of Ohio for the Public Utilities Commission of Ohio.

Project Coordinator and Senior Analyst for Liberty's focused and general management audits of NJR, New Jersey Natural Gas, and affiliates for the New Jersey Board of Public Utilities. Personally performed the reviews of all gas transactions of the Utility and a wholesale gas marketing affiliate, assisted in the review of EDECA requirements compliance.

Project Coordinator and Senior Analyst on Liberty's focused management and affiliates audit of People's Energy/Integrys for the Illinois Commerce Commission. Responsible for reviews of natural gas transactions of two regulated utilities, a retail energy affiliate, and a wholesale marketing affiliate.

Project Coordinator for Liberty's focused and general management audits of SJI, South Jersey Gas, and affiliates for the New Jersey Board of Public Utilities. This project included detailed examinations of affiliate relationships, governance, financing and utility ring-fencing, compliance with New Jersey EDECA requirements for affiliate separation, protection of confidential information, non-discrimination against third-party competitors with utility affiliates, and other code-of-conduct issues. Analyzed commodity trade transaction and accounting information for gas purchases and sales by an affiliate conducting trades for utility

and non-utility operations. Examined financial results, sources and uses of funds, accounting systems and controls, credit intertwining, cash commingling and affiliate transactions.

Analyst for Liberty's work with staff of the Virginia State Corporation Commission to evaluate the services of an affiliate providing gas portfolio management services under an asset management agreement with Virginia Natural Gas, an operating utility subsidiary of Atlanta-based AGLR. Analyzed commodity trade transaction and accounting information for gas purchases and sales by an affiliate conducting trades for utility and non-utility operations. Reviewed and assessed controls systems related to transactions and sharing of value between the utility and the affiliates.

Project Coordinator on Liberty's focused audit of NUI Corporation and NUI Utilities, responsible for communication and data exchange between Liberty and NUI. Analyzed commodity trade transaction and accounting information for gas purchases and sales by an affiliate conducting trades for utility and non-utility operations. Examined financial results, sources and uses of funds, accounting systems and controls, credit intertwining, cash commingling and affiliate transactions.

Performed research and analysis as part of Liberty's audit of the competitive service offerings of New Jersey's four main electric companies on behalf of the New Jersey Board of Public Utilities, focusing on cost allocation issues and compliance with the separation guidelines within the New Jersey Energy Competition Standards.

Responsible for designing and implementing sample reviews and analysis of cost data sets as part of Liberty's transmission and distribution revenue requirements audit of Commonwealth Edison for the Illinois Commerce Commission. Performed extensive, detailed examinations of utility cost and operations data.

Analyst for Liberty's audit of Ameritech-Ohio policies, procedures and compliance with service quality performance requirements under Ohio's Minimum Telephone Service Standards (MTSS). Performed in-depth analysis of methods used by Ameritech to calculate performance measures, and conducted extensive recalculation of MTSS and merger-related performance measures.

Analyst for Liberty's review of performance measures of Verizon New Jersey on behalf of the New Jersey Board of Public Utilities. Examined metric change control notifications and ordering, billing and collection measures.

Education

B.S. in Business and Economics, Finance Major, Lehigh University

Appendix B

Project Summaries and References

A list of Liberty clients and a summary of the work performed follows. Liberty's strong rate of growth in customer base demonstrates Liberty's ability to provide cost-effective, timely work products for its clients.

Appendix B: Table of Contents

A. Directly Relevant Projects B-2
1. Management and Operations Audits B-2
2. Transmission Line Necessity and Siting Procedures B-7
3. Transmission and Distribution System Projects ..... B -9
4. Affiliates Audits B-14
5. Holding Company/Utility Governance, and Financial Insulation B-18
6. Procurement Audits B-21
B. Electric Utility Projects B-29
C. Natural Gas Distribution Company Projects B-35
D. Projects for Private-Sector Clients B-37
E. Telecommunications Projects B-51

A. Directly Relevant Projects

1. Management and Operations Audits

Client: New York Public Service Commission
Client Contact: Benjamin Stein, Management Audit Unit
NYS Department of Public Service
Empire State Plaza
Agency Building 3
Albany, NY 12223-1350
(518) 486-2478

Summary: Liberty performed a management and operations audit of the electricity, natural gas, and steam operations of Con Edison for the New York Public Service Commission. Task areas include: Corporate Planning, Forecasting, System Planning, Supply Procurement, Budgeting, Program and Project Planning and Management, Workforce Management, and Performance and Results Measurement.

Client: New Jersey Board of Public Utilities ***(Focused and Management Audit of ETG/AGLR and its Affiliates)***
Client Contact: Arthur Gallin, Division of Audits
New Jersey Board of Public Utilities
Two Gateway Center
Newark, NJ 07102
(973) 648-4437

Summary: Liberty is presently performing a focused and general management audit of AGLR, Elizabethtown Gas, and affiliates for the New Jersey Board of Public Utilities. This project includes detailed examinations of energy procurement, cost allocations, affiliate relationships, governance, financing and utility ring-fencing, compliance with New Jersey EDECA requirements for affiliate separation, protection of confidential information, non-discrimination against third-party competitors with utility affiliates, and other *code-of-conduct* issues.

Client: New Jersey Board of Public Utilities ***(Focused and Management Audit of SJI and its Affiliates)***
Client Contact: Arthur Gallin, Division of Audits
New Jersey Board of Public Utilities
Two Gateway Center
Newark, NJ 07102
(973) 648-4437

Summary: Liberty conducted a focused and general management audit of SJI, South Jersey Gas, and affiliates for the New Jersey Board of Public Utilities. This project included detailed examinations of affiliate relationships, governance, financing and utility ring-fencing, compliance with New Jersey EDECA requirements for affiliate separation, protection of confidential information, non-discrimination against third-party competitors with utility affiliates, and other *code-of-conduct* issues.

Client: New Jersey Board of Public Utilities ***(Focused Audit of NUI Corp. and its Affiliates)***
Client Contact: Walter Szymanski, Director, Division of Audits
New Jersey Board of Public Utilities
Two Gateway Center
Newark, NJ 07102
(973) 648-2162

Summary: Liberty performed a focused audit of NUI Corp. and its affiliates, which included operating gas LDCs in three states, an energy trading and brokering affiliate, a competitive retail energy supplier, an energy services company, a telecommunications equipment company, a local/long-distance/wireless telecommunications service provider, and environmental remediation subsidiary, and international ventures company, a utility billing and customer information system subsidiary, and a utility engineering services company. The board commissioned the audit after a series of credit downgrades, in the wake of poor non-utility financial performance which caused the utility subsidiary to experience downgrades to below investment-grade. Liberty conducted detailed reviews of the planning for, investments in, performance of, and sources and uses of funds involving all of the subsidiaries. Liberty also examined in detail financial and accounting systems and controls, affiliate transaction cost assignment and allocation, energy commodity trading transactions, corporate governance, executive compensation, and all other matters with the potential for affecting utility cost and service reliability and cross-subsidization of affiliates.

Client: New Jersey Board of Public Utilities ***(Focused and Management Audit of NJR and its Affiliates)***
Client Contact: Arthur Gallin, Division of Audits
New Jersey Board of Public Utilities
Two Gateway Center
Newark, NJ 07102
(973) 648-4437

Summary: Liberty conducted a focused and general management audit of NJR, New Jersey Natural Gas, and affiliates for the New Jersey Board of Public Utilities. This project included detailed examinations of affiliate relationships, governance, financing and utility ring-fencing, compliance with New Jersey EDECA requirements for affiliate separation, protection of confidential information, non-discrimination against third-party competitors with utility affiliates, and other *code-of-conduct* issues.

Client: Alabama Electric Cooperative, Inc.
Client Contact: Gary L. Smith, Vice President, Legal & Corporate Affairs
Alabama Electric Cooperative, Inc.
P.O. Box 550
Andalusia, Alabama 36420
(334) 427-3214

Summary: Liberty assisted this generation-and-transmission cooperative on a project to improve processes, reduce costs, and improve operational efficiency, in anticipation of competitive changes in the electric-power industry. This

project included analysis of operations and development of recommendations for improvement of policies, practices, processes and procedures in the areas of fuel management for electric generating stations, and operations and maintenance of these electricity-generating stations. An important component of the project included assessment and recommendations for improvement on the interplay between coal and natural gas, and the market for electric power.

Client: Arkansas Public Service Commission *(APSC)*, Arkansas Western Gas Company *(AWG)*, and the Office of the Attorney General *(AG)* of the State of Arkansas. ***(auditing AWG)***

Client Contacts: Donna Gray, Ricky Gunter, and Shawn McMurray

Ms. Donna Gray, Director
Arkansas Public Service Commission
1000 Center Street
Little Rock, AR 72201
(501) 682-5720

Mr. Ricky Gunter
Arkansas Western Gas Company
1083 Sain Street
P.O. Box 1408
Fayetteville, AR 72702-1408
(501) 582-8482

Mr. Shawn McMurray
Senior Assistant Attorney General
200 Tower Building
323 Center Street
Little Rock, AR 72201
(501) 682-1053

Summary: Liberty conducted an independent audit of AWG for the APSC, AWG, and the AG. The areas of inquiry were cost allocation, executive compensation, and the company's staffing and allocation of labor costs to and from affiliated companies.

Client: Connecticut Department of Public Utility Control ***(auditing Southern Connecticut Natural Gas Company)***

Client Contact: David Shapiro
Connecticut Department of Public Utility Control
Utilities Operations and Management Analysis Unit
10 Franklin Square
New Britain, Connecticut 06051
(860) 827-2687

Summary: Liberty conducted a comprehensive diagnostic management audit of Southern Connecticut Natural Gas Company *(SCG)*. The scope of the study also included the following special issues: policies and procedures in the area of credit and collections and the collection of uncollectibles; expenditures for coal-tar remediation; the internal-audit function; purchasing and contracting; SCG's new service center in Orange; SCG's customer-service center in Bridgeport, with particular attention on how complaints, terminations, inquiries, and billing disputes are handled; how SCG is preparing to unbundle its services; and gas-procurement operations, in light of increasing competition and FERC orders, including FERC Order 636.

Client: The Dayton Power and Light Company

Client Contact: Judy W. Lansaw, Group Vice President
The Dayton Power and Light Company
P. O. Box 8825
Dayton, Ohio 45401
(513) 259-7201

Summary: Liberty assisted this combination gas- and electric-utility company with a review of its strategy for its gas business. The focus of this review was preparing for competition. Principal areas of concern were gas-main extension policy, gas rates and service offerings, financial performance of the gas business, the company's approach to gas marketing, and the potential for competitors to affect the company's electric business.

Client: Kentucky Public Service Commission ***(auditing East Kentucky Power Cooperative, Inc.)***
Client Contact: Charles Bright, Staff Project Officer
Kentucky Public Service Commission
211 Sower Boulevard
Frankfort, Kentucky 40601
(502) 564-3940

Summary: Liberty completed the 2001 management and operations audit of East Kentucky Power Cooperative, Inc. (*EKPC*). EKPC is a 2300 MW not-for-profit generation and transmission cooperative supplying electric power to 17 member distribution cooperatives and non-member utilities. The overall objective of this project was to perform a detailed, focused review of EKPC's efforts to prepare itself to effectively compete in deregulated energy markets and its efforts to enhance the quality and delivery of services offered to its member cooperatives and their customers.

Client: New Hampshire Public Utilities Commission *(NHPUC)*
Client Contact: Thomas B. Getz, Chairman
New Hampshire Public Utilities Commission
8 Old Suncook Road
Building No. 1
Concord, New Hampshire 03301-7319
(603) 271-2431

Summary: Liberty performed a management and financial audit of Public Service Company of New Hampshire (*PSNH*) for the Commission. This audit was conducted during the course of the Commission's review of a rate filing by the company. A significant component of this investigation was an examination of the fuel management practices and procedures of the utility that burned a mix of coal, fuel oil and natural gas. The examination of such costs was of material assistance to the Commission in examining the projected profitability of the various business segments under a range of assumptions about the future regulatory and market environments in which those segments would operate. Liberty assumed a principal role in negotiating outstanding restructuring issues and litigation between the NHPUC and PSNH, and is supporting the settlement in testimony before the Commission and the New Hampshire legislature. Liberty also provided on-going oversight of PSNH's preparations to sell its fossil-fueled and hydroelectric power plants through an auction, on behalf of the NHPUC. Monitoring activities included: meeting with PSNH and its investment banker and counsel to check on preparation progress, reviewing draft descriptive memoranda, providing comments to PSNH about terms and conditions of the proposed divestiture, and reporting on progress and issues to the NHPUC's senior Staff.

Client: New York Public Service Commission ***(auditing New York State Electric & Gas Corp.)***
Client Contact: Ron Pelinski, Management Audit Section
New York Public Service Commission
State of New York
Three Empire Plaza
Albany, New York 12223
(518) 486-2480

Summary: Liberty performed a comprehensive management and operations audit of all areas of the company affected by a major corporate reorganization. Additional, special focus areas included business unit restructuring, change management, performance planning and measurement, human resources, construction program planning, affiliate transactions, and central services for multiple utility and non-utility units.

Client: The New York Public Service Commission ***(auditing Central Hudson Gas & Electric)***
Client Contact: James Lyons, Management Audit Section
New York Public Service Commission
Three Empire Plaza
Albany, New York 12223
(518) 486-2480

Summary: Liberty performed a management and operations study of Central Hudson Gas & Electric, focusing on the designated areas of human resources, construction program planning, corporate budgeting, consumer services, computerized information systems, and economic development.

Client: Office of the State Comptroller ***(auditing the New York Power Authority)***
Client Contact: Gerald Tysiak, Audit Manager
Office of the State Comptroller, State of New York
A. E. Smith State Office Building
Albany, New York 12236
(518) 473-6015

Summary: Liberty conducted the 2002 management audit of New York Power Authority *(NYPA)*, the nation's largest non-federal public-power organization in the United States. NYPA operates 10 generating facilities that produce one quarter of the electricity consumed in the state of New York. The purpose of the audit was to evaluate NYPA's plans to build and operate power plants in New York City. NYPA's plans were evaluated and compared to other power supply alternatives available. Liberty concluded that NYPA management had not effectively evaluated its power market alternatives prior to committing to its power.

Client: Pennsylvania Public Utility Commission ***(auditing West Penn Power Company)***
Client Contact: Glenn Bartron, Bureau of Audits
Pennsylvania Public Utility Commission
P.O. Box 3265
Harrisburg, Pennsylvania 17120
(717) 783-5000

Summary: Liberty performed a broadly-based management and operations audit of all areas of the company, including activities of the Allegheny Power System of which West Penn Power Company is a part. Additionally, special focus areas included affiliate costs, staffing and compensation, management information services, bulk power transactions, engineering and construction, transmission and distribution, Clean Air Act Amendment planning, and power interruptions.

Clients: Pennsylvania Public Utility Commission ***(auditing Bell Atlantic - Pennsylvania)*** and District of Columbia Public Service Commission ***(auditing Bell Atlantic - District of Columbia)***
Client Contacts: Kathy Swords, Bureau of Audits (PA) and Dwayne Boyd, Chief Auditor (D.C.)
Pennsylvania Public Utility Commission
901 N. Seventh Street - Rear
Harrisburg, Pennsylvania 17105-3265
(717) 772-0315

Public Service Commission of the District of Columbia
450 5th Street, N.W.
Washington, D.C. 20001
(202) 626-5100

Summary: Liberty performed a comprehensive management audit of the functional operations of Bell Atlantic - Pennsylvania and Bell Atlantic - District of Columbia, operating companies of Bell Atlantic, one of the largest telecommunications organizations in the world. The audit included in-depth reviews of accounting functions and finance, including cost accounting, managerial accounting, budgeting and control, internal auditing, rates, cash management, financial-requirements planning, financing methods, and asset transfers. Liberty's review of compensation and benefits was performed because the area was identified as a special area warranting focused review. The review also included an in-depth analysis of the relationships and transactions of Bell Atlantic - Pennsylvania and Bell Atlantic - District of Columbia and their Bell Atlantic affiliates.

Client: City of Stillwater, Oklahoma
Client Contact: Carl Weinang, City Manager
P.O. Box 1449
723 South Lewis
Stillwater, Oklahoma 74074
(405) 742-8201

Summary: To help the City of Stillwater prepare for changes in the electric-power industry, Liberty performed a competitive assessment of its electric utility. The municipality owns and operates about 30 megawatts of generation,

and purchases a considerable amount of electricity. Loss of any of the utility's large industrial customers would threaten the revenue stream the city derives from operations. Liberty, in a teaming arrangement with another consultant, evaluated operations efficiency, developed a strategy to improve competitiveness, and helped the utility move to a more-competitive business position. All business and operations functions were evaluated, with particular emphasis on customer service, management of key industrial accounts, operations efficiency, maintenance policies and practices, and work-control and workforce management.

Client: Tennessee Public Service Commission ***(auditing United Cities Gas Company)***
Client Contact: William H. Novak, Utility Rate Division Manager
Tennessee Public Service Commission
460 James Robertson Parkway
Nashville, Tennessee 37243-0505
(615) 741-2792

Summary: This comprehensive management audit covered the traditional functional areas of executive management and corporate planning, financial systems, system operations, customer services, human resources, and support functions, as well as specific issues, including: main extension policies; vehicle management; affiliate interests and leases; advertising, sales, and promotion expenses; continuing property records; procurement and vendor relations; comparative rates; and comparative salaries and wages. Liberty's review of financial systems included requirements planning, accounting, budget management and control, rates, internal auditing, cash management, taxes, forecasting, compensation and benefits, and construction management. United Cities Gas Company accepted most of Liberty's 70 recommendations for improvements. The Tennessee Public Service Commission asked Liberty's consultants to testify on a few areas of disagreement as expert witnesses in a rate case.

2. Transmission Line Necessity and Siting Procedures

Client: Public Utilities Commission, State of Maine
Client Contacts: Mr. Ralph Howe or Mr. Charles Cohen
Public Utilities Commission, State of Maine
242 State Street, State House Station 18
Augusta, ME 04333
207-287-1371

Summary: Liberty provided technical expertise to the Commission on the public necessity and convenience of a new 345 kV and a new 138 kV transmission interconnection with New Brunswick Power.

