Comprehensive Management and Operations Audit of National Grid USA's New York Gas Companies

Case No. 13-G-0009

IMPLEMENTATION PLAN

PREPARED FOR:

THE STATE OF NEW YORK PUBLIC SERVICE COMMISSION
THREE EMPIRE STATE PLAZA
ALBANY, NEW YORK 12223

November 3, 2014
(Updated April 21, 2015)

nationalgrid

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INTRODUCTION

The Brooklyn Union Gas Company d/b/a National Grid NY ("KEDNY"), KeySpan Gas East Corporation d/b/a National Grid ("KEDLI") and Niagara Mohawk Power Corporation d/b/a National Grid ("NMPC") (collectively, the "NY Operating Companies") submit this Implementation Plan for the audit recommendations contained in the August 2014 *Comprehensive Management and Operations Audit of National Grid USA's New York Gas Companies* (the "Audit Report") prepared by NorthStar Consulting Group ("NorthStar" or the "auditors") for the Public Service Commission ("Commission"). As discussed in the comments submitted by National Grid USA ("National Grid" or the "Company") in response to the Audit Report, National Grid found this audit to be a constructive process that resulted in NorthStar identifying areas of strong performance by the Company's New York gas business as well as opportunities for improvement that will benefit the Company's operations. The Implementation Plan reflects an effort by the Company to consider the recommendations from the Audit Report and deliver the benefits identified by the auditors.

The Audit Report enumerated thirty-one recommendations aimed at improving the Company's performance. For each recommendation, the Implementation Plan sets forth the following: the Company's proposal to implement the recommendation; the team leads and executive sponsor; an implementation schedule; a cost/benefit analysis associated with implementing the recommendation; and an implementation priority.

In developing this Implementation Plan, National Grid consulted with Department of Public Service Staff ("Staff") on its form and content; however, the Company considers the Implementation Plan to be a working document that will be updated and amended as the recommendations are implemented. The Company will continue to consult with Staff and submit regular revisions to the Implementation Plan, as necessary.

IMPLEMENTATION PLAN

Chapter III: Corporate Mission, Objectives, Goals and Planning

Recommendation III-1 and 2

Recommendation III-1. Reconstitute the NG USA BOD by: 1) limiting the number of members who are also part of the US Executive Team, NG USA Officers and Senior Managers to no more than two; 2) appointing at least one qualified truly independent Director who is not employed by any National Grid company; and 3) filling the remainder of Director seats with either NG UK or NG-plc executives, or other independent, qualified individuals. Define the roles and responsibilities of the NG USA BOD to include those typical of a corporate BOD, including review of financial performance and external auditor reports, review of risks, approval of both capital and operating budgets, and the ability and expectation to challenge and reject recommended projects and actions.

Recommendation III-2. Reconstitute the BODs for KEDLI, KEDNY, and NMPC by: 1) limiting the number of members who are part of the New York Jurisdictional team, regardless of reporting relationship, to no more than one Director; and 2) filling the remaining two Director positions with executives from the other US jurisdictions or NG USA who do not have responsibilities for New York operations. Define the roles and responsibilities of the subsidiary boards to include review of operating and financial performance, review of relevant external auditor statements, approval of service levels and budgets (e.g., SLAs), and approval of specific plans impacting their service territory, such as rate filings, major capital projects, and significant customer programs.

Implementation Plan Leads

Executive Sponsor:	Ronald Macklin, Acting US General Counsel Ken Daly, President – New York Jurisdiction
Team Lead(s):	Timothy McAllister, Assistant General Counsel and Director Philip DeCicco, Assistant General Counsel and Director

Implementation Priority: III-1 High; III-2 Medium

Recommendation Accepted: III-1 Yes (with modifications); III-2 Yes (with modifications)

Background Information

National Grid USA Board of Directors

National Grid USA ("NG USA") is a wholly-owned, indirect subsidiary of National Grid plc. NG USA is the holding company for National Grid's US operations. NG USA's board of directors ("BOD") is currently composed of seven senior US managers, which include the NG USA President, the EVP of Operations, the Chief Financial Officer, the SVPs of Network

Strategy, Customer, and US Human Resources, and the US General Counsel.

The Audit Report notes that there is significant overlap in National Grid's US executives and the NG USA BOD. The auditors believe it is unreasonable to expect these senior managers to distinguish between these roles or to offer objectivity on the matters before the BOD and that, therefore, there needs to be a greater degree of separation between senior management and the BOD. The auditors recommend that National Grid reconstitute the NG USA BOD to provide more oversight and independence and to include at least one independent (non-employee) director on NG USA's BOD.

New York Operating Companies

The BODs of each of the NY Operating Companies are currently composed of three US managers – in most cases individuals with responsibility for aspects of the New York business.

In the auditors' view, the BODs for the NY Operating Companies are largely non-functional. As with the NG USA BOD, the auditors are of the opinion that the significant overlap of directors and membership on the NY Leadership Team precludes any viable review of decisions. Additionally, the auditors found that the subsidiary BODs do not have clear roles and responsibilities.

Proposal to Implement Recommendation

National Grid believes it manages the governance of its US subsidiaries in a manner consistent with good governance standards for wholly-owned subsidiaries of a US public company. This includes the generally accepted practice of appointing company management to serve as directors of subsidiary boards. Nonetheless, the Company accepts these recommendations, with modifications, in the interest of improving the quality of its US corporate governance.

To address the auditors' recommendations, the Company will reconstitute the NG USA Board in a manner generally consistent with the recommendations by appointing at least two directors who are not members of the US management team, including an independent director. The Company is targeting to have this new board in place in the first quarter of the next fiscal year (April/May 2015).