Client: Public Utilities Commission, State of Maine
Client Contacts: Mr. Ralph Howe or Mr. Charles Cohen
Public Utilities Commission, State of Maine
242 State Street, State House Station 18
Augusta, ME 04333
207-287-1371

Summary: Bangor Hydro-Electric Company ("BHE") filed a petition for a certificate of public convenience and necessity to construct a $99 million, 85-mile, 345kV transmission line to the Canadian border, in order to provide an interconnection (called the *Northeast Reliability Interconnect* , or "NRI") with New Brunswick Power. The interconnection's purpose is to provide an additional transmission link (to the single existing one) to improve system reliability, increase import/export transmission capacity and reduce line losses. Liberty assisted the Maine Public Utilities Commission in the proceedings addressing the BHE request. The proceedings included 19 parties. The Commission eventually approved the petition upon stipulation. The stipulation, accepted by many of the parties to the proceeding, came after extensive data requests and five technical conferences, in which Liberty participated as part of Commission advisory staff. The issues addressed were similar in nature to those described in connection with the MPS New Brunswick Interconnection and included evaluation of inter-regional power pool economics under differing market paradigms.

Client: Public Utilities Commission, State of Maine
Client Contacts: Mr. Ralph Howe or Mr. Charles Cohen or Mr. James Buckely
Public Utilities Commission, State of Maine
242 State Street, State House Station 18
Augusta, ME 04333
207-287-1371

Summary: Central Maine Power Company filed a petition for certificate of public convenience and necessity to construct a double circuit 115kV transmission line from the Louden Substation in Louden, Maine to the new Ross Road Substation 7 miles distant near Old Orchard Beach to maintain the reliability of the local Saco Bay region. The case is currently in settlement with the intervenors trying to provide an alternative location for the facilities for a portion of the line. Liberty reviewed the engineering aspects of the proposed line and assisted the Commission in analyzing the technical benefit of the proposed line.

Client: Public Utilities Commission, State of Maine
Client Contacts: Mr. Ralph Howe or Mr. Charles Cohen or Mr. James Buckely
Public Utilities Commission, State of Maine
242 State Street, State House Station 18
Augusta, ME 04333
207-287-1371

Summary: Bangor Hydro-Electric Company filed a petition for certificate of public convenience and necessity to construct a 15kV transmission line from the Ellsworth Substation in Ellsworth, Maine to the new Trenton Substation 14 miles distant in Trenton, Maine to maintain the reliability of the local Mount Desert Island region. Liberty reviewed the engineering aspects of the proposed line and assisted the Commission in analyzing the technical benefit of the proposed line.

Client: Public Service Commission, District of Columbia
Client Contact: Dr. Joseph Nwude, Deputy Executive Director
District of Columbia Public Service Commission
1333 H Street, NW
Suite 200, West Tower
Washington, DC 20005
202-626-5156

Summary: Liberty provided technical expertise to the Commission on the public necessity and convenience of four new 69kV and 230 kV transmission line to replace the Potomac River Generating Plant shutdown because of its inability to meet environmental requirements.

Client: Kentucky Public Service Commission **(*Big Rivers*)**
Client Contact: John Rogness, III, Manager – Management Audit Branch
Kentucky Public Service Commission
211 Sower Boulevard
Frankfort, Kentucky 40601
502-564-3940

Summary: Liberty reviewed the Big Rivers' analysis of the ability of existing 161 kV and 69 kV facilities to reliably serve existing and expected load in the Meade County area of Kentucky. Included in the work was Liberty's analysis of Big Rivers' power flow analyses and long range plans. Liberty also performed an assessment of the actual need for the proposed transmission line and alternative solutions, including upgrading existing facilities, wheeling through neighboring systems, as well as the use of generation, in terms of long-range system development.

Client: Kentucky Public Service Commission **(*Louisville Gas and Electric Co. and Kentucky Utilities)***
Client Contact: John Rogness, Manager – Management Audit Branch
Kentucky Public Service Commission
211 Sower Boulevard
Frankfort, Kentucky 40601
502-564-3940

Summary: Liberty reviewed the LG&E/KU analyses of the need for three separate 345 kV and 138 kV transmission lines in Kentucky, and the ability of these proposed lines to reliably serve existing and expected load in Kentucky. Included in the work was Liberty's analysis of the LG&E/KU power flow analyses and long range plans. Also included in Liberty's assessment of the need for the facilities was an evaluation of alternative solutions, including upgrading existing facilities, wheeling through neighboring systems, as well as the use of generation, in terms of long-range system development.

Client: Kentucky Public Service Commission ***(Louisville Gas and Electric Co. and Kentucky Utilities)***
Client Contact: John Rogness, Manager – Management Audit Branch
Kentucky Public Service Commission
211 Sower Boulevard
Frankfort, Kentucky 40601
502-564-3940

Summary: Liberty reviewed the LG&E/KU analyses of the need for a 345 kV transmission line originally denied by the Commission. Included in the work was Liberty's analysis of the applicability of previous LG&E/KU power flow and other analyses. Also included in Liberty's assessment of the facilities was an evaluation of the process used by LG&E/KU to identify alternative solutions.

Client: Kentucky Public Service Commission **(East Kentucky Power Cooperative -*EKPC*)**
Client Contact: John Rogness, III, Manager – Management Audit Branch
Kentucky Public Service Commission
211 Sower Boulevard
Frankfort, Kentucky 40601
502-564-3940

Summary: Liberty reviewed EKPC's analysis of the need for a 345kV transmission line in Clark, Garrard and Madison counties of Kentucky. Included in the work was Liberty's analysis of EKPC's power flow analyses and long range plans. Liberty also performed an assessment of the actual need for the proposed transmission line and alternative solutions, including upgrading existing facilities, wheeling through neighboring systems, as well as the use of generation, in terms of long-range system development.

Client: Vermont Public Service Board
Client Contacts: Mr. John D. Burke, Commissioner
Mr. Kurt R. Janson, General Counsel
Vermont Public Service Board
112 State Street
Montpelier, VT 05620
802-828-2358

Summary: Liberty provided technical expertise to the Commission on the public necessity and convenience of a new 345 kV and a new 138 kV transmission interconnection with New Brunswick Power.

3. Transmission and Distribution System Projects

Client: Illinois Commerce Commission
Client Contact: Roy Buxton
Illinois Commerce Commission
527 E. Capitol Avenue
Springfield, IL 62706
(217) 785-5424

Summary: Liberty conducted a comprehensive investigation into the reliability of Commonwealth Edison's transmission and distribution systems. This year-long project involved all aspects of the design, planning, management, operation, and maintenance of T&D systems and components. There are two follow-on projects to this original project. The first is an ongoing audit to assess ComEd's compliance with Liberty's recommendations from the first audit. The second project is Liberty's audit of the transmission and distribution revenue requirements of ComEd with respect to the proper revenue requirements associated with ComEd's reliability programs, as analyzed in the first referenced project.

Client: Illinois Commerce Commission
Client Contact: Roy Buxton
Illinois Commerce Commission
527 E. Capitol Avenue
Springfield, IL 62706
(217) 785-5424

Summary: Liberty investigated the causes of a substation outage that affected downtown Chicago in 2000. Liberty also evaluated and made recommendations regarding the corrective actions that the utility should take to prevent similar occurrences.

Client: Illinois Commerce Commission (***Auditing Commonwealth Edison***)
Client Contact: John Stutsman
Illinois Commerce Commission
527 E. Capitol Avenue
Springfield, IL 62706
(217) 524-0337

Summary: Liberty conducted a focused audit of Commonwealth Edison's transmission protection system. This project involved an evaluation of the design and maintenance of the protection against cascading electric outages. It also included an assessment of the ratings used on protective equipment, studies of the stability of the electric delivery system, and the settings of protective relays.

Client: Illinois Commerce Commission (***Auditing Commonwealth Edison***)
Client Contact: John Stutsman
Illinois Commerce Commission
527 E. Capitol Avenue
Springfield, IL 62706
(217) 524-0337

Summary: Liberty performed a root cause analysis of a substation fire that left many customers without power, some for up to two days. Liberty's work included an assessment of the likelihood of similar events and a method to prioritize mitigation efforts. Liberty also provided a template for evaluating the complete loss of any substation.

Client: Public Utilities Commission, State of Maine ***(Auditing Four Maine Electric Utilities)***
Client Contacts: Mr. Ralph Howe or Mr. Charles Cohen
Public Utilities Commission, State of Maine
242 State Street, State House Station 18
Augusta, ME 04333
207-287-1371

Summary: Liberty examined the reliability of the T&D systems for the four largest electric utilities in the state of Maine. The review considered budgeting, maintenance, inspections, planning, and other matters.

Client: Nova Scotia Utility and Review Board
Client Contact: Mr. George Smith
Nova Scotia Utility and Review Board
3rd Floor, 1601 Lower Water Street
P.O. Box 1692, Unit "M"
Halifax, Nova Scotia B3J 3S3
(902) 424-4448

Summary: Liberty provided an assessment of the transmission system and customer communications of the Nova Scotia Power Inc. This assessment included a broad review transmission system design and engineering, operations, planning, staffing, and maintenance. Liberty also performed specific analyses of (1) the separate effects of the storm resulting from failures in the transmission system and from the distribution system, and (2) the failure of several transmission structures. Liberty testified before the Board regarding its findings and recommendations. As a follow-up to issues raised during the hearings, the Board retained Liberty to (1) conduct an on-site inspection and evaluation of portions of the company's distribution system and to assess the reliability of the distribution system,

(2) to perform a structural evaluation of distribution system poles, and (3) to assess the frequency of transmission system relay testing and calibration.

Client: Illinois Commerce Commission
Client Contact: Roy Buxton
Illinois Commerce Commission
527 E. Capitol Avenue
Springfield, IL 62706
(217) 785-5424

Summary: Liberty was selected by the Illinois Commerce Commission to perform an audit of whether Ameren Illinois appropriately planned, designed, constructed, inspected, and maintained their electric delivery systems, and specifically, whether Ameren Illinois adequately planned, prepared, and executed storm-service restoration efforts following a July 2006 windstorm and a November 2006 ice storm that affected hundreds of thousands of customers. The windstorm caused service interruptions to almost one million customers in St. Louis and parts of southern and central Illinois. Over 300,000 electric customers lost service in Illinois. Restoring service completely took over a week. The winter storm caused nearly 235,000 Ameren Illinois customers to lose electric service and caused extensive tree damage, broken poles, downed lines, and the loss of nearly 100 distribution feeder circuits. On December 4, the company announced that about 150,000 customers remained without electric service.

Client: NorthWestern Energy and Montana PSC ***(auditing Northwestern Energy)***
Client Contact: Mr. William T. Rhoads, General Manager,
Montana Distribution Operations,
Butte, MT
(406) 497-3496

Summary: Liberty performed an operations audit and reliability assessment of the company's electric and gas T&D systems.

Client: The New York Public Service Commission ***(auditing Central Hudson Gas & Electric)***
Client Contact: James Lyons, Management Audit Section
New York Public Service Commission
Three Empire Plaza
Albany, New York 12223
(518) 486-2480

Summary: Liberty performed a management and operations study of Central Hudson Gas & Electric, focusing on the designated areas of human resources, construction program planning, corporate budgeting, consumer services, computerized information systems, and economic development.

Client: Kentucky Public Service Commission (***Auditing East Kentucky Power Cooperative, Inc***.)
Client Contact: Charles Bright, Staff Project Officer
Kentucky Public Service Commission
211 Sower Boulevard
Frankfort, Kentucky 40601
(502) 564-3940

Summary: Liberty completed the 2001 management and operations audit of East Kentucky Power Cooperative, Inc. (*EKPC*). EKPC is a 2300 MW not-for-profit generation and transmission cooperative supplying electric power to 17 member distribution cooperatives and non-member utilities. The overall objective of this project was to perform a detailed, focused review of EKPC's efforts to prepare itself to effectively compete in deregulated energy markets and its efforts to enhance the quality and delivery of services offered to its member cooperatives and their customers.

Client: New York Public Service Commission ***(auditing New York State Electric & Gas Corp.)***
Client Contact: Ron Pelinski, Management Audit Section
New York Public Service Commission
State of New York
Three Empire Plaza
Albany, New York 12223

(518) 486-2480

Summary: Liberty performed a comprehensive management and operations audit of all areas of the company affected by a major corporate reorganization. Additional, special focus areas included business unit restructuring, change management, performance planning and measurement, human resources, construction program planning, affiliate transactions, and central services for multiple utility and non-utility units.

Client: Office of the State Comptroller ***(auditing the New York Power Authority)***
Client Contact: Gerald Tysiak, Audit Manager
Office of the State Comptroller, State of New York
A. E. Smith State Office Building
Albany, New York 12236
(518) 473-6015

Summary: Liberty conducted the 2002 management audit of New York Power Authority *(NYPA)*, the nation's largest non-federal public-power organization in the United States. NYPA operates 10 generating facilities that produce one quarter of the electricity consumed in the state of New York. The purpose of the audit was to evaluate NYPA's plans to build and operate power plants in New York City. NYPA's plans were evaluated and compared to other power supply alternatives available. Liberty concluded that NYPA management had not effectively evaluated its power market alternatives prior to committing to its power.

Client: New Hampshire Public Utilities Commission (NHPUC)
Client Contact: Thomas B. Getz, Chairman
New Hampshire Public Utilities Commission
8 Old Suncook Road
Building No. 1
Concord, New Hampshire 03301-7319
(603) 271-2431

Summary: Liberty performed a management and financial audit of Public Service Company of New Hampshire (*PSNH*) for the Commission. This audit was conducted during the course of the Commission's review of a rate filing by the company. A significant component of this investigation was an examination of the fuel management practices and procedures of the utility that burned a mix of coal, fuel oil and natural gas. The examination of such costs was of material assistance to the Commission in examining the projected profitability of the various business segments under a range of assumptions about the future regulatory and market environments in which those segments would operate. Liberty assumed a principal role in negotiating outstanding restructuring issues and litigation between the NHPUC and PSNH, and is supporting the settlement in testimony before the Commission and the New Hampshire legislature. Liberty also provided on-going oversight of PSNH's preparations to sell its fossil-fueled and hydroelectric power plants through an auction, on behalf of the NHPUC. Monitoring activities included: meeting with PSNH and its investment banker and counsel to check on preparation progress, reviewing draft descriptive memoranda, providing comments to PSNH about terms and conditions of the proposed divestiture, and reporting on progress and issues to the NHPUC's senior Staff.

Client: Pennsylvania Public Utility Commission ***(auditing West Penn Power Company)***
Client Contact: Glenn Bartron, Bureau of Audits
Pennsylvania Public Utility Commission
P.O. Box 3265
Harrisburg, Pennsylvania 17120
(717) 783-5000

Summary: Liberty performed a broadly-based management and operations audit of all areas of the company, including activities of the Allegheny Power System of which West Penn Power Company is a part. Additionally, special focus areas included affiliate costs, staffing and compensation, management information services, bulk power transactions, engineering and construction, transmission and distribution, Clean Air Act Amendment planning, and power interruptions.

Client: Southern Company Services – Alabama Power Company
Client Contact: Dan Lane
Manager, Internal Auditing
dllane@southernco.com
(205) 257-3011

Summary: Liberty assessed the T&D standards and practices of Alabama Power Company against good utility practices. The review considered all aspects of T&D design, planning, maintenance, and operations.

Client: Belize Electricity Limited
Client Contact: Lynn R. Young, CEO
Belize Electricity Limited
115 Barrack Road
P. O. Box 327
Belize City, Belize, C. A.
(501) 2-33357

Summary: Liberty undertook a re-engineering and organization study for Belize Electricity Limited, the electric utility that serves the country of Belize. Liberty designed a new organization structure for the company, which was implemented. Major areas of emphasis in the re-engineering include customer service (eliminating business offices, reducing theft of service, and improving installations of new services), distribution operations (work management), materials management (forecasting material needs,) economic dispatch and system control, and human-resources management (streamlining and automating transactions).

Client: Southern Company Services – Georgia Power Company
Client Contact: Dan Lane
Manager, Internal Auditing
dllane@southernco.com
(205) 257-3011

Summary: Liberty assessed the T&D standards and practices of Georgia Power Company against good utility practices. The review considered all aspects of T&D design, planning, maintenance, and operations.

Client: Rochester Gas & Electric Corporation
Client Contact: Charles Keele
Rochester Gas & Electric Corporation
89 East Avenue
Rochester, NY 14649
(716) 724-8662

Summary: Liberty worked with a group of RG&E managers to re-engineer the project-controls, work-management, and manpower-planning processes for electric T&D operations. The group included the work-scheduling section, general foremen, and T&D department managers. The Liberty/RG&E team built a system that ties together all identified projects, spreads resource requirements across the duration of each project, and calculates aggregate manpower requirements, along with administrative and non-work time, such as training, sick days, safety meetings, *etc*. The idea was to draw together all work requirements, assign priorities, and compare the results to available T&D crews. The project was generated by senior management's concern that labor costs, and specifically contractor crews, were increasing, but projects were not getting accomplished, and outages were too high. Most outages were linked to identified, but still-open, system-deficiency reports. By using the system RG&E was able to eliminate the problems and cut contractor costs in half.

Client: City of Stillwater, Oklahoma
Client Contact: Carl Weinang, City Manager
P.O. Box 1449
723 South Lewis
Stillwater, Oklahoma 74074
(405) 742-8201

Summary: To help the City of Stillwater prepare for changes in the electric-power industry, Liberty performed a competitive assessment of its electric utility. The municipality owns and operates about 30 megawatts of generation,

and purchases a considerable amount of electricity. Loss of any of the utility's large industrial customers would threaten the revenue stream the city derives from operations. Liberty, in a teaming arrangement with another consultant, evaluated operations efficiency, developed a strategy to improve competitiveness, and helped the utility move to a more-competitive business position. All business and operations functions were evaluated, with particular emphasis on customer service, management of key industrial accounts, operations efficiency, maintenance policies and practices, and work-control and workforce management.

4. Affiliates Audits

Client: Arkansas Public Service Commission *(APSC)*, Arkansas Western Gas Company *(AWG)*, and the Office of the Attorney General *(AG)* of the State of Arkansas. ***(auditing AWG)***

Client Contacts: Donna Gray, Ricky Gunter, and Shawn McMurray

Ms. Donna Gray, Director
Arkansas Public Service Commission
1000 Center Street
Little Rock, AR 72201
(501) 682-5720

Mr. Ricky Gunter
Arkansas Western Gas Company
1083 Sain Street
P.O. Box 1408
Fayetteville, AR 72702-1408
(501) 582-8482

Mr. Shawn McMurray
Senior Assistant Attorney General
200 Tower Building
323 Center Street
Little Rock, AR 72201
(501) 682-1053

Summary: Liberty conducted an independent audit of AWG for the APSC, AWG, and the AG. The areas of inquiry were cost allocation, executive compensation, and the company's staffing and allocation of labor costs to and from affiliated companies.