The Company anticipates maintaining the BODs of NG USA and the New York Operating Companies according to the following principles:

Company	Board Members	Principles
NGUSA	5	• No more than three (3) directors will be members of the US management team; • One director will be an independent director who is not an employee of the Company; and • Other directors will be either NG UK or NG-plc executives, or other independent, qualified individuals.
NY Operating Companies	3	• At least two directors will be members of the New York Jurisdictional management team; and • No more than one director position will be filled with an executive from the other US jurisdictions or NG USA who does not have responsibilities for New York operations.

The Company believes that reducing the total number of board members for NG USA (currently seven) is appropriate and in the interest of promoting more efficient and consistent US board management practices, while at the same time providing breadth of representation.

With regard to the NG USA independent director, National Grid will appoint an independent director with skills and experience that complement the NG USA BOD. As part of the recruitment process, the Company expects to consider, among others, current and former non-executive directors of National Grid plc's Board. For several reasons, a National Grid plc non-executive director would be well positioned to serve as an independent director of NGUSA, including that non-executive directors are (i) independent, consistent with this recommendation, (ii) already familiar with the Company and its business priorities, and (iii) able to maintain consistency between the strategic direction of National Grid plc and its US subsidiaries. The Company anticipates the recruitment/appointment process will be completed by April 2015.

With regard to the New York Operating Companies' BODs, the Company believes it is important to appoint directors who are familiar with the unique operating, financial and regulatory challenges facing the New York businesses. Accordingly, the Company is proposing to maintain New York BODs with two or more directors who are members of the New York Jurisdictional management team.[1]

[1] For NMPC, the Company will maintain a BOD consistent with affiliate rules adopted in Cases 12-E-0201 and 12-G-0202, *Proceedings on Motion of the Commission as to the Rates, Charges, Rules and Regulations of Niagara Mohawk Power Corporation d/b/a National Grid for Electric and Gas Service*, "Order Approving Electric and Gas Rate Plans in Accord with Joint Proposal" (issued and effective March 15, 2013); Joint Proposal (dated December 7, 2012), at Appendix 7 (Rate Plan Provisions), Section 3 (Corporate Structure and Affiliate Rules) ("NMPC Joint Proposal"). For KEDNY and KEDLI, the Company will not appoint any director who is also an employee, officer or director of any Unregulated Competitive Energy Affiliate or Unregulated Affiliate, as defined in Appendix 4 of the Merger and Gas Revenue Requirement Joint Proposal in Cases 06-M-0878, 06-G-1185 and 06-G-1186.

In addition, for the NG USA and each of the New York Operating Company BODs, National Grid will adopt terms of reference to more clearly define these boards' roles and responsibilities. The Company will also modify the boards' regular agenda format, as necessary, to ensure that matters presented for consideration and approval are consistent with the auditors' recommendation.

Schedule

NG USA Board of Directors

Major Activities/ Milestones	Estimated Completion Date	Actual Completion Date	Status
Recruit/appoint new Board, including independent director	4/30/15		In progress
Adopt terms of reference to clearly define role	1/30/15	January 2015	Completed

New York Operating Companies' Board of Directors

Major Activities/ Milestones	Estimated Completion Date	Actual Completion Date	Status
Reconstitute (as necessary) the BOD to include a majority of New York executives	4/30/15		In progress
Adopt terms of reference to clearly define role	1/30/15	January 2015	Completed

Summary of Cost/Benefit and Risk Analysis

NorthStar's cost/benefit analysis describes a number of costs it anticipates the Company will incur to implement these recommendations, including: executive search firm costs for the independent director; legal costs to clarify the board roles; internal labor costs for executives attending board meetings; and travel expenses to attend in-person meetings. The following is a summary of NorthStar's cost estimate:

One Time Costs	
Executive Search Firm	$45,000
Role Clarification by Legal	$6,000
Subtotal	**$51,000**
Recurring Annual Costs	
Board Meeting Attendance	$444,000
Avoided Costs (current cost of meeting attendance)	($231,000)
Estimated Net Labor Costs	$213,000
Travel Costs	$117,500
Total Annual Costs	**$330,500**

In its response to NorthStar's cost/benefit analysis, the Company identified several factors that could impact the costs to implement this recommendation:

Independent Director Fees.

- A review of compensation surveys for independent directors of large US public companies is being performed, which will inform the appropriate compensation.
- Should the Company utilize an external recruiter, a director recruitment fee of 30 percent of annual compensation is the industry standard. The Company will avoid recruitment fees if it appoints a current/former non-executive director or other individual already familiar to the Company.
- The Company anticipates generally lower costs if the independent director selected is a current non-executive director of National Grid plc.

Board Attendance

- NorthStar's estimate for internal labor and travel expenses per board member is slightly understated. However, because National Grid is proposing a board comprised of five members (as opposed to seven), the total cost for the board members would be less than originally estimated by NorthStar.

Legal and Administrative Support

- NorthStar's cost estimate for incremental attorney time to support this recommendation ($6,000) is understated. The Company assumes at least an additional 100-120 hours to set up the new structure and provide ongoing support at a rate of approximately $155/hour (estimated $15,500-19,000 in Year One).
- This recommendation would also require incremental paralegal/administrative support (*e.g.*, preparing and circulating board books; preparing board meeting agendas and meeting notices; maintaining governance documents; scheduling meetings and site visits; and coordinating travel arrangements) not included in NorthStar's estimate.

Measures of Success

Successful implementation of the plan to reconstitute National Grid's subsidiary boards of directors as described above.

Chapter III – Corporate Mission, Objectives, Goals and Planning

Recommendation III-3

Continue to evolve the Jurisdictional organization model to establish a clear command and control structure for the NY Jurisdictional President, as described by NG USA executives during the audit.

- Improvements should include direct organizational reporting relationships between the NY Jurisdictional President and the full-time dedicated, senior managers who are responsible for the core utility operations and performance of the NY utilities.
- The NY Jurisdictional President should have direct reporting and control over NY-dedicated support personnel that plan, execute, monitor and control activities in support of the NY jurisdiction and operating companies.
- As indicated by NG USA Executives, this evolution is not a major reorganization nor should it result in increased headcount, but rather a re-alignment of reporting responsibilities and clarification of roles and responsibilities.

Implementation Plan Leads

Executive Sponsor:	Dean Seavers, President – NG USA Ken Daly, President – New York Jurisdiction
Team Lead(s):	Roger Young, SVP – US Human Resources

Implementation Priority: High

Recommendation Accepted: Yes

Background Information

National Grid's jurisdictional operating model, implemented in 2010 following NorthStar's audit of NMPC's electric operations, is discussed at length in the Audit Report. While NorthStar finds the current model to be a significant improvement over prior management structures, the Audit Report recommends, *inter alia*, that the Company "continue to evolve" the jurisdictional operating model to provide a clear command structure for the NY Jurisdictional President.

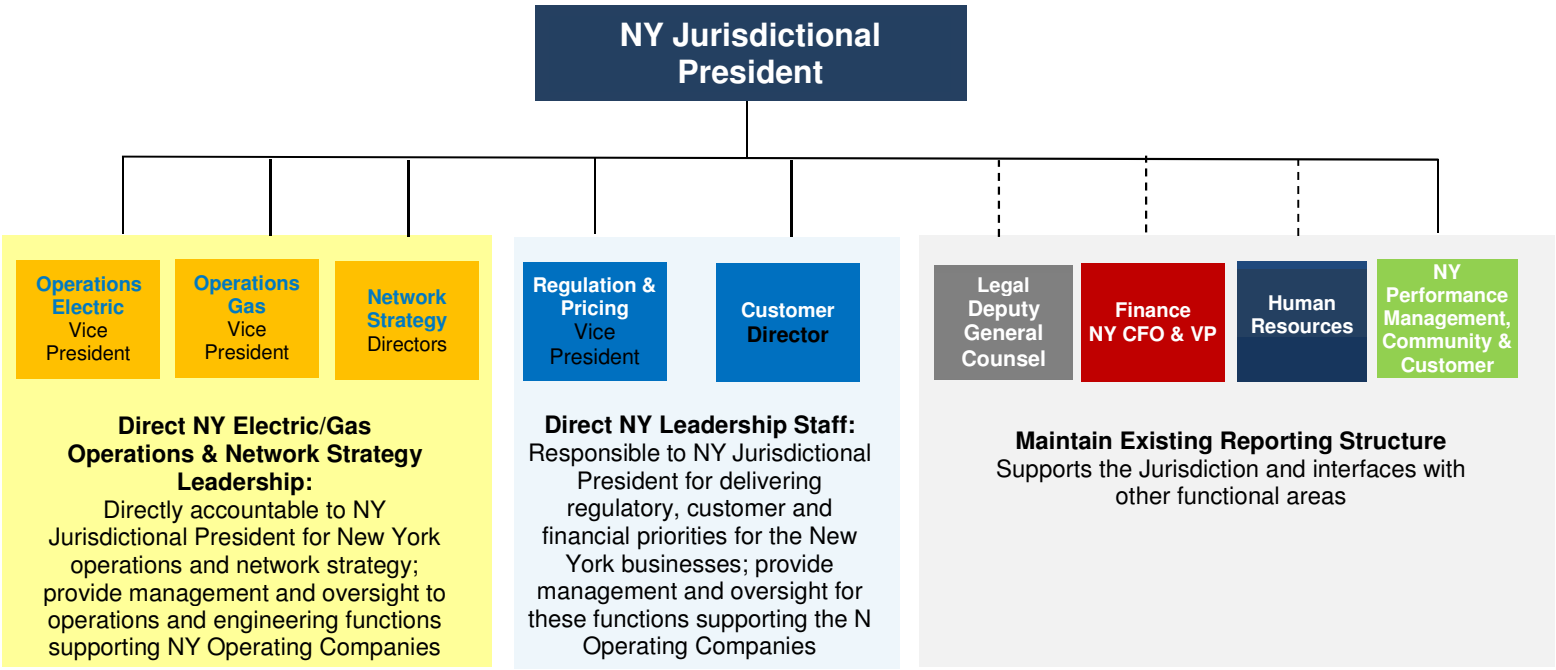
The NY Jurisdictional President and approximately sixteen senior managers representing various functional areas currently comprise the NY Leadership Team. The New York Leadership Team is primarily responsible for the oversight and delivery of New York business priorities. Most members of the NY Leadership Team report directly to executives in the functional areas, while also maintaining a matrix reporting relationship to the NY Jurisdictional President. The auditors believe that this matrix reporting model does not provide the NY Jurisdictional President with sufficient "command and control authority" over the functions responsible for utility operations. While the NY Jurisdictional President is involved in the capital and O&M budgeting process, and

approves the New York budget presented to NG USA and National Grid plc, the auditors note that operating expenses related to running the utilities are largely controlled by the functional areas.

Proposal to Implement Recommendation

Since first implementing the jurisdictional operating model in 2010, the Company has made significant progress towards its goal of creating an organization that is fully responsive to the expectations of its customers and regulators. National Grid, however, recognizes that more can be done and is committed to enhancing the current jurisdictional model to create a management framework that best supports the long-term performance of the NY Operating Companies.

The Company is proposing to make modifications to the jurisdictional model to enhance operational accountability to the NY Jurisdictional President. In place of the current reporting structure, National Grid will make a number of key members of the NY Leadership Team direct reports to the New York Jurisdictional President. These direct reports will be accountable to the NY Jurisdictional President, and he will measure their performance based on the success of the New York Operating Companies. The direct reports will include at least one senior manager from Gas Operations, Electric Operations, Network Strategy, Customer and Regulatory.