Client: Connecticut Department of Public Utility Control ***(auditing Southern Connecticut Natural Gas Company)***

Client Contact: David Shapiro
Connecticut Department of Public Utility Control
Utilities Operations and Management Analysis Unit
10 Franklin Square
New Britain, Connecticut 06051
(860) 827-2687

Summary: Liberty conducted a comprehensive diagnostic management audit of Southern Connecticut Natural Gas Company *(SCG)*. The scope of the study also included the following special issues: policies and procedures in the area of credit and collections and the collection of uncollectibles; expenditures for coal-tar remediation; the internal-audit function; purchasing and contracting; SCG's new service center in Orange; SCG's customer-service center in Bridgeport, with particular attention on how complaints, terminations, inquiries, and billing disputes are handled; how SCG is preparing to unbundle its services; and gas-procurement operations, in light of increasing competition and FERC orders, including FERC Order 636.

Client: Delmarva Power & Light Company

Client Contact: James Lavin, Controller
Delmarva Power & Light Company
800 King Street
Wilmington, Delaware 19899
(302) 429-3359

Summary: Liberty assisted Delmarva Power & Light Company in developing and implementing self-assessment and continuous-improvement processes in the following areas: affiliate transactions, strategic planning, management organization, customer service, conservation, regulatory affairs, gas procurement for electric generation, and compensation. Liberty also provided specialized training and consulting with respect to stakeholder management

and external reviews.

Client: Division of Consumer Advocacy, Department of Commerce and Consumer Affairs, State of Hawaii
Client Contact: Charles W. Totto, Executive Director
Division of Consumer Advocacy
Department of Commerce and Consumer Affairs
State of Hawaii
250 South King Street
Honolulu, Hawaii 96813
(808) 586-2770

Summary: Liberty evaluated a report prepared by a consultant to the Hawaii Public Utilities Commission on the relationship between Hawaiian Electric Industries *(HEI)*, a diversified utility-holding company, and Hawaiian Electric Company *(HECO)*, its principal subsidiary and operating electric utility. The impetus for the original study was public concern about the bankruptcy of an insurance subsidiary, the size of HEI's investment in non-utility investments, and the relatively high frequency of HECO's outages. The issues included in Liberty's assessment included corporate governance; affiliate transactions and cost allocations; credit support; and service reliability.

Client: Kentucky Public Service Commission
Client Contact: Aaron Greenwell, Manager - Management Audit Branch
Kentucky Public Service Commission
211 Sower Boulevard
Frankfort, Kentucky 40602
(502) 564-3940

Summary: Liberty conducted a management audit of GTE South of Kentucky on behalf of the Kentucky Public Service Commission. The audit is focused primarily on evaluating the Kentucky operations of this national telecommunications company, with particular emphasis on the quality of service provided to Kentucky customers, alternative-regulatory methods, and the company's readiness for competition. The audit also included other traditional focus areas, such as strategic planning, organization, affiliate relationships, finance, marketing, and human resources.

Client: New Hampshire Public Utilities Commission (NHPUC)
Client Contact: Thomas B. Getz, Chairman
New Hampshire Public Utilities Commission
8 Old Suncook Road
Building No. 1
Concord, New Hampshire 03301-7319
(603) 271-2431

Summary: Liberty performed a management and financial audit of Public Service Company of New Hampshire (*PSNH*) for the Commission. This audit was conducted during the course of the Commission's review of a rate filing by the company. A significant component of this investigation was an examination of the fuel management practices and procedures of the utility that burned a mix of coal, fuel oil and natural gas. The examination of such costs was of material assistance to the Commission in examining the projected profitability of the various business segments under a range of assumptions about the future regulatory and market environments in which those segments would operate. Liberty assumed a principal role in negotiating outstanding restructuring issues and litigation between the NHPUC and PSNH, and is supporting the settlement in testimony before the Commission and the New Hampshire legislature. Liberty also provided on-going oversight of PSNH's preparations to sell its fossil-fueled and hydroelectric power plants through an auction, on behalf of the NHPUC. Monitoring activities included: meeting with PSNH and its investment banker and counsel to check on preparation progress, reviewing draft descriptive memoranda, providing comments to PSNH about terms and conditions of the proposed divestiture, and reporting on progress and issues to the NHPUC's senior Staff.

Client: New Hampshire Public Utilities Commission
Client Contact: ChristiAne G. Mason
New Hampshire Public Utilities Commission
8 Old Suncook Road
Concord, New Hampshire 03301-7319
(603)271-2431

Summary: Liberty conducted a financial audit of the operations of Verizon New Hampshire. The audit included any services provided by affiliates, the allocation of costs between regulated and non-regulated activities, all other expense areas, assets, and revenues. This audit was conducted in the context of the company and Commission considering a change from traditional ratemaking.

Client: New Jersey Board of Public Utilities ***(audits of the competitive-service offerings of New Jersey's four electric-distribution companies)***
Client Contact: Pasquale Salvemini
New Jersey Board of Public Utilities
Two Gateway Center
Newark, NJ 07102
(973) 648-2162

Summary: Liberty performed audits of the competitive-service offerings of New Jersey's four electric-distribution companies to assure that the utilities were complying with the Board's Affiliate Relations, Fair Competition and Accounting Standards and Related Reporting Requirements, which implement New Jersey statutes that regulate utility-affiliate transactions and establish standards of conduct in providing competitive services to end users in New Jersey. The objectives of these audits are to assure that neither the utilities nor their related competitive business segments enjoy an unfair competitive advantage over their competitors, and that there is no form of cross-subsidization of competitive services by utility operations or affiliates with which they are associated.

Client: New Jersey Board of Regulatory Commissioners ***(auditing Public Service Electric & Gas Company)***
Client Contact: Walter P. Szymanski, Director, Division of Audits
New Jersey Board of Regulatory Commissioners
Two Gateway Center
Newark, New Jersey 07102
(201) 648-2026

Summary: Liberty performed a focused evaluation of The Public Service Enterprise Group *(PSEG)* and its subsidiaries, which include, among others, Public Service Electric & Gas Company, one of the largest combination electricity and natural-gas utilities in the United States. The scope included a review of the management of resources, cash, and property of each company and their impacts on short- and long-term performance. The focus areas included documentation of the scope, nature, and controls on cost-allocation methods; prices of goods and services; and the financial, economic, and operating impacts of the holding-company structure and affiliates on utility rates and service. The financial performance and business plans of the company's unregulated subsidiaries were evaluated. Liberty also reviewed the appropriateness of executive compensation packages. Liberty conducted this audit in accordance with the U.S. General Accounting Office's audit standards. Liberty completed this assignment in only a few months, and within budget, despite the size and complexity of PSEG's operations and number of subsidiary companies. Liberty's client, the New Jersey Board of Regulatory Commissioners, accepted our recommendations.

Client: Illinois Commerce Commission ***(auditing Illinois Bell Telephone Company)***
Client Contact: Sam McClerren
Illinois Commerce Commission
527 East Capitol Avenue
Springfield, Illinois 62794-9280
(217) 782-0597

Summary: Liberty consultants served as technical advisors in the areas of affiliate interests, marketing, and operations planning to the Staff of the Illinois Commerce Commission in its conduct of a reconnaissance audit of the Illinois Bell Telephone Company.

Client: New York Public Service Commission ***(auditing New York Telephone Company)***
Client Contact: Cheryl Callahan, Assistant Counsel
New York Public Service Commission
Three Empire State Plaza
Albany, New York 12223
(518) 474-7072

Summary: Liberty performed an analysis of the propriety and reasonableness of transactions between New York Telephone and its affiliates. This review involved the development of a comprehensive collection of factual information, determining the reasonableness of affiliate transactions and the management processes and performance associated with them, and quantifying the financial impact of transactions and performance on ratepayers.

Client: Public Utilities Commission of Ohio (***auditing Vectren Energy Delivery of Ohio, Inc***.)
Client Contact: Thomas C. Pearce II, Natural Gas Specialist
Public Utilities Commission of Ohio
180 East Broad Street
Columbus, Ohio 43215-3793
(614) 466-1846

Summary: Liberty conducted the 2002 Gas Cost Recovery management/performance audit of Vectren Energy Delivery of Ohio, Inc. The focus areas included supply planning; organization, staffing and control; gas acquisition; transportation; balancing; regulatory management; response to changes in regulation (primarily new Customer Choice programs in Ohio); follow-up to issues raised in the last audit; and several company-specific issues that were important to the PUCO.

Clients: Pennsylvania Public Utility Commission ***(auditing Bell Atlantic - Pennsylvania)*** and District of Columbia Public Service Commission ***(auditing Bell Atlantic - District of Columbia)***
Client Contacts: Kathy Swords, Bureau of Audits (PA) and Dwayne Boyd, Chief Auditor (D.C.)
Pennsylvania Public Utility Commission
901 N. Seventh Street - Rear
Harrisburg, Pennsylvania 17105-3265
(717) 772-0315

Public Service Commission of the District of Columbia
450 5th Street, N.W.
Washington, D.C. 20001
(202) 626-5100

Summary: Liberty performed a comprehensive management audit of the functional operations of Bell Atlantic - Pennsylvania and Bell Atlantic - District of Columbia, operating companies of Bell Atlantic, one of the largest telecommunications organizations in the world. The audit included in-depth reviews of accounting functions and finance, including cost accounting, managerial accounting, budgeting and control, internal auditing, rates, cash management, financial-requirements planning, financing methods, and asset transfers. Liberty's review of compensation and benefits was performed because the area was identified as a special area warranting focused review. The review also included an in-depth analysis of the relationships and transactions of Bell Atlantic - Pennsylvania and Bell Atlantic - District of Columbia and their Bell Atlantic affiliates.

Client: Tennessee Public Service Commission ***(auditing United Cities Gas Company)***
Client Contact: William H. Novak, Utility Rate Division Manager
Tennessee Public Service Commission
460 James Robertson Parkway
Nashville, Tennessee 37243-0505
(615) 741-2792

Summary: This comprehensive management audit covered the traditional functional areas of executive management and corporate planning, financial systems, system operations, customer services, human resources, and support functions, as well as specific issues, including: main extension policies; vehicle management; affiliate interests and

leases; advertising, sales, and promotion expenses; continuing property records; procurement and vendor relations; comparative rates; and comparative salaries and wages. Liberty's review of financial systems included requirements planning, accounting, budget management and control, rates, internal auditing, cash management, taxes, forecasting, compensation and benefits, and construction management. United Cities Gas Company accepted most of Liberty's 70 recommendations for improvements. The Tennessee Public Service Commission asked Liberty's consultants to testify on a few areas of disagreement as expert witnesses in a rate case.

Client: State Corporation Commission Commonwealth of Virginia ***(evaluation of Virginia Natural Gas' Asset Management Agreement)***
Client Contact: Lawrence Oliver, Assistant Director, Division of Economics & Finance
State Corporation Commission Commonwealth of Virginia
P.O. Box 1197
Richmond, VA 23218
(804) 371-9358
Summary: Liberty worked with staff of the Virginia State Corporation Commission to evaluate the services of an affiliate providing gas portfolio management services under an asset management agreement with Virginia Natural Gas, an operating utility subsidiary of Atlanta-based AGLR.

Client: Virginia State Corporation Commission ***(examining relationships between Virginia Power Company and its parent company, Dominion Resources, Inc.)***
Client Contact: James Douglas
Virginia State Corporation Commission
Box 1197
Richmond, Virginia 23209
(804) 371-9422
Summary: Liberty examined corporate and financial relationships between Dominion Resources, Inc. *(DRI)* and its wholly-owned and largest subsidiary, Virginia Power Company, in the wake of an unprecedented public dispute between the two about control over public utility operations. This unique study, which Liberty performed for the State Corporation Commission, addressed all significant facets of the corporate governance, operating relationships, and affiliate-arrangement interrelationships between the two. Liberty specifically examined whether organization, staffing, planning, and authority for conducting activities gave Virginia Power adequate authority and capability to move forward in a changing electric utility environment. Among the authorities Liberty examined were the arrangements governing the operations of the Treasury and Cash Management departments. Liberty performed its study at the same time that Virginia Power was undergoing a major strategic planning effort specifically designed to assist it in preparing to meet the challenges of a more competitive marketplace. This was another study that Liberty had to complete in only a few months because of the tremendous notoriety that the issues had attracted in the news media and state legislature.

5. Holding Company/Utility Governance, and Financial Insulation

Client: Arizona Corporation Commission
Client Contact: Chris Kempley, General Counsel
Arizona Corporation Commission
Utilities Division
1200 West Washington
Phoenix, AZ 85007-2996
(602)542-4251
Summary: Liberty performed an evaluation of the proposed acquisition of UniSource (including Tucson Electric) by private investment firms, and prepared testimony commenting upon the merits of the merger, and recommending conditions necessary and appropriate to insulate utility finances, assure continued service quality and reliability, provide for appropriate utility governance, address access to affiliate information, control affiliate transactions, provide for a proper code of conduct, and assure continued community presence and support.

Client: Connecticut Department of Public Utility Control ***(auditing Southern Connecticut Natural Gas Company)***
Client Contact: David Shapiro
Connecticut Department of Public Utility Control
Utilities Operations and Management Analysis Unit
10 Franklin Square
New Britain, Connecticut 06051
(860) 827-2687

Summary: Liberty conducted a comprehensive diagnostic management audit of Southern Connecticut Natural Gas Company *(SCG)*. The scope of the study also included the following special issues: policies and procedures in the area of credit and collections and the collection of uncollectibles; expenditures for coal-tar remediation; the internal-audit function; purchasing and contracting; SCG's new service center in Orange; SCG's customer-service center in Bridgeport, with particular attention on how complaints, terminations, inquiries, and billing disputes are handled; how SCG is preparing to unbundle its services; and gas-procurement operations, in light of increasing competition and FERC orders, including FERC Order 636.

Client: Kentucky Public Service Commission
Client Contact: Aaron Greenwell, Manager - Management Audit Branch
Kentucky Public Service Commission
211 Sower Boulevard
Frankfort, Kentucky 40602
(502) 564-3940

Summary: Liberty conducted a management audit of GTE South of Kentucky on behalf of the Kentucky Public Service Commission. The audit is focused primarily on evaluating the Kentucky operations of this national telecommunications company, with particular emphasis on the quality of service provided to Kentucky customers, alternative-regulatory methods, and the company's readiness for competition. The audit also included other traditional focus areas, such as strategic planning, organization, affiliate relationships, finance, marketing, and human resources.

Client: New Hampshire Public Utilities Commission *(NHPUC)*
Client Contact: Thomas B. Getz, Chairman
New Hampshire Public Utilities Commission
8 Old Suncook Road
Building No. 1
Concord, New Hampshire 03301-7319
(603) 271-2431

Summary: Liberty performed a management and financial audit of Public Service Company of New Hampshire (*PSNH*) for the Commission. This audit was conducted during the course of the Commission's review of a rate filing by the company. A significant component of this investigation was an examination of the fuel management practices and procedures of the utility that burned a mix of coal, fuel oil and natural gas. The examination of such costs was of material assistance to the Commission in examining the projected profitability of the various business segments under a range of assumptions about the future regulatory and market environments in which those segments would operate. Liberty assumed a principal role in negotiating outstanding restructuring issues and litigation between the NHPUC and PSNH, and is supporting the settlement in testimony before the Commission and the New Hampshire legislature. Liberty also provided on-going oversight of PSNH's preparations to sell its fossil-fueled and hydroelectric power plants through an auction, on behalf of the NHPUC. Monitoring activities included: meeting with PSNH and its investment banker and counsel to check on preparation progress, reviewing draft descriptive memoranda, providing comments to PSNH about terms and conditions of the proposed divestiture, and reporting on progress and issues to the NHPUC's senior Staff.

Client: New Hampshire Public Utilities Commission
Client Contact: ChristiAne G. Mason
New Hampshire Public Utilities Commission
8 Old Suncook Road
Concord, New Hampshire 03301-7319

(603)271-2431
Summary: Liberty conducted a financial audit of the operations of Verizon New Hampshire. The audit included any services provided by affiliates, the allocation of costs between regulated and non-regulated activities, all other expense areas, assets, and revenues. This audit was conducted in the context of the company and Commission considering a change from traditional ratemaking.

Client: Nova Scotia Utility and Review Board
Client Contact: Mr. George Smith
Nova Scotia Utility and Review Board
3rd Floor, 1601 Lower Water Street
P.O. Box 1692, Unit "M"
Halifax, Nova Scotia B3J 3S3
(902) 424-4448
Summary: Liberty conducted a review and analysis of the utility's affiliate transactions report to the board. The work included filing and reviewing the responses to supplemental information requests, a meeting with the company to discuss the operations of one of its major non-utility subsidiaries, an examination of allocations, and detailed questions about certain test transactions. Liberty filed with the board a report of its findings and recommendations for further inquiries.

Client: Pennsylvania Public Utility Commission ***(auditing West Penn Power Company)***
Client Contact: Glenn Bartron, Bureau of Audits
Pennsylvania Public Utility Commission
P.O. Box 3265
Harrisburg, Pennsylvania 17120
(717) 783-5000
Summary: Liberty performed a broadly-based management and operations audit of all areas of the company, including activities of the Allegheny Power System of which West Penn Power Company is a part. Additionally, special focus areas included affiliate costs, staffing and compensation, management information services, bulk power transactions, engineering and construction, transmission and distribution, Clean Air Act Amendment planning, and power interruptions.

Clients: Pennsylvania Public Utility Commission ***(auditing Bell Atlantic - Pennsylvania)*** and District of Columbia Public Service Commission ***(auditing Bell Atlantic - District of Columbia)***
Client Contacts: Kathy Swords, Bureau of Audits (PA) and Dwayne Boyd, Chief Auditor (D.C.)
Pennsylvania Public Utility Commission
901 N. Seventh Street - Rear
Harrisburg, Pennsylvania 17105-3265
(717) 772-0315

Public Service Commission of the District of Columbia
450 5th Street, N.W.
Washington, D.C. 20001
(202) 626-5100
Summary: Liberty performed a comprehensive management audit of the functional operations of Bell Atlantic - Pennsylvania and Bell Atlantic - District of Columbia, operating companies of Bell Atlantic, one of the largest telecommunications organizations in the world. The audit included in-depth reviews of accounting functions and finance, including cost accounting, managerial accounting, budgeting and control, internal auditing, rates, cash management, financial-requirements planning, financing methods, and asset transfers. Liberty's review of compensation and benefits was performed because the area was identified as a special area warranting focused review. The review also included an in-depth analysis of the relationships and transactions of Bell Atlantic - Pennsylvania and Bell Atlantic - District of Columbia and their Bell Atlantic affiliates.

Client: Tennessee Public Service Commission ***(auditing United Cities Gas Company)***
Client Contact: William H. Novak, Utility Rate Division Manager
Tennessee Public Service Commission

460 James Robertson Parkway
Nashville, Tennessee 37243-0505
(615) 741-2792

Summary: This comprehensive management audit covered the traditional functional areas of executive management and corporate planning, financial systems, system operations, customer services, human resources, and support functions, as well as specific issues, including: main extension policies; vehicle management; affiliate interests and leases; advertising, sales, and promotion expenses; continuing property records; procurement and vendor relations; comparative rates; and comparative salaries and wages. Liberty's review of financial systems included requirements planning, accounting, budget management and control, rates, internal auditing, cash management, taxes, forecasting, compensation and benefits, and construction management. United Cities Gas Company accepted most of Liberty's 70 recommendations for improvements. The Tennessee Public Service Commission asked Liberty's consultants to testify on a few areas of disagreement as expert witnesses in a rate case.