These direct reports will serve as the primary liaison between the Jurisdiction and the functional areas, and will be responsible for (i) negotiating and administering the service level agreements ("SLAs"), where applicable, (ii) reviewing and approving functional budgets, (iii) monitoring performance on behalf of the NY Jurisdictional President; (iv) working with functional areas to develop action plans to address poor performance under SLAs, and (v) managing regulatory and stakeholder relationships. Specifically, the Jurisdictional Team members will provide the following support in addition to their existing responsibilities:

- Represent the NY Jurisdictional President throughout the budgeting process;

- Track and report on financial performance including budget variances;
- Monitor SLA services and performance metrics;
- Review and approve capital and O&M budgets;
- Represent jurisdictional interests in long-term capital planning; and
- Monitor execution of New York business plans.

To ensure that the Company continues to realize the benefits of its matrix organization, the New York representatives will (i) report on a dotted line basis to the functional leads and (ii) retain their managerial responsibilities over the teams in their respective functional areas that support the NY Operating Companies. While certain teams may remain in the functional areas and report on paper to the functional heads, in practice, they will continue to be supervised and have their performance assessed by the senior manager who moved to the jurisdiction.

In addition to the realignment of key members of the New York Management Team, effective April 1st, employees reporting to the Vice Presidents of New York Electric and Gas Operations will move to the NY Jurisdiction. As a result, more than 2,600 electric and gas operations personnel supporting the New York utilities will report to the NY Jurisdictional President.

In the case of US Finance, the Company is reorganizing to more closely align the structure of the organization to the jurisdictions. Specifically, the Company is reorganizing to provide greater visibility to the jurisdictional Chief Financial Officers of the end-to-end finance processes. To that end, the New York Chief Financial Officer will have an expanded organization (for example, a controller reporting directly to him) to provide greater responsibility, accountability and visibility to the operating company financials, issues and risks. The Company believes that the New York senior finance manager with this revised and expanded role should maintain a direct reporting line to the US Chief Financial Officer and matrix reporting to the Jurisdictional Presidents. This maintains existing controls and independence and avoids even the appearance of the Jurisdictional Presidents having influence over operating company financial statements. The Company believes this approach significantly enhances the finance support for the jurisdictions while still maintaining appropriate controls within the Finance organization.

In the case of Legal, the Company is proposing to maintain the current reporting structure whereby legal personnel report up to the US General Counsel, and the Deputy General Counsel for New York Regulatory reports to the NY Jurisdictional President in a matrix reporting relationship. This approach allows the Company to realize the benefits of a consolidated US legal team, while at the same time providing for a senior, New York focused lawyer to serve as counsel to the NY Jurisdictional President on significant strategic and legal matters.

The Company will continue to review the jurisdictional model to identify if additional adjustments are appropriate and beneficial. National Grid envisions a strong jurisdictional model with Jurisdictional Presidents who have command and control over the day-to-day business of each of the operating companies.

Consistent with NorthStar's recommendation, the evolution of the jurisdictional model described above is not a major reorganization and the objective is that it will not result in increased

headcount or confusion to customers as the changes are largely designed to realign reporting responsibilities, clarify roles and responsibilities and increase accountability to the Jurisdictional Presidents.

Cross-Jurisdictional Review Process

To further allow the Jurisdictional Presidents to monitor and review functional performance by the service company, National Grid has established a cross-jurisdictional coordinating review ("CJR") process, with executive representation from the jurisdictions and US functions. The CJR will take place monthly to undertake an operating company by operating company performance review. The jurisdictional and US functional representatives will be expected to report on functional performance against SLA metrics by operating company, explain the reasons for any variances to target, and outline timeframe and measures to close performance gaps.

As discussed in response to NorthStar's recommendations relating to SLAs and performance management (Recommendations IV-2 and XI-1, respectively), National Grid is committed to performance excellence and the enhancements to the jurisdictional model advance that objective. National Grid will use the SLAs as a management tool and they will evolve concurrently with the organization.

Schedule

Major Activities/ Milestones	Estimated Completion Date	Actual Completion Date	Status
Implement modifications to jurisdictional model	April 2015	April 2015	Completed

Summary of Cost/Benefit and Risk Analysis

With regard to the costs to implement this recommendation, NorthStar concludes that National Grid would incur minimal incremental costs to implement this recommendation as describe above. The Company will make every effort to design the organization in a manner that minimizes incremental costs to implement the recommended changes to the operating model. However, there may be incremental costs that cannot be estimated at this time.

Measures of Success

- Improved governance, control and oversight over New York utility operations by the Jurisdictional President.
- Direct accountability to NY Jurisdictional President for functions delivering New York operations and customer support.
- Enhance Jurisdiction's ability to administer and monitor performance under the SLAs.
- More direct input in capital and O&M budgets developed specifically for New York operations.

Chapter III – Corporate Mission, Objectives, Goals and Planning

Recommendation III-4

Establish a Chief Risk Officer within the NG USA organization, reporting to the President NGUSA, with responsibility and appropriate authority, for coordinating, reviewing and challenging the results of all the various risk assessment groups, including the CRT, the CET/SOX compliance, Ethics and Compliance, and IAD to identify risk trends, track and manage financial and operating risks with materiality below NG-plc levels, and monitor that the plans prepared by the risk owners are appropriate and represent the best cost solution. This individual needs sufficient authority to direct changes in response to risks, and needs to remain sufficiently independent of the operations that they are able to identify patterns, and challenge assumptions patterns with impartiality. This individual should also work to implement necessary changes in the NG USA internal controls processes so that, as part of the controls processes, sufficient attention is paid to findings that are material at lower reporting levels, and gaps/issues are brought to the attention of the relevant Jurisdictional President and the President, NG USA.