Client: Virginia State Corporation Commission ***(examining relationships between Virginia Power Company and its parent company, Dominion Resources, Inc.)***
Client Contact: James Douglas
Virginia State Corporation Commission
Box 1197
Richmond, Virginia 23209
(804) 371-9422

Summary: Liberty examined corporate and financial relationships between Dominion Resources, Inc. *(DRI)* and its wholly-owned and largest subsidiary, Virginia Power Company, in the wake of an unprecedented public dispute between the two about control over public utility operations. This unique study, which Liberty performed for the State Corporation Commission, addressed all significant facets of the corporate governance, operating relationships, and affiliate-arrangement interrelationships between the two. Liberty specifically examined whether organization, staffing, planning, and authority for conducting activities gave Virginia Power adequate authority and capability to move forward in a changing electric utility environment. Among the authorities Liberty examined were the arrangements governing the operations of the Treasury and Cash Management departments. Liberty performed its study at the same time that Virginia Power was undergoing a major strategic planning effort specifically designed to assist it in preparing to meet the challenges of a more competitive marketplace. This was another study that Liberty had to complete in only a few months because of the tremendous notoriety that the issues had attracted in the news media and state legislature.

6. Procurement Audits

Client: Arizona Corporation Commission
Client Contact: Chris Kempley, General Counsel
Arizona Corporation Commission
Utilities Division
1200 West Washington
Phoenix, AZ 85007-2996
(602)542-4251

Summary: Liberty completed audits relating to fuel procurement and management and on rate and regulatory accounting for related costs at Arizona Public Service Company for the Arizona Corporation Commission. The fuel and purchased power audit included extensive reviews of all physical and financial transactions of both the utility and a wholesale marketing affiliate, including the relationship between the two entities.

Client: Nova Scotia Utility and Review Board
Client Contact: Mr. Ross Young
Nova Scotia Utility and Review Board
3rd Floor, 1601 Lower Water Street
P.O. Box 1692, Unit "M"
Halifax, Nova Scotia B3J 3S3
(902) 424-4448

Summary: Liberty performed a review of affiliate relationship of Nova Scotia Power for the Nova Scotia Utility and Review Board. This review included examinations of procurement activities (both power and natural gas), and affiliate transactions, including those with a wholesale marketing affiliate.

Client: Illinois Commerce Commission
Client Contact: Bill Voss
527 East Capitol Avenue
Springfield, IL 62701
Phone: (217) 782-2061

Summary: Liberty performed for the Illinois Commerce Commission a major focused audit of natural gas forecasting, portfolio design and implementation, gas purchase and sale transactions, controls, organization and staffing, asset management, off-system sales, storage optimization, and all other issues related to gas supply over a period of eight years.

Client: Public Utilities Commission of Ohio (***auditing Dominion East Ohio Gas***)
Client Contact: Thomas C. Pearce II, Natural Gas Specialist
Public Utilities Commission of Ohio
180 East Broad Street
Columbus, Ohio 43215-3793
(614) 466-1846

Summary: Liberty performed the 2005 Gas Cost Recovery management/performance audit of Dominion East Ohio Gas Company for the Public Utilities Commission of Ohio. The areas of focus of the audit included supply planning; organization, staffing and controls; management of gas transportation assets; commodity procurement, pricing and price risk management; and operational issues. The overall mission of the audit was to assess the Company's effectiveness in natural gas procurement and determine if the Company was able to achieve an adequate and reliable supply of gas at minimum prices, while at the same time minimizing transition costs associated with the Choice Program. The audit also addressed revenues generated from non-traditional capacity and commodity arrangements. Liberty did find that internal controls were weak, and that steps should be taken to improve documentation associated with the utility's gas buying strategies. Liberty's report to the Commission also documented those areas where management and operations were working effectively and efficiently.

Client: State Corporation Commission Commonwealth of Virginia ***(evaluation of Virginia Natural Gas' Asset Management Agreement)***
Client Contact: Lawrence Oliver, Assistant Director, Division of Economics & Finance
State Corporation Commission Commonwealth of Virginia
P.O. Box 1197
Richmond, VA 23218
(804) 371-9358

Summary: Liberty worked with staff of the Virginia State Corporation Commission to evaluate the services of an affiliate providing gas portfolio management services under an asset management agreement with Virginia Natural Gas, an operating utility subsidiary of Atlanta-based AGLR.

Client: New Hampshire Public Utilities Commission ***(Focused Audit of EnergyNorth Natural Gas, Inc.)***
Client Contact: Stephen Frink, Assistant Director, Gas & Water Division
New Hampshire Public Utilities Commission
21 South Fruit Street
Concord, NH 03301-2429
(603) 271-7965

Summary: Liberty assisted the Commission's Staff in evaluating the demand forecasting and gas-supply planning of EnergyNorth Natural Gas Company, Inc. (*ENGI*), the New Hampshire subsidiary of KeySpan Energy Delivery New England. As part of that review, Liberty evaluated ENGI's use of a Gas Resource Portfolio Management and Gas Purchase Agreement between ENGI and Entergy-Koch Trading, an asset manager. The review was conducted as part of a formal investigation of these issues conducted by the New Hampshire PUC. The Liberty team filed a report and presented testimony in the investigation proceeding, and in related purchased-gas-cost recovery proceedings. The issues in the associated proceedings were settled between the Staff and the Company, to the satisfaction of the

Commission.

Client: Tennessee Public Service Commission ***(auditing United Cities Gas Company)***
Client Contact: William H. Novak, Utility Rate Division Manager
Tennessee Public Service Commission
460 James Robertson Parkway
Nashville, Tennessee 37243-0505
(615) 741-2792

Summary: This comprehensive management audit covered the traditional functional areas of executive management and corporate planning, financial systems, system operations, customer services, human resources, and support functions, as well as specific issues, including: main extension policies; vehicle management; affiliate interests and leases; advertising, sales, and promotion expenses; continuing property records; procurement and vendor relations; comparative rates; and comparative salaries and wages. Liberty's review of financial systems included requirements planning, accounting, budget management and control, rates, internal auditing, cash management, taxes, forecasting, compensation and benefits, and construction management. United Cities Gas Company accepted most of Liberty's 70 recommendations for improvements. The Tennessee Public Service Commission asked Liberty's consultants to testify on a few areas of disagreement as expert witnesses in a rate case.

Client: Connecticut Department of Public Utility Control ***(auditing Southern Connecticut Natural Gas Company)***
Client Contact: David Shapiro
Connecticut Department of Public Utility Control
Utilities Operations and Management Analysis Unit
10 Franklin Square
New Britain, Connecticut 06051
(860) 827-2687

Summary: Liberty conducted a comprehensive diagnostic management audit of Southern Connecticut Natural Gas Company *(SCG)*. The scope of the study also included the following special issues: policies and procedures in the area of credit and collections and the collection of uncollectibles; expenditures for coal-tar remediation; the internal-audit function; purchasing and contracting; SCG's new service center in Orange; SCG's customer-service center in Bridgeport, with particular attention on how complaints, terminations, inquiries, and billing disputes are handled; how SCG is preparing to unbundle its services; and gas-procurement operations, in light of increasing competition and FERC orders, including FERC Order 636.

Client: Public Utilities Commission of Ohio (***auditing Vectren Energy Delivery of Ohio, Inc***.)
Client Contact: Thomas C. Pearce II, Natural Gas Specialist
Public Utilities Commission of Ohio
180 East Broad Street
Columbus, Ohio 43215-3793
(614) 466-1846

Summary: Liberty conducted the 2002 Gas Cost Recovery management/performance audit of Vectren Energy Delivery of Ohio, Inc. The focus areas included supply planning; organization, staffing and control; gas acquisition; transportation; balancing; regulatory management; response to changes in regulation (primarily new Customer Choice programs in Ohio); follow-up to issues raised in the last audit; and several company-specific issues that were important to the PUCO.

Client: Public Utilities Commission of Ohio (***auditing Cincinnati Gas and Electric Company***)
Client Contact: Thomas C. Pearce II, Natural Gas Specialist
Public Utilities Commission of Ohio
180 East Broad Street
Columbus, Ohio 43215-3793
(614) 466-1846

Summary: Liberty conducted the 2003 Gas Cost Recovery management/performance audit of Cincinnati Gas and Electric Company. The focus areas included supply planning; organization, staffing and control; gas acquisition; transportation; balancing; regulatory management; response to changes in regulation (primarily new Customer

Choice programs in Ohio); follow-up to issues raised in the last audit; and several company-specific issues that were important to the PUCO.

Client: The Kentucky Public Service Commission (***auditing 5 major Kentucky LDCs***)
Client Contact: John A. Rogness III, Manager, Management Audit Branch
Kentucky Public Service Commission
211 Sower Boulevard
Frankfort, Kentucky 40601
(502) 564-3940

Summary: Liberty conducted a focused management and process audit of the gas supply and procurement functions of Kentucky's five major gas local distribution companies (collectively referred to as "LDCs") conducted for the Kentucky Public Service Commission (*Commission*). The LDCs include Columbia Gas of Kentucky, Inc. (*Columbia*), Delta Natural Gas Company, Inc. (*Delta*), Louisville Gas and Electric Company (*LG&E*), The Union Light, Heat, and Power Company (*ULH&P*), and Western Kentucky Gas Company (*Western*).

There were two equally important primary objectives in this audit. The first primary objective was to examine and evaluate each of the major Kentucky LDCs' gas planning, procurement, and supply management processes and strategies, and make recommendations on a going forward basis. The Commission was especially concerned about the increased volatility being experienced in wholesale gas markets and how that has been translated to retail markets. The focus of the audit was therefore on determining whether the LDCs' planning, procurement, and supply management organizations were designed to produce a gas supply portfolio which adequately addressed the issues of minimizing cost to retail customers, reasonably mitigating price volatility, and maintaining a reasonable level of reliability.

The second equally important objective was to provide training to select Commission Staff during the course of the audit in order to help Staff understand, review and evaluate LDC gas procurement, gas portfolio management, and gas supply management related issues in the future. This training included both "classroom" training, and also more hands-on type instruction.

Client: Connecticut Department of Public Utility Control
Client Contact: David G. Shapiro
Connecticut Department of Public Utility Control
Utilities Operations and Management Analysis Unit
10 Franklin Square
New Britain, Connecticut 06051
(860) 827-2687

Summary: Liberty served as an extension of the Department's staff in a rate case for Yankee Gas Services Company. Liberty evaluated certain aspects of the company's proposals, through review of filed materials; preparation of interrogatories; conducting cross-examination of company and other witnesses; advising commissioners regarding the appropriate disposition of each aspect; and drafting parts of the Department's final order.

Client: Public Utilities Commission of Ohio ***(auditing Eastern Natural Gas Company and Pike Natural Gas Company)***
Client Contact: Adam Pyles
Public Utilities Commission of Ohio
180 East Broad Street
Columbus, Ohio 43266-0573
(614) 466-8203

Summary: Liberty conducted the 1993 Gas Cost Recovery management/performance audits of Eastern Natural Gas and Pike Natural Gas, which are local distribution operating units of Clearfield Ohio Holdings, Inc. The focus areas included: supply planning, organization, staffing and control, gas acquisition, transportation, unaccounted-for gas, regulatory management, response to changes in regulation (primarily FERC Order 636), follow-up to issues raised in the last audit, and several company-specific issues that were important to the PUCO.

Client: Public Utilities Commission of Ohio (***auditing The East Ohio Gas Company***)
Client Contact: Roger Sarver, GCR Supervisor
Public Utilities Commission of Ohio
180 East Broad Street
Columbus, Ohio 43215-3793
(614) 466-7647

Summary: Liberty conducted the 1999 Gas Cost Recovery management/performance audit of The East Ohio Gas Company, which is one of four local-distribution operating units of Consolidated Natural Gas Company. The focus areas included supply planning; organization, staffing and control; gas acquisition; transportation; balancing; regulatory management; response to changes in regulation (primarily new Customer Choice programs in Ohio); follow-up to issues raised in the last audit; and several company-specific issues that were important to the PUCO.

Client: Wyoming Public Service Commission ***(auditing K N Energy)***
Client Contact: Dave Mosier
Wyoming Public Service Commission
700 West 21st Street
Cheyenne, Wyoming 82002
(307) 777-5709

Summary: Liberty performed an evaluation of gas supply operations at K N Energy, which prior to FERC Order 636 had served as an integrated supply system stretching from Wyoming and Colorado to Kansas. K N Energy had supplied the full range of vertically integrated gas supply functions, including production, gathering, transmission, marketing, sales, and service. The breadth of its operations required it to deal with virtually every facet of operations affected by Order 636. Liberty assisted the Wyoming Commission in examining the implications of the company's post-Order 636 restructuring for the state's gas customers.

7. Customer Service

Client: Colorado Springs Utilities
Client Contact: Bruce J. Swain, Customer Services Director
Colorado Springs Utilities
111 South Cascade Avenue, Suite 208
Colorado Springs, Colorado 80947-1026
(719) 448-8205

Summary: Liberty performed a study to assist this utility in addressing the organizational impacts associated with a transition to automated meter reading *(AMR)*. Transitions to AMR mean organizational change and consideration of the issues of human-resource management in conjunction with technical changes were a large part of this work. This study also addressed the technical compatibility between meters and the three different metered-utility services (electric, gas, and water), and how these technical issues will influence operational techniques, management philosophy, and organizational interfaces. Liberty's work included a survey of the experiences and lessons learned by about 25 utilities who have already adopted AMR.

Client: Connecticut Department of Public Utility Control ***(auditing Southern Connecticut Natural Gas Company)***
Client Contact: David Shapiro
Connecticut Department of Public Utility Control
Utilities Operations and Management Analysis Unit
10 Franklin Square
New Britain, Connecticut 06051
(860) 827-2687

Summary: Liberty conducted a comprehensive diagnostic management audit of Southern Connecticut Natural Gas Company *(SCG)*. The scope of the study also included the following special issues: policies and procedures in the area of credit and collections and the collection of uncollectibles; expenditures for coal-tar remediation; the internal-audit function; purchasing and contracting; SCG's new service center in Orange; SCG's customer-service center in Bridgeport, with particular attention on how complaints, terminations, inquiries, and billing disputes are handled;

how SCG is preparing to unbundle its services; and gas-procurement operations, in light of increasing competition and FERC orders, including FERC Order 636.

Client: The Dayton Power and Light Company
Client Contact: Judy W. Lansaw, Group Vice President
The Dayton Power and Light Company
P. O. Box 8825
Dayton, Ohio 45401
(513) 259-7201

Summary: Liberty assisted this combination gas- and electric-utility company with a review of its strategy for its gas business. The focus of this review was preparing for competition. Principal areas of concern were gas-main extension policy, gas rates and service offerings, financial performance of the gas business, the company's approach to gas marketing, and the potential for competitors to affect the company's electric business.

Client: Kentucky Public Service Commission ***(auditing East Kentucky Power Cooperative, Inc.)***
Client Contact: Charles Bright, Staff Project Officer
Kentucky Public Service Commission
211 Sower Boulevard
Frankfort, Kentucky 40601
(502) 564-3940

Summary: Liberty completed the 2001 management and operations audit of East Kentucky Power Cooperative, Inc. (*EKPC*). EKPC is a 2300 MW not-for-profit generation and transmission cooperative supplying electric power to 17 member distribution cooperatives and non-member utilities. The overall objective of this project was to perform a detailed, focused review of EKPC's efforts to prepare itself to effectively compete in deregulated energy markets and its efforts to enhance the quality and delivery of services offered to its member cooperatives and their customers.

Client: New Hampshire Public Utilities Commission *(NHPUC)*
Client Contact: Thomas B. Getz, Chairman
New Hampshire Public Utilities Commission
8 Old Suncook Road
Building No. 1
Concord, New Hampshire 03301-7319
(603) 271-2431

Summary: Liberty performed a management and financial audit of Public Service Company of New Hampshire (*PSNH*) for the Commission. This audit was conducted during the course of the Commission's review of a rate filing by the company. A significant component of this investigation was an examination of the fuel management practices and procedures of the utility that burned a mix of coal, fuel oil and natural gas. The examination of such costs was of material assistance to the Commission in examining the projected profitability of the various business segments under a range of assumptions about the future regulatory and market environments in which those segments would operate. Liberty assumed a principal role in negotiating outstanding restructuring issues and litigation between the NHPUC and PSNH, and is supporting the settlement in testimony before the Commission and the New Hampshire legislature. Liberty also provided on-going oversight of PSNH's preparations to sell its fossil-fueled and hydroelectric power plants through an auction, on behalf of the NHPUC. Monitoring activities included: meeting with PSNH and its investment banker and counsel to check on preparation progress, reviewing draft descriptive memoranda, providing comments to PSNH about terms and conditions of the proposed divestiture, and reporting on progress and issues to the NHPUC's senior Staff.

Client: New York Public Service Commission ***(auditing New York State Electric & Gas Corp.)***
Client Contact: Ron Pelinski, Management Audit Section
New York Public Service Commission
State of New York
Three Empire Plaza
Albany, New York 12223
(518) 486-2480

Summary: Liberty performed a comprehensive management and operations audit of all areas of the company affected by a major corporate reorganization. Additional, special focus areas included business unit restructuring, change management, performance planning and measurement, human resources, construction program planning, affiliate transactions, and central services for multiple utility and non-utility units.

Client: The New York Public Service Commission ***(auditing Central Hudson Gas & Electric)***
Client Contact: James Lyons, Management Audit Section
New York Public Service Commission

Three Empire Plaza
Albany, New York 12223
(518) 486-2480

Summary: Liberty performed a management and operations study of Central Hudson Gas & Electric, focusing on the designated areas of human resources, construction program planning, corporate budgeting, consumer services, computerized information systems, and economic development.

Client: Office of the State Comptroller ***(auditing the New York Power Authority)***
Client Contact: Gerald Tysiak, Audit Manager
Office of the State Comptroller, State of New York
A. E. Smith State Office Building
Albany, New York 12236
(518) 473-6015

Summary: Liberty conducted the 2002 management audit of New York Power Authority *(NYPA)*, the nation's largest non-federal public-power organization in the United States. NYPA operates 10 generating facilities that produce one quarter of the electricity consumed in the state of New York. The purpose of the audit was to evaluate NYPA's plans to build and operate power plants in New York City. NYPA's plans were evaluated and compared to ther power supply alternatives available. Liberty concluded that NYPA management had not effectively evaluated its power market alternatives prior to committing to its power.

Client: Public Utilities Commission of Ohio
Client Contact: Jason Well, Staff
Public Utilities Commission of Ohio
180 East Broad Street, 7th Floor
Columbus, OH 43215-3793
614-995-5707

Summary: Liberty performed a comprehensive investigation of Ameritech-Ohio's service delivery quality. This engagement included an assessment of Ameritech-Ohio's installation and repair operations and processes, and an in-depth review of performance measures and service quality benchmarks.

Client: Pennsylvania Public Utility Commission ***(auditing West Penn Power Company)***
Client Contact: Glenn Bartron, Bureau of Audits
Pennsylvania Public Utility Commission
P.O. Box 3265
Harrisburg, Pennsylvania 17120
(717) 783-5000

Summary: Liberty performed a broadly-based management and operations audit of all areas of the company, including activities of the Allegheny Power System of which West Penn Power Company is a part. Additionally, special focus areas included affiliate costs, staffing and compensation, management information services, bulk power transactions, engineering and construction, transmission and distribution, Clean Air Act Amendment planning, and power interruptions.

Clients: Pennsylvania Public Utility Commission ***(auditing Bell Atlantic - Pennsylvania)*** and District of Columbia Public Service Commission ***(auditing Bell Atlantic - District of Columbia)***
Client Contacts: Kathy Swords, Bureau of Audits (PA) and Dwayne Boyd, Chief Auditor (D.C.)
Pennsylvania Public Utility Commission

901 N. Seventh Street - Rear
Harrisburg, Pennsylvania 17105-3265
(717) 772-0315

Public Service Commission of the District of Columbia
450 5th Street, N.W.
Washington, D.C. 20001
(202) 626-5100

Summary: Liberty performed a comprehensive management audit of the functional operations of Bell Atlantic - Pennsylvania and Bell Atlantic - District of Columbia, operating companies of Bell Atlantic, one of the largest telecommunications organizations in the world. The audit included in-depth reviews of accounting functions and finance, including cost accounting, managerial accounting, budgeting and control, internal auditing, rates, cash management, financial-requirements planning, financing methods, and asset transfers. Liberty's review of compensation and benefits was performed because the area was identified as a special area warranting focused review. The review also included an in-depth analysis of the relationships and transactions of Bell Atlantic - Pennsylvania and Bell Atlantic - District of Columbia and their Bell Atlantic affiliates.

Client: City of Stillwater, Oklahoma
Client Contact: Carl Weinang, City Manager
P.O. Box 1449
723 South Lewis
Stillwater, Oklahoma 74074
(405) 742-8201

Summary: To help the City of Stillwater prepare for changes in the electric-power industry, Liberty performed a competitive assessment of its electric utility. The municipality owns and operates about 30 megawatts of generation, and purchases a considerable amount of electricity. Loss of any of the utility's large industrial customers would threaten the revenue stream the city derives from operations. Liberty, in a teaming arrangement with another consultant, evaluated operations efficiency, developed a strategy to improve competitiveness, and helped the utility move to a more-competitive business position. All business and operations functions were evaluated, with particular emphasis on customer service, management of key industrial accounts, operations efficiency, maintenance policies and practices, and work-control and workforce management.

Client: Tennessee Public Service Commission ***(auditing United Cities Gas Company)***
Client Contact: William H. Novak, Utility Rate Division Manager
Tennessee Public Service Commission
460 James Robertson Parkway
Nashville, Tennessee 37243-0505
(615) 741-2792

Summary: This comprehensive management audit covered the traditional functional areas of executive management and corporate planning, financial systems, system operations, customer services, human resources, and support functions, as well as specific issues, including: main extension policies; vehicle management; affiliate interests and leases; advertising, sales, and promotion expenses; continuing property records; procurement and vendor relations; comparative rates; and comparative salaries and wages. Liberty's review of financial systems included requirements planning, accounting, budget management and control, rates, internal auditing, cash management, taxes, forecasting, compensation and benefits, and construction management. United Cities Gas Company accepted most of Liberty's 70 recommendations for improvements. The Tennessee Public Service Commission asked Liberty's consultants to testify on a few areas of disagreement as expert witnesses in a rate case.

B. Electric Utility Projects

Client: Illinois Commerce Commission
Client Contact: Roy Buxton
Illinois Commerce Commission
527 E. Capitol Avenue

Springfield, IL 62706
(217) 785-5424

Summary: Liberty was selected by the Illinois Commerce Commission to perform an audit of whether Ameren Illinois appropriately planned, designed, constructed, inspected, and maintained their electric delivery systems, and specifically, whether Ameren Illinois adequately planned, prepared, and executed storm-service restoration efforts following a July 2006 windstorm and a November 2006 ice storm that affected hundreds of thousands of customers. The windstorm caused service interruptions to almost one million customers in St. Louis and parts of southern and central Illinois. Over 300,000 electric customers lost service in Illinois. Restoring service completely took over a week. The winter storm caused nearly 235,000 Ameren Illinois customers to lose electric service and caused extensive tree damage, broken poles, downed lines, and the loss of nearly 100 distribution feeder circuits. On December 4, the company announced that about 150,000 customers remained without electric service.

Liberty's audit includes reviews of Storm Description and Analysis, T&D Planning, Design and Construction, Maintenance, Integrity and System Conditions, Emergency Planning, and Restoration Performance.

Client: Illinois Commerce Commission
Client Contact: Roy Buxton
Illinois Commerce Commission
527 E. Capitol Avenue
Springfield, IL 62706
(217) 785-5424

Summary: Liberty conducted a comprehensive investigation into the reliability of Commonwealth Edison's transmission and distribution systems. This year-long project involved all aspects of the design, planning, management, operation, and maintenance of T&D systems and components. There are two follow-on projects to this original project. The first is an ongoing audit to assess ComEd's compliance with Liberty's recommendations from the first audit. The second project is Liberty's audit of the transmission and distribution revenue requirements of ComEd with respect to the proper revenue requirements associated with ComEd's reliability programs, as analyzed in the first referenced project.

Client: Illinois Commerce Commission
Client Contact: Roy Buxton
Illinois Commerce Commission
527 E. Capitol Avenue
Springfield, IL 62706
(217) 785-5424

Summary: Liberty investigated the causes of a substation outage that affected downtown Chicago in 2000. Liberty also evaluated and made recommendations regarding the corrective actions that the utility should take to prevent similar occurrences.

Client: Illinois Commerce Commission (***auditing Commonwealth Edison***)
Client Contact: John Stutsman
Illinois Commerce Commission
527 E. Capitol Avenue
Springfield, IL 62706
(217) 524-0337

Summary: Liberty conducted a focused audit of Commonwealth Edison's transmission protection system. This project involved an evaluation of the design and maintenance of the protection against cascading electric outages. It also included an assessment of the ratings used on protective equipment, studies of the stability of the electric delivery system, and the settings of protective relays.

Client: Illinois Commerce Commission (***auditing Commonwealth Edison***)
Client Contact: John Stutsman
Illinois Commerce Commission
527 E. Capitol Avenue
Springfield, IL 62706

(217) 524-0337
Summary: Liberty performed a root cause analysis of a substation fire that left many customers without power, some for up to two days. Liberty's work included an assessment of the likelihood of similar events and a method to prioritize mitigation efforts. Liberty also provided a template for evaluating the complete loss of any substation.

Client: Public Utilities Commission, State of Maine ***(auditing Four Maine Electric Utilities)***
Client Contacts: Mr. Ralph Howe or Mr. Charles Cohen
Public Utilities Commission, State of Maine
242 State Street, State House Station 18
Augusta, ME 04333
207-287-1371
Summary: Liberty examined the reliability of the T&D systems for the four largest electric utilities in the state of Maine. The review considered budgeting, maintenance, inspections, planning, and other matters.

Client: NorthWestern Energy and Montana PSC ***(auditing NorthWestern Energy)***
Client Contact: Mr. William T. Rhoads, General Manager,
Montana Distribution Operations,
Butte, MT
(406) 497-3496
Summary: Liberty performed an operations audit and reliability assessment of the company's electric and gas T&D systems.

Client: Nova Scotia Utility and Review Board
Client Contact: Mr. George Smith
Nova Scotia Utility and Review Board
3rd Floor, 1601 Lower Water Street
P.O. Box 1692, Unit "M"
Halifax, Nova Scotia B3J 3S3
(902) 424-4448
Summary: Liberty provided an assessment of the transmission system and customer communications of the Nova Scotia Power Inc. This assessment included a broad review transmission system design and engineering, operations, planning, staffing, and maintenance. Liberty also performed specific analyses of (1) the separate effects of the storm resulting from failures in the transmission system and from the distribution system, and (2) the failure of several transmission structures. Liberty testified before the Board regarding its findings and recommendations. As a follow-up to issues raised during the hearings, the Board retained Liberty to (1) conduct an on-site inspection and evaluation of portions of the company's distribution system and to assess the reliability of the distribution system, (2) to perform a structural evaluation of distribution system poles, and (3) to assess the frequency of transmission system relay testing and calibration.

Client: Southern Company Services – Georgia Power Company
Client Contact: Dan Lane
Manager, Internal Auditing
dllane@southernco.com
(205) 257-3011
Summary: Liberty assessed the T&D standards and practices of Georgia Power Company against good utility practices. The review considered all aspects of T&D design, planning, maintenance, and operations.

Client: Southern Company Services – Alabama Power Company
Client Contact: Dan Lane
Manager, Internal Auditing
dllane@southernco.com
(205) 257-3011
Summary: Liberty assessed the T&D standards and practices of Alabama Power Company against good utility practices. The review considered all aspects of T&D design, planning, maintenance, and operations.

Client: Southern Company Services – Alabama Power Company
Client Contact: Dan Lane
Manager, Internal Auditing
dllane@southernco.com
(205) 257-3011

Summary: Liberty assessed the T&D standards and practices of Alabama Power Company against good utility practices. The review considered all aspects of T&D design, planning, maintenance, and operations.

Client: BEC Energy
Client Contacts: Neven Rabadjija, Associate General Counsel
BEC Energy
800 Boylston Street
Boston, Massachusetts 02199
(617) 424-2461

Roscoe Trimmier, Jr., Esq.
Ropes and Gray
One International Place
Boston, Massachusetts 02110
(617) 951-7000

Summary: Liberty supported BEC Energy, an electric utility whose participation in a new non-regulated venture became subject to regulatory scrutiny. This support included efforts in the regulatory proceeding initiated by an information-services competitor and the structuring of the newly-formed holding company.

Client: Belize Electricity Limited
Client Contact: Lynn R. Young, CEO
Belize Electricity Limited
115 Barrack Road
P. O. Box 327
Belize City, Belize, C. A.
(501) 2-33357

Summary: Liberty undertook a re-engineering and organization study for Belize Electricity Limited, the electric utility that serves the country of Belize. Liberty designed a new organization structure for the company. Major areas of emphasis in the re-engineering include customer service (eliminating business offices, reducing theft of service, and improving installations of new services), distribution operations (work management), materials management (forecasting material needs,) economic dispatch and system control, and human-resources management (streamlining and automating transactions).

Client: Rochester Gas & Electric Corporation
Client Contact: Charles Keele
Rochester Gas & Electric Corporation
89 East Avenue
Rochester, NY 14649
(716) 724-8662

Summary: Liberty worked with a group of RG&E managers to re-engineer the project-controls, work-management, and manpower-planning processes for electric T&D operations. The group included the work-scheduling section, general foremen, and T&D department managers. The Liberty/RG&E team built a system that ties together all identified projects, spreads resource requirements across the duration of each project, and calculates aggregate manpower requirements, along with administrative and non-work time, such as training, sick days, safety meetings, *etc*. The idea was to draw together all work requirements, assign priorities, and compare the results to available T&D crews. The project was generated by senior management's concern that labor costs, and specifically contractor crews, were increasing, but projects were not getting accomplished, and outages were too high. Most outages were linked to identified, but still-open, system-deficiency reports. By using the system RG&E was able to eliminate the problems and cut contractor costs in half.

Client: Public Utilities Commission, State of Maine
Client Contacts: Mr. Ralph Howe or Mr. Charles Cohen
Public Utilities Commission, State of Maine
242 State Street, State House Station 18
Augusta, ME 04333
207-287-1371

Summary: Liberty provided technical expertise to the Commission on the public necessity and convenience of a new 345 kV and a new 138 kV transmission interconnection with New Brunswick Power.

Client: Kentucky Public Service Commission ***(auditing Big Rivers)***
Client Contact: John Rogness, Manager – Management Audit Branch
Kentucky Public Service Commission
211 Sower Boulevard
Frankfort, Kentucky 40601
502-564-3940

Summary: Liberty reviewed the Big Rivers' analysis of the ability of existing 161 kV and 69 kV facilities to reliably serve existing and expected load in the Meade County area of Kentucky. Included in the work was Liberty's analysis of Big Rivers' power flow analyses and long range plans. Liberty also performed an assessment of the actual need for the proposed transmission line and alternative solutions, including upgrading existing facilities, wheeling through neighboring systems, as well as the use of generation, in terms of long-range system development.

Client: Kentucky Public Service Commission ***(auditing Louisville Gas and Electric Co. and Kentucky Utilities)***
Client Contact: John Rogness, Manager – Management Audit Branch
Kentucky Public Service Commission
211 Sower Boulevard
Frankfort, Kentucky 40601
502-564-3940

Summary: Liberty reviewed the LG&E/KU analyses of the need for three separate 345 kV and 138 kV transmission lines in Kentucky, and the ability of these proposed lines to reliably serve existing and expected load in Kentucky. Included in the work was Liberty's analysis of the LG&E/KU power flow analyses and long range plans. Also included in Liberty's assessment of the need for the facilities was an evaluation of alternative solutions, including upgrading existing facilities, wheeling through neighboring systems, as well as the use of generation, in terms of long-range system development.

Client: Vermont Public Service Board
Client Contacts: Mr. Michael H. Dworkin, Chairman
Mr. Kurt R. Janson, General Counsel
Vermont Public Service Board
112 State Street
Montpelier, VT 05620
802-828-2358

Summary: Liberty provided technical expertise to the Commission on the public necessity and convenience of a new 345 kV and a new 138 kV transmission interconnection with New Brunswick Power.

Client: Nova Scotia Utility and Review Board
Client Contact: Mr. George Smith
Nova Scotia Utility and Review Board
3rd Floor, 1601 Lower Water Street
P.O. Box 1692, Unit "M"
Halifax, Nova Scotia B3J 3S3
(902) 424-4448

Summary: Liberty completed providing assistance to the Nova Scotia Utility and Review Board on a project associated with the 2005 Rate Application of Nova Scotia Power Inc. Liberty's focus on this project was on the fuel aspects of the rate application including the costs of coal, oil and natural gas. Liberty also evaluated the Fuel Adjustment Mechanism proposed by Nova Scotia Power. During the course of the project, Liberty prepared

information requests, reviewed the information requests submitted by others, and provided expert testimony during the hearing associated with the rate application.

Client: Illinois Commerce Commission ***(auditing Commonwealth Edison Company)***
Client Contact: Tony Visnesky, Manager of Energy Programs
Illinois Commerce Commission
527 East Capitol Avenue
Springfield, Illinois 62794-9280
(217) 782-1021

Summary: Liberty conducted an evaluation of the reasonableness of nuclear-plant management and the costs of significant modifications to operating nuclear-power plants. The review involved a comprehensive assessment, beginning with the initial decision to undertake each project, an analysis of the subsequent decisions to continue the project, and an evaluation of the management, financing, and start-up of each project. The evaluations focused on Commonwealth Edison Company's Zion and Dresden nuclear stations. (Both of these plants have been on the NRC's Watch List.) Liberty presented the results of its review in testimony before the ICC.

Client: Pennsylvania Public Utility Commission under subcontract to Deloitte & Touche ***(auditing Metropolitan Edison Company and Pennsylvania Electric Company)***

Client Contacts:

Glenn Bartron, Director, Bureau of Audits
Pennsylvania Public Utility Commission
P.O. Box 3265
Harrisburg, Pennsylvania 17120
(717) 783-5000

Ken Hagstrom, Partner Deloitte & Touche
Deloitte & Touche
1700 Market Street, 24th floor
Philadelphia, Pennsylvania
(215) 246-2351

Summary: Liberty performed the review of nuclear-fuel procurement and management, and played a key role in the review of planning, forecasting, and demand management, both of which involved service company or multiple-operating-company coordination in a multi-state holding-company structure.

Client: Kentucky Public Service Commission ***(auditing Kentucky Utilities Company & Louisville Gas & Electric Company)***
Client Contact: John Rogness, Manager – Management Audit Branch
Kentucky Public Service Commission
211 Sower Boulevard
Frankfort, Kentucky 40601
(502) 564-3940

Summary: Liberty completed a focused management audit that examined all operational and managerial aspects of the fuel procurement functions of KU and LG&E. The audit included an examination of the organizational structure and the operational interrelationship of fuel procurement management among LG&E Energy, KU and LG&E. Although the greatest effort of the audit was a focus on coal procurement, the procurement of natural gas and fuel oil was included as well.

Client: Public Utilities Commission of Ohio (***auditing Columbus Southern Power Company and Ohio Power Company - both subsidiaries of AEP)***
Client Contact: Raymond Strom, EFC Supervisor
Public Utilities Commission of Ohio
180 East Broad Street
Columbus, Ohio 43215-3793
(614) 466-7707

Summary: Liberty performed the 1999 management and performance audit of fuel-related policies and practices of Columbus Southern Power Company and Ohio Power Company, both subsidiaries of American Electric Power Company, Inc. This audit sought to determine whether fuel-management practices and policies were reasonably designed to assure availability of sufficient fuel supplies of adequate quality to permit efficient operation of electric-generating stations at the least cost. Important to the audit were the coal related transactions with affiliated coal mining operations. The audit also sought to determine whether bulk-power system dispatch, economy sales, and emergency and reliability transfers were conducted to promote least-cost operation, and whether plans and activities for compliance with the Clean Air Act Amendments were reasonably designed and cost-effective. The audit resulted in a report used in the Public Utilities Commission of Ohio's EFC hearing.

Client: Public Utilities Commission of Ohio ***(auditing Cincinnati Gas & Electric Company)***
Client Contact: Raymond Strom, EFC Supervisor
Public Utilities Commission of Ohio
180 East Broad Street
Columbus, Ohio 43266-0573
(614) 466-7707

Summary: Liberty performed the 1999 management and performance audit of fuel-related policies and practices of Cincinnati Gas & Electric Company. This audit sought to determine whether fuel-management practices and policies were reasonably designed to assure availability of sufficient fuel supplies of adequate quality to permit efficient operation of electric-generating stations at the least cost. The audit also sought to determine whether bulk-power system dispatch, economy sales, and emergency and reliability transfers were conducted to promote least-cost operation, and whether plans and activities for compliance with the Clean Air Act Amendments were reasonably designed and cost-effective. The audit resulted in a report used in the Public Utilities Commission of Ohio's EFC hearing.