Implementation Plan Leads

Executive Sponsor:	Ronald Macklin, Acting US General Counsel (for Dean Seavers, President – NG USA and Alison Kay, Group General Counsel & Company Secretary)
Team Lead(s):	Ronald Macklin, Acting US General Counsel

Implementation Priority: High

Recommendation Accepted: Yes (with modifications)

Background Information

National Grid's Enterprise Risk Management ("ERM") function is administered by the Corporate Risk Team ("CRT"), which reports to the Global Strategy and Corporate Development group in the UK. The Group head of the CRT oversees the ERM process for both US and UK operations, with the support of dedicated Heads of UK and US Risk Management. The Head of US Risk Management is supported by two US Risk Advisors.

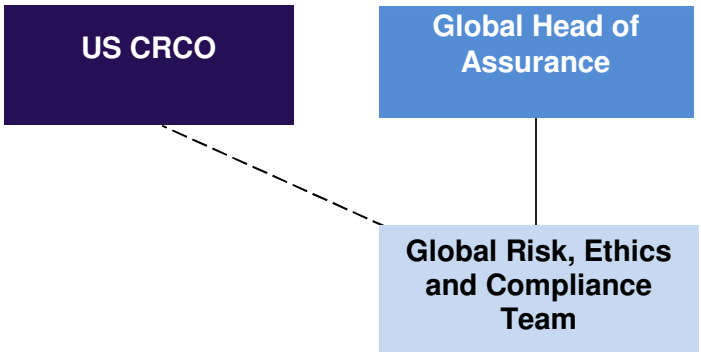
The auditors conclude that the current ERM model is not serving the needs of NG USA and specifically the New York gas companies. In their view, risk management, SOX compliance and internal audit are too focused at the National Grid plc level and, as a result, items that are material at the operating company level, but do not reach materiality at the corporate level, are not reported

up through the organization. Additionally, the auditors believe National Grid's risk management processes do not place sufficient attention on the differences between UK utility regulation and the regulation of utilities in the US.

Proposal to Implement Recommendation

Consistent with NorthStar's recommendation, National Grid's US General Counsel will become the US Chief Risk and Compliance Officer.[2] The US Chief Risk and Compliance Officer will be responsible for coordinating, reviewing and challenging the results of the risk, compliance and ethics groups, reporting to US management and the NG USA BOD, where appropriate. The US Chief Risk and Compliance Officer will determine the materiality threshold for reporting matters to NG USA and the operating companies. Consistent with NorthStar's recommendation, naming the US General Counsel ensures sufficient authority to direct changes in response to risks. NorthStar recommended that the US Chief Risk and Compliance Officer report to the NG USA President; however, because the US Chief Risk and Compliance Officer is the US General Counsel, the role reports to the National Grid plc Group General Counsel and Company Secretary. NorthStar recommended that the US Chief Risk and Compliance Officer have sufficient independence of the operations such that he or she is able to identify patterns and challenge with impartiality. The Company submits the proposal enhances those objectives as the Group General Counsel and Company Secretary has a reporting line to the Chairman of National Grid plc on governance matters. The Company is not proposing to make any changes to the organizational structure of the SOX compliance team because the responsibility for monitoring financial controls is appropriately maintained in the US Finance organization.

At the time of the audit, National Grid was already in the process of examining its risk management organization. As a result of this review, National Grid determined that best practice was to create a Global Head of Assurance position to oversee the risk, compliance and ethics teams for the US and the UK.



The Global Head of Assurance will be primarily responsible for coordinating, reviewing and challenging the results of various risk assessment groups, including compliance and ethics. The Global Head of Assurance will also be responsible for defining risks, providing assurance and ensuring consistency across all National Grid businesses. Specifically, the Global Head of

[2] The US General Counsel already carries the designation of FERC Chief Compliance Officer. The new title reflects both the risk and compliance accountabilities that the US General Counsel will now have.

Assurance will perform the following primary functions:

- Facilitate relevant and informed debates at the National Grid plc board.
- Support the US Chief Risk and Compliance Officer in facilitating relevant and informed debates at the NG USA and operating company boards.
- Establish the global strategies for risk, compliance, ethics, information records management and data privacy.
- Coordinate and support the US Chief Risk and Compliance Officer in developing the US strategies relating to risk, compliance, ethics and information records management and data privacy.
- Review, maintain and administer the relevant policies and procedures and ensure they continue to meet the risk and assurance requirements of National Grid plc, NG USA and the operating companies.
- Administer a robust and efficient system for monitoring, reporting and providing assurance regarding risk and compliance and National Grid's systems of control (excluding financial controls) to National Grid plc and coordinate and support the US Chief Risk and Compliance Officer in doing the same for NG USA and the operating companies.
- Coordinate and deliver helpful, timely and robust reports to National Grid plc and coordinate and support the US Chief Risk and Compliance Officer in doing the same for the NG USA and operating company boards and committees to provide relevant, transparent, and meaningful insight and assurance regarding risk, compliance, assurance and systems of control (excluding financial controls).

National Grid believes that it is important to enhance the focus on risk at all levels within the organization and this plan will enable National Grid to achieve that objective.

Schedule

Major Activities/ Milestones	Estimated Completion Date	Actual Completion Date	Status
Effective Date of the US Chief Risk and Compliance Officer	April 2015		Completed
Appoint Global Head of Assurance	April 2015	November 2014	Completed

Summary of Cost/Benefit and Risk Analysis

NorthStar estimates the following costs to implement this recommendation:

- Estimated salary for a Chief Risk and Compliance Officer: $250,000, with benefits totaling $500,000
- Fee paid to recruiter to locate Risk Officer: 30 percent of first year's salary ($75,000)
- Materials and Equipment: $3,500 (depreciated over three years)
- Travel allowance: $25,000
- Allowance for external consultants: $100,000

Total Reoccurring Costs: $628,500/year.