Client: Public Utilities Commission of Ohio ***(auditing Monongahela Power Company)***
Client Contact: Raymond Strom, EFC Supervisor
Public Utilities Commission of Ohio
180 East Broad Street
Columbus, Ohio 43266-0573
(614) 466-7534

Summary: Liberty performed the 1997 and 1998 management and performance audits of fuel-related policies and practices of Monongahela Power Company. These audits seek to determine whether fuel-management practices and policies are reasonably designed to assure availability of sufficient fuel supplies of adequate quality to permit efficient operation of electric-generating stations at the least cost. The audits also seek to determine whether bulk-power system dispatch, economy sales, and emergency and reliability transfers are conducted to promote least-cost operation, and whether plans and activities for compliance with the Clean Air Act Amendments are reasonably designed and cost effective. The audits resulted in reports used in the Public Utilities Commission of Ohio's EFC hearings.

Client: Public Utilities Commission of Ohio ***(auditing Ohio Edison Company)***
Client Contact: Raymond Strom, EFC Supervisor
Public Utilities Commission of Ohio
180 East Broad Street
Columbus, Ohio 43266-0573
(614) 466-7534

Summary: Liberty performed the 1995 management and performance audit of fuel-related policies and practices of Ohio Edison Company. This audit sought to determine whether fuel management practices and policies were reasonably designed to assure availability of sufficient fuel supplies of adequate quality to permit efficient operation of electric generating stations at the least cost. The audit sought to determine whether bulk power system dispatch, economy sales, and emergency and reliability transfers were conducted to promote least-cost operation and to determine whether plans and activities for Clean Air Act Amendments compliance were reasonably designed and cost effective. This audit resulted in a report used in the Public Utilities Commission of Ohio's EFC hearings.

Client: Public Utilities Commission of Ohio ***(auditing Cleveland Electric Illuminating Company and Toledo Edison Company)***
Client Contact: Raymond Strom, EFC Supervisor
Public Utilities Commission of Ohio
180 East Broad Street
Columbus, Ohio 43266-0573
(614) 466-7534

Summary: Liberty performed the 1993 and 1994 fall series management and performance audits of fuel related policies and practices of Cleveland Electric Illuminating and Toledo Edison. These audits seek to determine whether fuel management practices and policies are reasonably designed to assure the availability of sufficient fuel stocks of adequate quality efficiently and at least cost, and whether bulk power system dispatch, economy of sales and

emergency and reliability transfers are conducted to promote least cost operation and to determine whether plans for Clean Air Act Amendments compliance are designed to capture the most reasonable and cost effective manner. These audits resulted in reports used in the Public Utilities Commission of Ohio's EFC hearings.

Client: Illinois Commerce Commission ***(auditing Illinois Power Company)***
Client Contact: Michael Adams, Manager, Management Studies Division
Illinois Commerce Commission
527 East Capital Avenue
Springfield, Illinois 62794-9280
(217) 782-0595

Summary: Liberty conducted an independent review of Illinois Power Company's plans to comply with the Clean Air Act Amendments of 1990 by installing pollution control devices at the Baldwin Station. The investigation assessed the reasonableness of IPC's selected technology, plans and estimates to ensure that IPC provides reliable, efficient, utility service at the least-cost to customers. Liberty's work contributed to the utility's decision to alter its plans and change to a more cost effective approach.

Client: Maryland Public Service Commission ***(auditing Baltimore Gas & Electric Company)***
Client Contacts: Allen Freifeld and Ronald Alper
Maryland Public Service Commission
6 St. Paul Center
Baltimore, Maryland 21202
(410) 767-8000

Summary: Liberty performed for the Maryland Public Service Commission an extensive review of management and the productive capacity of Baltimore Gas & Electric Company's *(BG&E)* Calvert Cliffs Nuclear Power Plant. The focus of the study concerns issues and events pertinent to extended outages at both units of Calvert Cliffs. Testimony has been filed in a BG&E fuel rate adjustment proceeding.

C. Natural Gas Distribution Company Projects

Client: Public Utilities Commission of Ohio (***auditing Cincinnati Gas and Electric Company***)
Client Contact: Thomas C. Pearce II, Natural Gas Specialist
Public Utilities Commission of Ohio
180 East Broad Street
Columbus, Ohio 43215-3793
(614) 466-1846

Summary: Liberty conducted the 2003 Gas Cost Recovery management/performance audit of Cincinnati Gas and Electric Company. The focus areas included supply planning; organization, staffing and control; gas acquisition; transportation; balancing; regulatory management; response to changes in regulation (primarily new Customer Choice programs in Ohio); follow-up to issues raised in the last audit; and several company-specific issues that were important to the PUCO.

Client: The Kentucky Public Service Commission (***auditing 5 major Kentucky LDCs***)
Client Contact: John A. Rogness III, Manager, Management Audit Branch
Kentucky Public Service Commission
211 Sower Boulevard
Frankfort, Kentucky 40601
(502) 564-3940

Summary: Liberty conducted a focused management and process audit of the gas supply and procurement functions of Kentucky's five major gas local distribution companies (collectively referred to as "LDCs") conducted for the Kentucky Public Service Commission (*Commission*). The LDCs include Columbia Gas of Kentucky, Inc. (*Columbia*), Delta Natural Gas Company, Inc. (*Delta*), Louisville Gas and Electric Company (*LG&E*), The Union Light, Heat, and Power Company (*ULH&P*), and Western Kentucky Gas Company (*Western*).

There were two equally important primary objectives in this audit. The first primary objective was to examine and evaluate each of the major Kentucky LDCs' gas planning, procurement, and supply management processes and strategies, and make recommendations on a going forward basis. The Commission was especially concerned about the increased volatility being experienced in wholesale gas markets and how that has been translated to retail markets. The focus of the audit was therefore on determining whether the LDCs' planning, procurement, and supply management organizations were designed to produce a gas supply portfolio which adequately addressed the issues of minimizing cost to retail customers, reasonably mitigating price volatility, and maintaining a reasonable level of reliability.

The second equally important objective was to provide training to select Commission Staff during the course of the audit in order to help Staff understand, review and evaluate LDC gas procurement, gas portfolio management, and gas supply management related issues in the future. This training included both "classroom" training, and also more hands-on type instruction.

Client: Connecticut Department of Public Utility Control
Client Contact: David G. Shapiro
Connecticut Department of Public Utility Control
Utilities Operations and Management Analysis Unit
10 Franklin Square
New Britain, Connecticut 06051
(860) 827-2687

Summary: Liberty served as an extension of the Department's staff in a rate case for Yankee Gas Services Company. Liberty evaluated certain aspects of the company's proposals, through review of filed materials; preparation of interrogatories; conducting cross-examination of company and other witnesses; advising commissioners regarding the appropriate disposition of each aspect; and drafting parts of the Department's final order.

Client: Public Utilities Commission of Ohio ***(auditing The East Ohio Gas Company***)
Client Contact: Roger Sarver, GCR Supervisor
Public Utilities Commission of Ohio
180 East Broad Street
Columbus, Ohio 43215-3793
(614) 466-7647

Summary: Liberty conducted the 1999 Gas Cost Recovery management/performance audit of The East Ohio Gas Company, which is one of four local-distribution operating units of Consolidated Natural Gas Company. The focus areas included supply planning; organization, staffing and control; gas acquisition; transportation; balancing; regulatory management; response to changes in regulation (primarily new Customer Choice programs in Ohio); follow-up to issues raised in the last audit; and several company-specific issues that were important to the PUCO.

Client: Wyoming Public Service Commission ***(auditing K N Energy)***
Client Contact: Dave Mosier
Wyoming Public Service Commission
700 West 21st Street
Cheyenne, Wyoming 82002
(307) 777-5709

Summary: Liberty performed an evaluation of gas supply operations at K N Energy, which prior to FERC Order 636 had served as an integrated supply system stretching from Wyoming and Colorado to Kansas. K N Energy had supplied the full range of vertically integrated gas supply functions, including production, gathering, transmission, marketing, sales, and service. The breadth of its operations required it to deal with virtually every facet of operations affected by Order 636. Liberty assisted the Wyoming Commission in examining the implications of the company's post-Order 636 restructuring for the state's gas customers.

Client: Philadelphia Gas Commission
Client Contact: G. Christian Kimmerle, Executive Director
Philadelphia Gas Commission
1600 Arch Street, 2nd Floor
Philadelphia, PA 19103-2028

(215) 686-0909
Summary: Liberty made a presentation at a retreat the Commission sponsored. Participants included Commissioners, Staff, the executive management of the Philadelphia Gas Works, members of the City Council, and consumer advocates. The topic of the presentation was who will pay for social programs as the provision of utility services becomes competitive.

Client: Public Utilities Commission of Ohio ***(auditing Eastern Natural Gas Company and Pike Natural Gas Company)***
Client Contact: Adam Pyles
Public Utilities Commission of Ohio
180 East Broad Street
Columbus, Ohio 43266-0573
(614) 466-8203
Summary: Liberty conducted the 1993 Gas Cost Recovery management/performance audits of Eastern Natural Gas and Pike Natural Gas, which are local distribution operating units of Clearfield Ohio Holdings, Inc. The focus areas included: supply planning, organization, staffing and control, gas acquisition, transportation, unaccounted-for gas, regulatory management, response to changes in regulation (primarily FERC Order 636), follow-up to issues raised in the last audit, and several company-specific issues that were important to the PUCO.

D. Projects for Private-Sector Clients

Client: Swidler & Berlin for South Carolina Public Service Authority/Santee Cooper
Client Contact: Andrew Weisman
Swidler & Berlin
3000 K Street, NW, Suite 300
Washington, DC 20013
(202) 944-4300
Summary: Liberty provided consulting services to attorneys representing non-operating owners of a nuclear-power plant. The subject matter was monitoring by a non-operating owner of plant operations.

Client: Vinson & Elkins L.L.P.
Client Contact: William H. Church, Jr., Esq.
Vinson & Elkins L.L.P.
3700 Trammell Crow Center and 2001 Ross Avenue
Dallas, Texas 75201-2975
(214) 220-7700
Summary: Liberty provided expert testimony in an arbitration involving claims made by a non-operating owner of a nuclear-power plant against an insurance provider.

Client: DuPont and Westinghouse
Client Contact: Mike Kidd, Director of Special Projects
Savannah River Laboratory
Aiken, SC 29808
(803) 725-5281
Summary: Liberty assisted with the design and implementation of self-assessment programs. The objective was to transfer effective methods used in the commercial-nuclear-power industry to the weapons plant.

Client: Westinghouse Electric Corporation
Client Contact: Mindy Spector, Esq.
Weil, Gotshal & Manges
767 Fifth Ave
New York, N.Y. 10153
(212) 310-8000

Summary: Liberty provided expert assistance in connection with a dispute between Furnas (of Brazil) and Westinghouse Electric Corporation over problems at the Angra nuclear plant.

Client: Colorado Independent Energy Association
Client Contact: Nicholas G. Muller
475 17th Street, Suite 950
Denver, Colorado 80202
(303) 297-1970

Summary: Liberty assessed the effects of electric-industry restructuring on all of the members of the Colorado Independent Energy Association (*CIEA*). CIEA represents about 20 owners of small power-generation projects (qualifying facilities -QF- as defined under PURPA) that sell power to the local electric utility. The project involved detailed assessment of the current regional market for electric-power sales, evaluation of existing power-sales agreements, and analysis of the operations and economics of the QF facilities. The project included a review of national electric-industry initiatives and programs, and a formal presentation of findings and strategies to CIEA's members.

Client: Powder River Energy Corporation
Client Contact: Ron Harper (Ron Harper is now CEO at Basin Electric, @ 1-800-242-2372).
Powder River Energy Corporation
221 Main Street
P.O. Box 930
Sundance, Wyoming 82729
(307) 283-3531

Summary: For this mid-sized Wyoming distribution coop, Liberty first acted as facilitator of a strategic planning process that included the coop's board and senior staff. Subsequently, Liberty assessed the utility's readiness for competition, and developed the coop's first ever strategic business plan for provision of new offerings of service to its members.

Client: Confidential
Client Contact: Confidential

Summary: Liberty assisted a major southern public-power entity to examine several of its core business practices and processes with the objective of identifying methods for enhancing their competitiveness in a more-open electricity marketplace. This project involved structural, staffing, and methods issues that affect the client's competitiveness.

Client: Major Electric Cooperative
Contact: Confidential

Summary: Liberty facilitated the development of a strategic plan for the client. Liberty performed a review of the operations of the member companies and the generating and transmission company to determine: missions, functions, environmental factors and other strategy drivers, strengths and weaknesses, opportunities and threats, and roles and responsibilities. Liberty then led a group of about 50 managers, directors, and other executives in writing the basic elements of the strategic plan.

Client: Potomac Electric Power Company
Client Contacts: Thomas E. Graves, Manager, Fuels Procurement
Susann D. Felton, Vice President - Materials
Potomac Electric Power Company
1900 Pennsylvania Avenue, N.W.
Washington, D.C. 20068-0001
(202) 872-3415

Summary: Liberty prepared a comprehensive set of fuel-management policies, practices, and procedures for the Fuel Department of Potomac Electric Power Company *(PEPCO)*. This project was highly interactive with PEPCO personnel from all departments involved in the fuel management process. The project included identification of all significant fuel management processes and the subsequent development of policies, practices, and procedures to cover these processes. Major processes included requirements planning, procurement, transportation, utilization,

contract administration and inventory management of coal, oil, and natural gas used as fuels for electric power generation.

Client: East Kentucky Power Cooperative, Inc.
Client Contact: Randy Dials, Vice President, Power Production
East Kentucky Power Cooperative, Inc.
P. O. Box 707
Winchester, Kentucky 40392-0707
(606) 744-4812

Summary: Liberty assisted the Fuels staff of this generation and transmission electric power cooperative with the development of a supply strategy for its first-ever gas-fired generating capacity. Gas requirements were estimated through generation simulations, a solicitation for supply offers was conducted, and responses to the solicitation were evaluated.

Client: Atmos Energy Corporation
Client Contact: Mark G. Thessin
United Cities Gas Company
810 Crescent Center Drive
Suite 600
Franklin, Tennessee 37067
(615) 771-8300

Summary: For this multi-state gas distributor, Liberty worked with the company to develop a strategy for unbundling its gas-supply services. The strategy was developed at the parent-company level, with a working group composed of representatives of each of Atmos's five operating divisions. The strategy was implemented through unbundling plans filed in each state where the company operates, accompanied by internal plans focused on developing the capabilities necessary to meet the commitments undertaken as part of each plan filed in the states. The project was being directed internally by an officer of one of the operating divisions (United Cities Gas Company).

Client: Alabama Electric Cooperative, Inc.
Client Contact: Gary L. Smith, Vice President, Legal & Corporate Affairs
Alabama Electric Cooperative, Inc.
P.O. Box 550
Andalusia, Alabama 36420
(334) 427-3214

Summary: Liberty assisted this generation-and-transmission cooperative on a project to improve processes, reduce costs, and improve operational efficiency, in anticipation of competitive changes in the electric-power industry. This project included analysis of operations and development of recommendations for improvement of policies, practices, processes and procedures in the areas of fuel management for electric generating stations, and operations and maintenance of these electricity-generating stations. An important component of the project included assessment and recommendations for improvement on the interplay between coal and natural gas, and the market for electric power.

Client: Major Electric Cooperative
Contact: Confidential

Summary: Liberty facilitated the development of a strategic plan. Liberty performed a review of the operations of the member cooperatives and the generating and transmission unit to determine missions, functions, environmental factors and other strategy drivers; strengths and weaknesses; opportunities and threats; and roles and responsibilities. Liberty then led a group of about 50 managers, directors, and other executives in writing the basic elements of the strategic plan.

Client: (Confidential)
Client Contact: (Confidential)

Summary: Liberty assisted an electric utility in exploring diversification into related businesses. Options considered included distribution of other fuels, including natural gas, propane and heating oil, and ventures in telecommunications. Liberty activities included industry analysis, leading to identification of target business segments, and development of entry strategies for selected segments. Pilot ventures are planned.

Client: Confidential
Client Contact: Confidential
Summary: Liberty assisted a major western public-power entity in evaluating the marketability and the value of major electricity-generating stations because of expected changes in a power-sales agreement. The evaluation examined the baseline value of the units, *i.e.*, what their worth would be assuming no changes in use, the costs to operate them, and the methods for assigning support costs to their operations. The evaluation also assessed how the plants' value can be enhanced by changes to the operational or other factors that affect them.

Client: Confidential
Client Contact: Confidential
Summary: Liberty provided consulting assistance related to the marketing of power from a western water and power cooperative. This project included development of options for sale of electric power from the facility, training in the operation of local and regional electric-power markets, and assistance with the evaluation and selection of the most attractive market for this electricity.

Client: Confidential
Client Contact: Confidential
Summary: For an investment banking group, Liberty identified themes for enhancing the value of gas-distribution and transmission/storage business segments through acquisitions, and used those themes to develop criteria for acquisitions.

Client: The Dayton Power and Light Company
Client Contact: Judy W. Lansaw, Group Vice President
The Dayton Power and Light Company
P. O. Box 8825
Dayton, Ohio 45401
(513) 259-7201
Summary: Liberty assisted this combination gas- and electric-utility company with a review of its strategy for its gas business. The focus of this review was preparing for competition. Principal areas of concern were gas-main extension policy, gas rates and service offerings, financial performance of the gas business, the company's approach to gas marketing, and the potential for competitors to affect the company's electric business.

Client: The Dayton Power and Light Company
Client Contact: Maria Werling
The Dayton Power and Light Company
P. O. Box 8825
Dayton, Ohio 45401
(513) 259-7233
Summary: Liberty assisted this combination electric- and gas-utility company with a review of its peak-load forecasting method for gas. Included in the review were alternative formulations of equations for projecting peak-day sendout to firm customers, and expected levels of weather parameters for use in setting design-day conditions.

Client: The Dayton Power and Light Company
Client Contact: Thomas D. Tatham, Manager, Information Resources
The Dayton Power and Light Company
3931 South Dixie Drive
Dayton, Ohio 45439
Summary: Liberty was engaged to develop a new gas-main-extension policy. The policies of the surrounding gas utilities were compared to DP&L's prior policy, and then benchmarked against the policies of four companies of comparable size who were aggressively expanding their businesses. Criteria for a new policy were developed, and the performance of old and proposed new policies was examined for sample projects. Liberty's recommendations were adopted.

Client: (Confidential)
Client Contact: (Confidential)

Summary: Provided consulting services to a Independent Power Producer to determine the feasibility of Cogeneration at a New York marine terminal.

Client: Ahlstrom Development Corporation*)*
Client Contact: Neil Cody
(703) 631-6075
Summary: Liberty completed a 2½-year assignment to revitalize a steam-heating company in Scranton, PA. The client for the project was a Finnish developer of cogeneration projects who wanted to develop a cogeneration project that would burn waste-coal deposits using circulating fluidized-bed technology. Liberty's contribution to this effort included development and implementation of a strategic business plan; implementation of an early-retirement offer; resizing the distribution plant; changing production from old, high-sulfur (#5) oil boilers to new gas #2 oil boilers; and development and introduction of work-planning and production modeling.

Client: NOVA Corporation of Alberta
Client Contact: C. Kent Jesperson, Senior Vice President, Corporate Development
NOVA Corporation of Alberta
P. O. Box 2535
Postal Station M
Calgary, Alberta T2P 2N6
CANADA
Summary: For this Canadian gas-pipeline and petrochemicals concern, Liberty performed an analysis of strategic factors in U. S. natural-gas-pipeline mergers. The financial context for the activity in the early 1980s was analyzed, then strategic *drivers* were developed for a series of transactions identified by the client as being of interest. Liberty's analysis was presented at an off-site meeting of the company's Corporate Strategy and Policy Committee.

Client: North Mississippi Gas Storage Company, LLC
Client Contact: D. Keith Miller
North Mississippi Gas Storage Company, LLC
c/o Ames Financial, Inc.
416 Travis Street, Suite 1106
Shreveport, Louisiana 71101
(318) 227-8944
Summary: Liberty assisted the owners of this proposed natural gas storage complex, to be located near Aberdeen, Mississippi, with finding partners to participate in the project. Liberty's role was to identify prospective users of the project's facilities, and then to approach them regarding their possible participation.

Client: Public Service Company of Colorado
Client Contact: Bruce L. Shults, Manager - Support Services Division
Public Service Company of Colorado
1225 17th Street, Suite 1200
Denver, Colorado 80202-5533
(303) 294-2375
Summary: Liberty performed an assessment of the manpower planning and workforce-management activities of the Gas & Electric Distribution unit. The focus of the work was on tracking and timekeeping as they related to workforce-management processes. This project included interviews with selected managers, and concluded with a workshop involving these same individuals to identify opportunities for process improvement and develop specific near-term action plans in workforce management.

Client: Colorado Springs Utilities
Client Contact: Bruce J. Swain, Customer Services Director
Colorado Springs Utilities
111 South Cascade Avenue, Suite 208
Colorado Springs, Colorado 80947-1026
(719) 448-8205
Summary: Liberty performed a study to assist this utility in addressing the organizational impacts associated with a transition to automated meter reading *(AMR)*. Transitions to AMR mean organizational change and consideration of

the issues of human-resource management in conjunction with technical changes were a large part of this work. This study also addressed the technical compatibility between meters and the three different metered-utility services (electric, gas, and water), and how these technical issues will influence operational techniques, management philosophy, and organizational interfaces. Liberty's work included a survey of the experiences and lessons learned by about 25 utilities who have already adopted AMR.

Client: National Fuel Gas Distribution Corporation
Contact: Ronald J. Tanski, VP & General Counsel
National Fuel Gas Supply Corporation
10 Lafayette Square
Buffalo, NY 14203
(716) 857-6891

Summary: Liberty prepared National Fuel's local gas-distribution company for comprehensive management audits by the New York and Pennsylvania public-utility commissions. Liberty performed focused reviews of gas-supply management and legal services, to identify strengths and vulnerabilities and, where applicable, recommend corrective actions. A significant part of this project included preparation of detailed procedures for improved operation of the legal department. In addition to these and other focused reviews, Liberty prepared organizations and individuals for interviews.

Client: National Fuel Gas Supply Corporation
Contact: Dale Rowekamp
National Fuel Gas Supply Corporation
10 Lafayette Square
Buffalo, NY 14203
(716) 857-6890

Summary: For this gas pipeline and storage company, Liberty performed a preliminary analysis of markets for gas in the electricity-generation sector in Pennsylvania. Electric-utility companies' plans for new generating capacity were examined, along with the influence of the Clean Air Act Amendments of 1990.

Client: Florida Power Corporation
Client Contact: Bruce Hickle
Florida Power Corporation
3201 34th Street South
St. Petersburg, Florida 33733
(352) 563-4591

Summary: Liberty developed a revised set of performance indicators for the nuclear plant that could be directly related to annual business goals.

Client: Big Rivers Electric Corporation
Client Contact: John West, Vice General Manager of Finance
Big Rivers Electric Corporation
201 Third Street
Henderson, Kentucky 42420
(502) 827-2561

Summary: Liberty designed and facilitated a self-assessment process for Big Rivers' review of its plan for compliance with the Clean Air Act Amendments of 1990. Under Kentucky statute, costs of compliance with new federal, state, and local environmental regulations are recoverable through a unique environmental surcharge. Liberty assisted Big Rivers in the definition of applicable expenses and surcharge mechanics. Liberty also assisted Big Rivers with the preparation of documentation to support an application for surcharge implementation.

Client: Kentucky Utilities Company
Client Contact: Ron Willhite, Director of Rates and Rate Research
Kentucky Utilities Company
One Quality Street
Lexington, Kentucky 40507

(606) 288-1136

Summary: Liberty assisted Kentucky Utilities in preparing an application for, and implementation of, an environmental surcharge allowable by Kentucky law. This unique surcharge provides for current recovery of the cost of compliance with federal, state, and local environmental regulations, including the Clean Air Act Amendments and coal-combustion wastes and by-products. Liberty's work, which involved all aspects of the application, surcharge implementation, and formal proceedings, was the first application under the implementing legislation, with an emphasis on the analysis of financial effects and investment alternatives.

Client: Delmarva Power & Light Company
Client Contact: Ralph Klesius, Vice President of Engineering and Operations
Delmarva Power & Light Company
800 King Street
Wilmington, Delaware 19899
(302) 429-3625

Summary: Liberty provided advice regarding selection of planning, scheduling, and monitoring software systems. Made recommendations for work-process improvements and established an enhanced quality-assurance organization.

Client: Central Illinois Public Service Company
Client Contacts: Clifford Greenwalt, CEO, CIPS and Boyd Springer, Esq.
Central Illinois Public Service Company
607 East Adams Street
Springfield, Illinois 62739
(217) 523-3600

Boyd Springer, Esq.
Jones, Day, Reavis & Pogue
77 West Wacker Street
Chicago, Illinois 60601-1692
(312) 269-4151

Summary: Liberty President John Antonuk testified to the results of a procurement-performance review of fuel management, and identified steps to improve utility efficiency and accountability for coal procurement and management. He also conducted a retrospective evaluation of major coal-contracting processes and decisions. The retrospective study formed part of expert testimony before the Illinois Commerce Commission, which largely accepted the findings and conclusions of the retrospective study.

Client: Commonwealth Electric Company
Client Contact: Andrew Weisman, of Counsel
Swidler & Berlin
3000 K Street, N.W.
Washington, D.C. 20007-3841
(202) 944-4351

Summary: As part of proceedings before the FERC, Liberty performed an extensive investigation and evaluation of utility-management performance in connection with a nuclear plant that suffered performance decline, was placed on the NRC's Watch List, and experienced an extended outage. Liberty coordinated the activities of several consulting firms involved in the investigation. Liberty's experts quantified damages resulting from unreasonable performance of the managing owner in operation of a nuclear-power plant. Liberty also analyzed the need for, and management of, major capital and maintenance projects. Liberty's analyses were instrumental in settlement of the proceedings before FERC.

Client: Public Service Company of Colorado
Client Contact: Larry Brey, Manager of Licensing
Public Service Company of Colorado
2420 West 26th Street, Suite 100-D
Denver, CO 80211

(303) 480-6900
Summary: Liberty provided consulting assistance regarding the compliance of the fitness-for-duty program at Fort St. Vrain with the requirements of the Nuclear Regulatory Commission.

Client: Rochester Gas & Electric Company
Client Contact: Paul Wilkins, Department Manager for Nuclear Engineering Services
Rochester Gas & Electric Company
89 East Avenue
Rochester, New York 14649
(716) 546-2700
Summary: Liberty evaluated all elements of the design-modification process for RG&E's Nuclear Engineering Services department, and formulated a set of wide-ranging recommendations to re-engineer and improve work processes. Recommendations were implemented through procedure changes that streamlined the approval process, eliminated unnecessary steps, ensured compliance with regulatory requirements, improved plant interfaces, and reduced the time and cost of plant modifications.

Client: Florida Power Corporation
Client Contact: Paul McKee, Plant Manager
Florida Power Corporation
3201 34th Street South
St. Petersburg, Florida 33733
(352) 866-5257
Summary: Liberty conducted a series of prudence inquiries related to several forced outages at the Crystal River 3 nuclear-power plant. Liberty assisted Florida Power with the development of testimony in preparation for hearings before the Florida Public Service Commission. Separately, Liberty also provided prudence-awareness and document-preparation training for senior managers responsible for nuclear-plant management.

Client: Florida Power Corporation
Client Contact: Paul McKee, Plant Manager
Florida Power Corporation
3201 34th Street South
St. Petersburg, Florida 33733
(352) 866-5257
Summary: Liberty conducted a seminar that dealt with the issues, documentation requirements, and criteria for judging the prudence of the operation of a nuclear-power plant.

Client: Pennsylvania Power & Light Company
Client Contact: Terence Bannon
Pennsylvania Power & Light Company
Two North Ninth Street
Allentown, Pennsylvania 18101
(610) 774-7911
Summary: Liberty performed several nuclear-plant and management-performance assessments of Pennsylvania Power & Light's Susquehanna Steam Electric Station using NRC SALP-based standards. Liberty also provided consultation supporting efforts to optimize communications programs with the NRC, and to identify performance indicators that merited management attention. This assignment was carried out as part of the client's efforts to continue to be recognized as a leader in its nuclear operations.

Client: Philadelphia Thermal Electric Company
Client Contact: Joseph Martino
Philadelphia Thermal Electric Company
2600 Christian Street
Philadelphia, Pennsylvania 19146
(215) 875-6900
Summary: Liberty provided regulatory-accounting, fuel-clause-adjustment, and rate consulting.

Client: Louisiana Power & Light Company
Client Contacts: Jerold Dewease, former Senior Vice President, Nuclear and Fred Drummond, former Director of Nuclear Excellence
Louisiana Power & Light Company
317 Baronne Street
New Orleans, LA 70160
(504) 595-3100

Summary: Liberty helped to develop a program to establish and maintain excellence in operations at the Waterford 3 nuclear-power plant. The assistance included extensive review of management and operations at the site and in-home office-support functions, addressing all functions of the nuclear organization. It also included assistance in developing goals and objectives, and instituting a communications program to assure that they were understood and accepted. The assignment also included measurement of performance results against regulatory and industry standards, and providing recommendations and implementation plans for improving performance. Following Liberty's work, the Institute of Nuclear Power Operations gave the plant the highest rank attainable.

Client: Louisiana Power & Light Company
Client Contacts: Jerold Dewease, former Senior Vice President, Nuclear and Fred Drummond, former Director of Nuclear Excellence
Louisiana Power & Light Company
317 Baronne Street
New Orleans, LA 70160
(504) 595-3100

Summary: Liberty performed an assessment of the systems, procedures, and organization associated with the cost monitoring and control of outages. Liberty compared the outage cost-control approach and practices with the range of industry practices. Liberty provided specific recommendations for achieving improvements in the outage cost-control effectiveness. Liberty also developed guidelines for the development of a post-outage critique document.

Client: Soyland Power Cooperative
Client Contacts: Peter Herzog
Bryan, Cave, McPheeters & McRoberts
500 North Broadway
St. Louis, Missouri 63102
(314) 231-8600

Jeffrey S. Wolff
Fulbright & Jaworski
1301 McKinney
Houston, Texas 77010
(713) 651-5151

Summary: Liberty helped the client to assess liability for, and the extent of damages from, imprudent management performance found by the Illinois Commerce Commission in proceedings concerning Illinois Power Company's management of the Clinton Nuclear Project.

Client: Houston Lighting & Power Company
Client Contacts: Scott Rozzell and Finis Cowan of Baker & Botts
Jack Greenwade, Hugh Rice Kelly, and Steve Letbetter, of Houston Lighting & Power Company
Houston Lighting & Power Company
611 Walker Street
Houston, TX 77002
(713) 207-3700

Baker & Botts
One Shell Plaza
Houston, Texas 77002
(713) 229-1502

Summary: Liberty provided extensive consulting assistance related to a regulatory review of the management and costs of a nuclear-construction project. The client needed to respond to an extensive and intensive review of management and costs, and prepare for formal proceedings before the Texas PUC. Liberty's assistance in responding to the audit sponsored by the Commission resulted in that report being stricken from the record. Liberty's advice on substantive matters was important guidance to company management and its counsel in decisions throughout the process. Liberty also provided ongoing support and assistance to implement the response strategy and meet the needs of the administrative proceedings. Liberty implemented, for the team (in-house and outside legal resources, including numerous expert witnesses) a project-control and work-management system to efficiently manage the various legal proceedings, including a multi-disciplinary litigation, rate-case, and prudence docket. In addition, Robert Stright, a Liberty Principal, provided expert testimony on the quantification of alleged imprudence on the part of the managing owner.

Client: Houston Lighting & Power Company
Client Contacts: C. Janie Mitcham (Houston Lighting & Power Company) and Scott Rozzell (Baker & Botts)
Houston Lighting & Power Company
611 Walker Street
Houston, TX 77002
(713) 207-3700

Baker & Botts
One Shell Plaza
Houston, Texas 77002
(713) 229-1502

Summary: Liberty assisted Houston Lighting & Power by independently assessing the reasonableness of management actions at its two nuclear units at the South Texas Project *(STP)*. STP had been under close NRC scrutiny because of perceived weaknesses in several plant programs that affected safety, and had experienced an extended two-unit outage in 1992-1994 to make equipment upgrades and program improvements. Liberty reviewed the reasonableness of HL&P's management of the plant from a viewpoint that considered all factors involved in decision making, and helped HL&P fairly portray its performance in regulatory proceedings affecting rates. Liberty's role included the evaluation of management effectiveness in the planning and budgeting processes, in plant operations, engineering support, maintenance, training, material control, and several other areas.

Client: Cleveland Electric Illuminating Company
Client Contact: Mike Lyster, former Vice President of Nuclear Operations
Cleveland Electric Illuminating Company
10 Center Road
Perry, OH 44081
(216) 259-3737

Summary: Liberty performed an independent review of CEI's operating-experience program at the Perry nuclear plant. Liberty reviewed operating-experience documentation to identify performance areas that indicated possible opportunities for improvement based on evaluation standards applicable to reviews by industry and regulatory agencies. The client used Liberty's study result to focus management attention on priority-improvement areas.

Client: Cleveland Electric Illuminating Company
Client Contact: Mike Lyster, former Vice President of Nuclear Operations
Cleveland Electric Illuminating Company
10 Center Road
Perry, OH 44081
(216) 259-3737

Summary: Liberty provided assistance to improve outage management at the Perry nuclear plant. Liberty performed a consulting engagement designed to help improve and implement planning and control systems used to plan and schedule plant outages, estimate costs, and track cost and schedule performance. The assistance included development and implementation of training programs to address general and plant-specific elements of outage planning and management.

Client: Georgia Power Company
Client Contact: Arthur Domby, of Counsel
Troutman, Sanders, Lockerman and Ashmore
1400 Candler Building
Atlanta, Georgia 30043
(404) 658-8000

Summary: Liberty performed an independent evaluation of the replacement of recirculating-water pipe at the Plant Hatch nuclear station. The evaluation addressed the propriety of the planning, decision making, and management of an extended outage. Testimony was submitted before the Georgia Public Service Commission in the regulatory review of management and the schedule and costs of this major project.

Client: Gulf States Utilities
Client Contact: James Booker, former Vice President of Nuclear Operations
Gulf States Utilities
P.O. Box 220
St. Francisville, LA 70775
(504) 635-6094

Summary: Liberty performed a review of the effectiveness of the operating-experience program for the River Bend Station. The review addressed a broad spectrum of activities, including plant- operating experience at River Bend and other nuclear-power plants. Station events were reviewed to determine the adequacy of root-cause determinations, and corrective actions in response to INPO findings were also assessed.

Client: Georgia Power Company
Client Contacts: Douglas Miller, Mark VanderBroek, and Kevin Green
Troutman, Sanders, Lockerman and Ashmore
1400 Candler Building
Atlanta, Georgia 30043
(404) 658-8000

Summary: Liberty consultants testified before the Georgia Public Service Commission in a regulatory review of the management and costs of a major construction project. The testimony was based on an assessment of the sources of delay in design, construction, and start-up, including the development of an as-built critical-path schedule.

Client: El Paso Electric Company
Client Contact: Davis Wiggs, President
El Paso Electric Company
303 North Oregon Street
El Paso, Texas 79960
(915) 543-5711

Summary: Liberty evaluated and provided expert testimony concerning the reasonableness and prudence of efforts by a non-managing owner to provide monitoring and oversight to protect its interests as a minority owner of a major generating facility during design and construction.

Client: Duquesne Light Company
Client Contact: Steve Lacey, General Manager
Duquesne Light Company
P.O. Box 4
Shippingport, PA 15077
(412) 393-7622

Summary: Liberty performed an independent assessment of the effectiveness of performance-improvement initiatives and programs at the Beaver Valley nuclear-power plant. Liberty's assistance was part of a concerted management effort to achieve overall performance enhancements, and to promote and achieve excellence in nuclear-plant operations. Liberty provided specific recommendations and implementation plans for achieving improvements in performance.

Client: Enbridge Midcoast Energy, Inc.
Client Contact: Chris Kaitson, General Counsel
Enbridge Midcoast Energy, Inc.
1100 Louisiana Street, Suite 2900
Houston, Texas 77002-5217
(713) 821-2028

Summary: Liberty provided an expert witness to this mid-continent pipeline system in an investigation by the Missouri Public Service Commission of the gas-purchasing practices of Midcoast's customer, Missouri Gas Energy (MGE). MGE was operating under an Experimental Gas Cost Incentive Mechanism (EGCIM) during the periods in question. Both the structure of the EGCIM and MGE's operations under it have been at issue in the proceedings.