NorthStar estimated approximately 30 percent of these costs would be allocated to New York gas utilities.

The Company believes NorthStar's cost estimates are generally reasonable; however, substantially less costs will be allocated to the New York Operating Companies to implement this recommendation because (i) National Grid is appointing the current US General Counsel to serve as the US Chief Risk Officer, and (ii) all US and UK companies will benefit from the new Global Head of Assurance position.

Measures of Success

Appointment of the US Chief Risk Officer.

Chapter III – Corporate Mission, Objectives, Goals and Planning

Recommendation III-5

Prepare a true strategic plan for NG USA's New York operations to serve as a road map for investments, programs and operations in the state. The strategic plan should build on the state energy policy and Connect21 whitepapers and incorporate other PSC, state and federal energy and regulatory initiatives. The initial strategic plan should be presented to the NG USA BOD and the PSC within six months, and should be updated and presented annually thereafter.

Implementation Plan Leads

Executive Sponsor:	Ken Daly, President – New York Jurisdiction
Team Lead(s):	Evelyn Liddle, Vice President – Performance (New York)

Implementation Priority: Low

Recommendation Accepted: Yes

Background Information

NorthStar recommends that strategic plans be developed for the New York Operating Companies that are more robust than the current plan for NMPC. Specifically, NorthStar suggests that the strategic plans demonstrate a clear understanding of trends and issues impacting the New York Gas utilities to ensure that decisions and projects are consistent with future expectations.

The Company recognizes the benefits of comprehensive strategic plans for its New York Operating Companies and was working to develop such plans at the time of the audit.

Proposal to Implement Recommendation

Business Plans are currently being developed for KEDNY and KEDLI. This effort is led by the New York Jurisdictional team. Representatives from US Strategy & Technology, Regulatory, Human Resources, Customer, Network Strategy, Operations and Finance are accountable for developing specific sections of the plan on behalf of the New York Operating Companies.

As suggested by NorthStar, the Company is preparing its Business Plans by building on its Connect21 paper regarding the future of the utility industry and the New York State Energy Policy. These papers serve as the foundation for detailing the role of the New York Operating Companies in promoting and supporting federal and state energy objectives. The Business Plans are being developed in coordination with the development of annual priorities and goals to ensure

alignment.

The current draft outline of the Business Plans includes the following components:

- Strategic Outlook and Goals
- FY15 Annual Operating Plan
- Operating Company Financials
- Measures of Success
- Organization & Governance

Schedule

Major Activities/ Milestones	Estimated Completion Date	Actual Completion Date	Status
KEDNY and KEDLI Business Plans	1st Quarter 2015		In progress
Other Operating Companies	1st Quarter 2016		Start in fall of 2015

Summary of Cost/Benefit and Risk Analysis

The work described in this recommendation is being performed by internal resources as part of the Company's ongoing effort to develop strategic business plans for each of the New York Operating Companies.

Measures of Success

Business Plans developed consistent with the schedule set forth above.

Chapter III – Corporate Mission, Objectives, Goals and Planning

Recommendation III-6

Conduct, or contract with qualified outside auditor for, an investigation into the cost impacts of the LIPA separation on remaining NY operating company ratepayers, and provide a report to the PSC staff within six months. The investigation should include:

- True stranded costs broken out by labor and non-labor sources, and by capital investments and operating charges
- Expected revenues by basis (e.g., real estate, IT) and the time period for the revenue agreement.
- Incremental costs, both labor and non-labor, and capital and on-going operating costs or benefits
- Allocated costs (labor and non-labor combined if necessary), and an estimate of the aggregate impact of the reallocation of these costs on the remaining NY utilities.

The investigation should include a broad review of activities and functions that were performed with, or for the benefit of LIPA, rather than relying solely on prior listings of impacted areas. Where applicable and reasonable, existing studies can be used as sources for the cost estimates, with adjustments clearly specified. The investigation seeks to define and document the costs associated with the separation for future use.

Implementation Plan Leads

Executive Sponsor:	Sharon Partridge, Vice President – Financial Planning & Analysis & Decision Support David Doxsee, Vice President – Finance (New York)
Team Lead(s):	Chip Benson, Director – Finance Business Partners

Implementation Priority: Medium

Recommendation Accepted: Yes

Background Information

In January 2014, the Long Island Power Authority ("LIPA") transitioned to a new manager, Public Service Enterprise Group Long Island LLC ("PSEG-LI"), for its Long Island electric transmission and distribution ("T&D") system. For more than fifteen years prior to that transition, a National

Grid affiliate, National Grid Electric Services LLC, had served as LIPA's T&D manager. LIPA's decision to select a new T&D manager necessitated the separation of National Grid's customer, operations and other functions that had historically supported both the gas and electric businesses on Long Island. The Audit Report identified the following potential costs arising from the separation of the LIPA and KEDLI operations:

- Stranded costs associated with investments or activities specific to LIPA that cannot be eliminated or could not be transferred to PSEG-LI.

- Incremental costs to replace systems or personnel that previously had enjoyed efficiencies of scale or that were transferred to LIPA and must be replaced.

- Administrative and overhead costs that are spread across multiple operating companies through the general cost allocation processes.

During audit discovery (approximately six months prior to the separation), National Grid estimated the cost impacts of the LIPA separation at approximately $18.5 million. Now that the transition has occurred, the auditors believe the Company should refresh its analysis to identify and quantify the cost impacts on New York gas customers with reasonable accuracy.

Proposal to Implement Recommendation

The Company will update its analysis of the stranded costs resulting from the loss of the of the LIPA management agreement. The Company's analysis will include an assessment of the following:

(i) An accounting of stranded costs (capital and O&M) resulting from the LIPA transition broken out by labor, systems, facilities, etc.;

(ii) Any incremental costs (labor and non-labor) and capital and on-going operating costs or benefits incurred as a result of the loss of the LIPA agreement;

(iii) An estimate of the aggregate impact of any allocated costs on the New York Operating Companies; and

(iv) Offsetting LIPA transition charges paid by PSEG-LI.

Schedule

Major Activities/ Milestones	Estimated Completion Date	Actual Completion Date	Status
Form team to perform stranded cost analysis	November 2014	November 2014	Completed
Develop workplan	December 2014	December 2014	Completed

Submit report to Staff	June 2015		In progress

Summary of Cost/Benefit and Risk Analysis

NorthStar's cost/benefit analysis assumed the following resources would be required to complete this analysis:

- 40 hours of a financial analyst (at $150,000 fully loaded),
- 20 hours of manager level (at $300,000) with familiarity with the LIPA/KEDLI joint operations to assist, and
- 20 hours of manager or director level (at $350,000).

NorthStar estimates that the total cost to complete this work will be $9,500 and believes the work could be performed by existing staff.

The Company generally agrees with the auditors' assumptions regarding the type of internal finance resources necessary to perform this analysis. However, the Company believes NorthStar has understated the hours required to complete the work. In addition to finance resources, the affected business functions would need to support the analysis of stranded/incremental costs associated with the LIPA transition. Accordingly, the Company recommends doubling the work hour estimate for a total estimated cost of approximately $20,000.

Measures of Success

The stranded cost report is delivered to Staff on the schedule set forth above.

Chapter IV – Capital and O&M Budgeting

Recommendation IV-1

Prepare a report for submittal to the PSC staff within six months that fully documents the capital and O&M costs associated with USFP, USFP Stabilization, Finance Remediation and other financial and IS system related initiatives so that ratepayers are protected from SAP-related costs in excess of levels agreed upon in the previous NMPC and KEDNY rate cases (and for KEDLI by default). At a minimum, NG USA should:

- Document and re-establish the original capital and O&M costs underlying the rate case level.
- Clearly and specifically define the distinctions (e.g., timing, scope and cost) between the original USFP project, the USFP Stabilization Project, other SAP/USFP-related projects, the Finance Remediation Project and other financial and IS system activities.
- Specify how the costs associated with each of these activities are being tracked, monitored and verified, including: the specific project or cost codes used for dedicated internal labor, part-time or as-needed internal labor, contractors, other direct, indirect and capital costs, and the procedures for review, verification, challenge and correction of costs.
- Explain and document the impact of back-filling positions assigned to these initiatives.
- Explain and document the sources of the increase in "other IS" capital and O&M expenditures (see Exhibit IV-11) to confirm the costs are not related to the USFP Stabilization initiatives.

The purpose of the report is to provide the PSC staff with contemporaneous documentation so the costs for fixing USFP/SAP will not be borne by ratepayers, and the costs of Finance Remediation and other IS issues can be appropriately assessed in future rate cases. National Grid would continue to have the right to justify costs for SAP enhancements and other initiatives for inclusion in rates as a part of the normal rate case process.

Implementation Plan Leads

Executive Sponsor:	Vivienne Bracken, SVP – Shared Services
Team Lead(s):	Rachel Patton – Finance

Implementation Priority: High

Recommendation Accepted: Yes (with modifications)

Proposal to Implement Recommendation

National Grid takes very seriously its commitment that customers will not bear the incremental costs associated with stabilizing its SAP system or the Finance Remediation Plan and the Company generally accepts the reporting requirement described by NorthStar in this recommendation. However, the Company believes that limited modification to the scope of the report is appropriate.

Consistent with NorthStar's recommendation, the Company will identify the capital and O&M costs associated with USFP, USFP Stabilization, incremental Finance Remediation costs and the capital costs associated with other IS system-related initiatives. Specifically, the Company will (i) identify the original capital and O&M costs associated with USFP as currently included in rates; (ii) identify actual O&M and capital costs associated with USFP, USFP Stabilization, and incremental Finance Remediation costs; (iii) explain the distinctions (*i.e.*, timing, scope and cost) among the original USFP project, the USFP Stabilization Project, and the Finance Remediation Project; and (iv) explain how the costs associated with each of these activities are being tracked, monitored and verified.

With respect to USFP Stabilization and Finance Remediation, the Company will include: the accounting treatment for the projects and any guidance provided by management regarding treatment of dedicated internal labor, part-time or as-needed internal labor, contractors, other direct, indirect and capital costs, and the procedures for review, verification, challenge and correction of costs.

With respect to other IS expenditures, information will be provided to demonstrate that the increase in rent expense is not the result of including USFP Stabilization costs. Specifically, the Company will describe the projects underlying Exhibit IV-10, identify the capital and O&M costs associated with these projects and explain why rent expense is increasing. The Company will describe the process for charging IS capital and O&M costs. The Company is not proposing to include all general IS O&M costs in the report as the Company is reviewing all costs associated with vendors supporting stabilization and remediation to ensure that those costs have been properly recorded. Similarly, the Company is reviewing all internal labor costs associated with employees supporting those efforts. Accordingly, the possibility of stabilization or remediation costs having been reflected in general IS O&M costs that could be recovered from customers is extremely remote and likely de minimis. The Company submits that a complete review of all general IS O&M would be an inefficient use of significant resources. Further, NorthStar's primary concern appears to be the increase in capital expenditures, which will be captured in the Company's report.

Schedule

The Company will submit the report no later than April 1, 2015 (completed).

In preparing the report, certain accounting adjustments may be identified as appropriate. The Company will make necessary adjustments no later than 30 days after submission of the report.

The Company will meet with Staff to discuss the report within 60 days of submission of the report.