Client: Colorado Springs Utilities
Client Contact: Bruce J. Swain, Customer Services Director
Colorado Springs Utilities
111 South Cascade Avenue, Suite 208
Colorado Springs, Colorado 80947-1026
(719) 448-8205

Summary: Liberty performed a study to assist this utility in addressing the organizational impacts associated with a transition to automated meter reading *(AMR)*. Transitions to AMR mean organizational change and consideration of the issues of human-resource management in conjunction with technical changes were a large part of this work. This study also addressed the technical compatibility between meters and the three different metered-utility services (electric, gas, and water), and how these technical issues will influence operational techniques, management philosophy, and organizational interfaces. Liberty's work included a survey of the experiences and lessons learned by about 25 utilities who have already adopted AMR.

Client: Electric Power Research Institute
Client Contact: Dr. Veronica Rabl
Electric Power Research Institute
3412 Hillview Avenue
P.O. Box 10412
Palo Alto, California 94303
(415) 855-2000

Summary: Liberty conducted an assessment of the issues and forces that were likely to affect demand-side management activities in the industry. This strategic-planning study was performed to assist EPRI in devising its demand-management direction and programs.

Client: Kentucky Utilities Company
Client Contact: Ron Willhite, Director of Rates and Rate Research
Kentucky Utilities Company
One Quality Street
Lexington, Kentucky 40507
(606) 288-1136

Summary: Liberty assisted Kentucky Utilities in preparing an application for, and implementation of, an environmental surcharge allowable by Kentucky law. This unique surcharge provides for current recovery of the cost of compliance with federal, state, and local environmental regulations, including the Clean Air Act Amendments and coal-combustion wastes and by-products. Liberty's work, which involved all aspects of the application, surcharge implementation, and formal proceedings, was the first application under the implementing legislation, with an emphasis on the analysis of financial effects and investment alternatives.

Client: District of Columbia Public Schools
Client Contact: William H. McAfee III, Director
District of Columbia Public Schools
Office of Admin. Services
Division of Facilities Management

1709 3rd Street, N.E.
Washington, D.C. 20002
(202) 576-6612

Summary: Liberty provided a two-day seminar to senior-level managers in the District of Columbia public-schools system, introducing them to the role of reliability-centered maintenance in an effective facilities-management program. Liberty then performed a work-control process assessment to identify areas needing improvement. The assessment included interviews with principals, regional service-center managers, and staff involved in work planning and scheduling. A new system for initiating work requests was developed, as well as a new system for estimating backlog and work schedules.

Client: Central Illinois Public Service Company
Client Contacts: Clifford Greenwalt, CEO, CIPS and Boyd Springer, Esq.
Central Illinois Public Service Company
607 East Adams Street
Springfield, Illinois 62739
(217) 523-3600

Boyd Springer, Esq.
Jones, Day, Reavis & Pogue
77 West Wacker Street
Chicago, Illinois 60601-1692
(312) 269-4151

Summary: Liberty Principal John Antonuk testified to the results of a procurement-performance review of fuel management, and identified steps to improve utility efficiency and accountability for coal procurement and management. He also conducted a retrospective evaluation of major coal-contracting processes and decisions. The retrospective study formed part of expert testimony before the Illinois Commerce Commission, which largely accepted the findings and conclusions of the retrospective study.

Client: Commonwealth Electric Company
Client Contact: Andrew Weisman, of Counsel
Swidler & Berlin
3000 K Street, N.W.
Washington, D.C. 20007-3841
(202) 944-4351

Summary: As part of proceedings before the FERC, Liberty performed an extensive investigation and evaluation of utility-management performance in connection with a nuclear plant that suffered performance decline, was placed on the NRC's Watch List, and experienced an extended outage. Liberty coordinated the activities of several consulting firms involved in the investigation. Liberty's experts quantified damages resulting from unreasonable performance of the managing owner in operation of a nuclear-power plant. Liberty also analyzed the need for, and management of, major capital and maintenance projects. Liberty's analyses were instrumental in settlement of the proceedings before FERC.

Client: Non-managing owners of the Seabrook nuclear-power plant
Client Contact: Michael Ward, Esq.
Swidler & Berlin
3000 K St., NW, Suite 300
Washington, DC 210013
(202) 944-4300

Summary: Liberty performed various reviews and analyses for the attorney's representing non-managing owners of the Seabrook nuclear-power project. The subject was the prudence of the construction of the plant.

Client: Washington Public Power Supply System
Client Contact: Dr. G.D. Bouchey, former Director of Licensing and Assurance
Washington Public Power Supply System
P.O. Box 968
Richland, WA 99352

(509) 372-5344
Summary: Liberty performed an effectiveness review of the overall quality program at the WPPSS 2 nuclear plant. Liberty evaluated the degree to which client programs supported self-improvement efforts and provided detailed recommendations to help to achieve the desired level of performance.

Client: U.S. Attorney's Office (in the state of Alaska)
Client Contact: Neil Evans, Assistant U.S. Attorney
Summary: Liberty was engaged to provide expert analysis (in the context of criminal-fraud proceedings) concerning a public-works program of more than $1 billion involving many different individual projects. The projects included public housing, school facilities, municipal-services buildings, domestic-utility systems, and airport facilities. Liberty Principal John Antonuk had previously overseen an extensive review of the: organization; management; vendor and contractor selection; contract administration; and contractor performance on the projects.

Client: Arizona Public Service Company
Client Contact: Jack Bailey, former Vice President
Arizona Public Service Company
411 North Central Avenue
Phoenix, Arizona 85004
(602) 393-7622
Summary: Liberty performed an independent assessment of the effectiveness, progress, and status of operations-performance improvements at the three-unit Palo Verde nuclear-power station. The objective was to establish and maintain excellence in nuclear-power-plant operations at a plant that experienced significant performance problems. Liberty's work included an extensive review of the client's efforts to monitor management and operations improvements at the site and home-office-support functions. The assignment also included measurement of performance results against industry standards. Liberty provided recommendations and detailed implementation plans for improving performance. Subsequent improvement in the client's operations was demonstrated by improved evaluation results from the Institute of Nuclear Power Operations.

Client: Nebraska Public Power District
Client Contact: Guy Horn, Division Manager
Nebraska Public Power District
P.O. Box 98
Brownville, NE 68321
Summary: Liberty provided management-consulting assistance to the client in responding to an INPO evaluation of the Cooper Nuclear Station.

Client: Omaha Public Power District
Client Contacts: Jim Chase and Merl Core
Omaha Public Power District
1623 Harney Street
Omaha, NE 68102
(402) 536-4000
Summary: Liberty performed an assessment of power-plant maintenance and support activities at the Fort Calhoun nuclear-power plant. Liberty developed a comprehensive action plan to improve planning, scheduling, monitoring, and other support of maintenance activities.

Liberty also performed a more broadly-based review of plant management, identifying corrective actions to improve plant management and performance, assessing the effectiveness of corrective actions and the status of their implementation, and then provided recommendations to accomplish client goals in an effective manner. The recommendations were integrated into client plans for subsequent improvement activities. The improvements were recognized and documented in subsequent industry evaluations.

E. Telecommunications Projects

Client: Maryland Public Service Commission ***(auditing C&P Telephone of Maryland)***
Client Contact: Gregory V. Carmean, Executive Director
Maryland Public Service Commission
6 St. Paul Center
Baltimore, Maryland 21202
(410) 767-8000

Summary: Liberty performed an audit of the affiliate transactions of the Chesapeake & Potomac Telephone Company of Maryland *(C&P, now Bell Atlantic - Maryland)*. The study encompassed a detailed review of C&P's relationships with Bell Atlantic Corporation and other Bell Atlantic subsidiaries and affiliates. Liberty team members presented testimony in rate-case proceedings with regard to Liberty's findings.

Client: DC Public Service Commission
Client Contact: Ken Hughes, Office of the General Counsel, DC Public Service Commission
District of Columbia Public Service Commission
1333 H St NW Suite 200, West Tower
Washington, DC 20005
(202) 626-5157

Summary: Liberty's president served as arbitrator for by the District of Columbia Public Service Commission to address industry-wide need for amendments to interconnection agreements as a result of the FCC's Triennial Review Order.

Client: New Jersey Board of Public Utilities
Client Contact: James Corcoran, Staff, Board of Public Utilities
New Jersey Board of Public Utilities
Two Gateway Center
Newark, NJ 07102
(973) 648-4197

Summary: Liberty conducted a comprehensive review of Verizon-New Jersey's wholesale performance measures and incentive plan. The review involved interaction with CLEC customers of Verizon, evaluation of change management policies and practices, detailed analyses of algorithms and code used to produce performance measures, and recalculation of performance measure results.

Client: Public Utilities Commission of Ohio
Client Contact: Jason Well, Staff
Public Utilities Commission of Ohio
180 East Broad Street, 7th Floor
Columbus, OH 43215-3793
(614) 995-5707

Summary: Liberty performed a comprehensive investigation of Ameritech-Ohio's service delivery quality. This engagement included an assessment of Ameritech-Ohio's installation and repair operations and processes, and an in-depth review of performance measures and service quality benchmarks.

Client: Regional Oversight Committee
Client Contact: Bob Rowe, Commissioner
Montana Public Service Commission
701 Prospect Avenue
P.O. Box 202601
Helena, Montana 59620-2601
(406) 444-6167

Summary: Liberty performed a comprehensive audit of Qwest's performance measures for 13 state commissions in Qwest's service territory.

Client: Pennsylvania Public Utility Commission
Client Contact: Nora Mead Brownell, Commissioner
Pennsylvania Public Utility Commission
P.O. Box 3265
North Office Building, Room 107
Harrisburg, PA 17105
(717) 772-0692

Summary: Liberty provided advice to the commission about many issues associated with local competition in the Pennsylvania global-telecommunications-settlement proceeding.

Client: Delaware Public Service Commission
Client Contact: G. Arthur Padmore, Administrative Law Judge
Delaware PSC
861 Silver Lake Blvd.
Cannon Building, Suite 100
Dover, DE 19904
(302) 739-3232

Summary: Liberty assisted an ALJ in the examination and resolution of seven different disputes regarding a wide range of service and interconnection issues between the incumbent and various types of carriers, including paging and wireless.

Client: Virginia State Corporation Commission ***(Bell Atlantic - Virginia arbitration hearings with competing local-exchange carriers)***
Client Contact: William Irby
Virginia State Corporation Commission
P.O. Box 1197
Richmond, Virginia 23218
(804) 371-9967

Summary: Liberty served as a technical advisor to Staff in its support of arbitrators in various BA-VA arbitrations with competing local-exchange carriers, such as AT&T, MCI, TCG, Cox, and MFS related to the Telecommunications Act of 1996 and the FCC Interconnection Order. Liberty provided technical assistance in reviewing each party's positions on wholesale pricing, unbundled-element pricing, TELRIC models, branding issues, and a variety of operational issues subject to arbitration. Liberty also assessed the issues raised in each petition and has designed a database that was used to help categorize, compare, manage, and report on the issues. Liberty identified, requested, and reviewed additional information needed from the petitioners, and also conducted informal interviews of them. Liberty aided in identifying opportunities to consolidate issues among petitioners. Liberty determined whether the responses to petitions and information requests showed differences in understanding of the issues or positions between petitioners and respondents. Liberty consultants John Antonuk and Robert Stright, served as witnesses in hearings on the terms and conditions of interconnection.

Client: Virginia State Corporation Commission ***(Bell Atlantic - Virginia permanent pricing for unbundled network elements and assessment of non-price interconnection issues with competing local-exchange carriers)***
Client Contact: James Douglas
Virginia State Corporation Commission
Tyler Building
P.O. Box 1197
Richmond, Virginia 23218
(804) 371-9422 (Jim Douglas)

Summary: Liberty served as the Staff in this important proceeding that determined the permanent prices for Bell Atlantic-VA's unbundled network elements and to evaluate non-price terms and conditions offered by Bell Atlantic-VA in connection with its application for providing inter-LATA service. Other participants in the proceeding included AT&T, MCI, TCG, MFS, and VCTA. Liberty prepared and filed reports in the case, and testified before the Commissioners.

Client: New Jersey Board of Public Utilities ***(Bell Atlantic - New Jersey arbitration hearings with competing local-exchange carriers)***
Client Contact: James Murphy
New Jersey Board of Public Utilities
Two Gateway Center
Newark, NJ 07102
(201) 648-4626

Summary: Liberty served as a technical advisor to Staff in its support of several judges who acted as arbitrators in various BA-NJ arbitrations with competing local-exchange carriers, such as AT&T, MCI, TCG, and MFS related to the Telecommunications Act of 1996 and the FCC's Interconnection Order. Liberty provided technical assistance in reviewing each party's' positions on wholesale pricing, unbundled-element pricing, TELRIC models, branding issues, and a variety of operational issues subject to arbitration.

Client: Nebraska Public Service Commission
Client Contacts: Mary Tribby, AT&T, and James Stroo, GTE
AT&T Law Department
1875 Lawrence Street, Room 1575
Denver, Colorado 80202
(303) 298-6508

GTE Telephone Operations
1000 GTE Drive
Wentzville, Missouri 63385
(314) 332-7663

Summary: Liberty served as the arbitrator for AT&T and GTE in a case involving implementation of the Telecommunications Act of 1996.

Client: Oklahoma Corporation Commission
Client Contact: Denise Bodie, Commissioner
Oklahoma Corporation Commission
Jim Thorpe Office Building
Oklahoma City, OK 73105
(405) 521-2518

Summary: Liberty served as the Staff in this important proceeding that determined the permanent prices for Southwestern Bell's unbundled-network elements. Other participants in the proceeding included AT&T, Brooks Fiber, and Cox. Liberty's prepared and filed testimony in the case.

Client: Mississippi Public Service Commission
Client Contacts: Mary Tribby, AT&T, and John McCullouch, General Counsel - Mississippi BellSouth
AT&T Law Department
1875 Lawrence Street, Room 1575
Denver, Colorado 80202
(303) 298-6508

BellSouth Telecommunications, Inc.
P.O. Box 811
Jackson, Mississippi 39205
(601) 961-1700

Summary: Liberty served as the co-arbitrator for AT&T and Bell South in a case involving implementation of the Telecommunications Act of 1996.

Client: Idaho Public Utilities Commission
Client Contacts: Michelle Singer, AT&T, and Doug Owens, US West
AT&T Law Department
1875 Lawrence Street, Room 1575

Denver, Colorado 80202
(303) 298-6508

US West
1801 California Street, Room 5100
Denver, Colorado 80202
(303) 672-2810

Summary: Liberty served as the arbitrator for AT&T and US West in a case involving implementation of the Telecommunications Act of 1996.

Client: North Dakota Public Service Commission
Client Contacts: Mary Tribby, AT&T, and William P. Heaston, US West
AT&T Law Department
1875 Lawrence Street, Room 1575
Denver, Colorado 80202
(303) 298-6508

US West
1801 California Street, Room 5100
Denver, Colorado 80202
(303) 672-2810

Summary: Liberty served as the arbitrator for AT&T and US West in a case involving implementation of the Telecommunications Act of 1996.

Client: Idaho Public Utilities Commission
Client Contact: Weldon B. Stutzman, Deputy Attorney General, Idaho Public Utilities Commission
Idaho Public Utilities Commission
P.O. Box 83702
472 West Washington Street
Boise, ID 83702
(208) 334-0318

Summary: A Liberty-supplied professional served as the arbitrator for AT&T and US West in a case involving implementation of the Telecommunications Act of 1996.

Client: Idaho Public Utilities Commission
Client Contact: Weldon B. Stutzman, Deputy Attorney General, Idaho Public Utilities Commission
Idaho Public Utilities Commission
P.O. Box 83702
472 West Washington Street
Boise, ID 83702
(208) 334-0318

Summary: A Liberty-supplied professional served as the arbitrator for AT&T and GTE in a case involving implementation of the Telecommunications Act of 1996.

Clients: District of Columbia Public Service Commission ***(auditing Bell Atlantic - District of Columbia)*** and Pennsylvania Public Utility Commission ***(auditing Bell Atlantic - Pennsylvania)***
Client Contacts: Dwayne Boyd, Deputy Chief Auditor (D.C.) and Thomas Sheets, Bureau of Audits (PA)
Public Service Commission of the District of Columbia
717 14th Street, N.W.
Washington, D.C. 20005
(202) 626-5139

Pennsylvania Public Utility Commission
901 N. Seventh Street - Rear
Harrisburg, Pennsylvania 17105-3265
(717) 772-0315

Summary: Liberty performed a comprehensive management audit of the functional operations of Bell Atlantic - Pennsylvania and Bell Atlantic - District of Columbia, operating companies of Bell Atlantic, one of the largest telecommunications organizations in the world. This review also included an in-depth analysis of the relationships and transactions of Bell Atlantic - Pennsylvania and Bell Atlantic - District of Columbia and their Bell Atlantic affiliates.

Client: Public Service Commission of the District of Columbia ***(auditing Bell Atlantic - District of Columbia)***
Client Contact: Dwayne Boyd, Deputy Chief Auditor
Public Service Commission of the District of Columbia
717 14th Street, N.W.
Washington, D.C. 20005
(202) 626-5139

Summary: Liberty examined the accounting for, and allocation of, lobbying costs of Bell Atlantic - District of Columbia between 1988 and 1995. This engagement also included an examination of the propriety of current policies and procedures governing the assignment and allocation of lobbying costs.

Client: Public Service Commission of the District of Columbia ***(auditing Bell Atlantic - District of Columbia)***
Client Contact: Daryl Avery, General Counsel
Public Service Commission of the District of Columbia
717 14th Street, N.W.
Washington, D.C. 20005
(202) 626-5100

Summary: Liberty assisted the Commission in its review of the recommendations presented in a report by the Quality of Service Working Group, which is made up of individuals from Bell Atlantic, The Office of People's Counsel, Commission Staff, and other interested parties. Liberty also assisted the Commission in a review of Bell Atlantic - District of Columbia's construction-program planning.

Client: Prosecutorial Unit, Connecticut Department of Public Utility Control ***(Docket investigating alternative regulation for Southern New England Telephone Company)***
Client Contact: Cindy Jacobs, Attorney
Connecticut Department of Public Utility Control
Prosecutorial Unit
10 Franklin Square
New Britain, CT 06051
(860) 827-2853

Summary: Liberty assisted in reviewing total-service long-run incremental-cost models filed in this docket by Southern New England Telephone. Prepared an alternative rate design based on incremental-cost data. Assisted the Prosecutorial Unit in addressing related issues in briefs.

Appendix C

Work Samples

The following Liberty reports are included as separately-bound volumes, provided as relevant examples of Liberty's work. Please see section VII of this proposal for more detailed descriptions of these projects as well as the appropriate references:

1. Arizona Power Fuel and Purchased Power Final Report.
2. Three Reports on comprehensive examinations of T&D and supporting management systems and reviews of the reliability of Commonwealth Edison's transmission and distribution systems following major outages.
3. Commonwealth Edison Capital and O&M Spending Audit Final Report.
4. Four Reports on Liberty's Focused Audit of Affiliate Transactions and Management Audit of New Jersey Natural Gas.