Summary of Cost/Benefit and Risk Analysis

NorthStar estimates that the report will require 80 hours of a financial analyst (at $150,000 fully loaded), 40 hours of manager level (at $300,000), and 40 hours of manager or director level (at $350,000) for a total estimated cost of $19,000.

Provided the scope of the report is as described in the proposal to implement the recommendation, NorthStar's cost/ benefit and risk analysis is reasonable. Absent the modification to the scope; however, NorthStar's assessment is significantly understated with respect to the time and resources required to prepare the report.

Measures of Success

- Timely submission of the report.
- Completion of any required accounting adjustments.
- Meeting held with Staff to discuss the report.

Chapter IV – Capital and O&M Budgeting

Recommendations IV-2 and XI-2

- Develop improved SLAs to govern the relationship between the jurisdictional operating companies and ServCo. For products and services provided to NYS utilities from the ServCo, SLAs must emulate commercial agreements and should include:
  - Improved dialogue among the various National Grid management teams.
  - Detailed metrics addressing product and service units, volumes provided, timeframe, quality and unit prices.
  - Tracking mechanisms including quantifiable and meaningful KPIs.
  - Standardized reports across all NG USA entities.
  - Enforcement via payment only for product and service units actually provided.
  - Jurisdictional management authority to terminate and change service providers.

- Continue to evolve the SLAs to include additional KPIs addressing each of the major functions performed, include measures of efficiency, cost-effectiveness and unit costs, provide greater budgetary detail, include financial penalties for failure to achieve performance targets, relate the service company employee performance evaluation process to the SLAs, require more frequent reporting, incorporate the results of the benchmarking exercises, and improve performance targets.

Implementation Priority: Medium

Recommendation Accepted: Yes (with modifications)

Implementation Plan Leads

Executive Sponsor:	Evelyn Liddle, Vice President – Performance (New York)
Team Lead(s):	Don Wolf, Director – Service Company Peter Fitzgerald, Director – Financial Planning & Analysis

Background Information

The 2009 management audit of NMPC's electric business performed by NorthStar Consulting Group recommended that the Company complete the development and execution of service level agreements ("SLAs") between the service companies and the various lines of business. At the time of that recommendation, National Grid was organized in a line of business model with four centralized service companies that provided service to the operating companies. The recommendation was for the SLAs to provide better visibility of the service levels and costs as well as the types of services provided by the service companies and lines of business. With the change to a jurisdictional model in 2011, National Grid developed SLAs between the service

company functions and NMPC.

Over time, National Grid continued to refine, improve and expand the SLAs. Specifically, in accordance with the NMPC Joint Proposal in Cases 12-E-0201 and 12-G-0202, the existing SLAs were enhanced to include detailed service descriptions that align with the budgeted cost for each service and metrics and targets to demonstrate and ensure that the services provided by the service company achieve reasonable levels of quality and performance. National Grid further agreed to develop external cost comparisons to demonstrate and ensure that SLA costs are reasonable relative to appropriate market alternatives. In accordance with the recommendations in the Overland Consulting audit of service company transactions, National Grid implemented the enhanced SLAs for all of the NY Operating Companies. The enhanced SLAs and external cost comparisons for the NY Operating Companies were submitted to Staff in September 2013 and March 2014, respectively.

National Grid also implemented a governance framework for the SLAs, which included monthly meetings to discuss budget performance and quarterly meetings to review performance to the metrics. During the quarterly meetings, performance issues were addressed or escalated for further review. Currently, the consequence for failing to meet an SLA metric is a consideration in the annual performance review and evaluation of service company functional employees, which directly impacts the variable compensation received by those employees.

In its audit recommendations, NorthStar identified certain improvements that can be made to the current SLAs. To that end, NorthStar identified the following key elements of a successful SLA:

- Top management commitment
- A participative approach
- Top to bottom involvement of staff
- Customer input
- A sound management framework
- Defined metrics for measurement of performance and costs
- Incentives and penalties for vendor performance
- Regular review of service levels
- Sufficient detail but not a step-by-step manual
- Benchmarked services
- Alignment with the operational utility needs
- Simplified standard systems and processes
- Leverage end-to-end process ownership
- Strong performance management with greater transparency

While the current SLAs incorporate many of these key elements, National Grid recognizes that the SLAs can be further refined and improved to include all of the identified key elements.

Proposal to Implement Recommendation

National Grid views the SLAs as important management tools to run the business and has identified a path to align the SLAs to the long-term vision and structure of the organization. As

identified in its response to Recommendation III-3, National Grid is evolving its jurisdictional and service company models. The SLAs will evolve concurrently with the organizational changes, which will take time.

To that end, National Grid proposes a phased implementation for enhancing the SLAs. Specifically, the Company proposes to implement FY16 SLAs (to be effective no later than July 1) that include service descriptions consistent with the current SLAs (updated where appropriate), budgets by function (level 4 budget hierarchy) and updated and enhanced performance metrics. Providing the budget detail at the functional level aligns with how management reviews costs and variances and provides a measure of consistency among the SLAs and recurring executive and senior leadership business review meetings. Additional cost transparency and detail will continue to be provided to the Jurisdiction President on a monthly basis by the jurisdictional finance team and the monthly reports will continue to be provided to DPS Staff in accordance with the Niagara Mohawk Joint Proposal. Performance metrics will include regulatory and business metrics, which are being developed to facilitate the Company's monitoring and review of service delivery. These metrics will align with individual employee's performance metrics, thereby achieving enhanced consistency and refining the Company's approach to performance management. Failure to meet performance metrics will be taken into consideration when determining an employee's annual performance rating.

The Company will submit a detailed plan describing how it will more fully implement NorthStar's recommendation with new SLAs to be effective FY17, which will allow the Company an opportunity to advance the jurisdictional model and develop a meaningful plan consistent with the longer term structure of the organization.

Summary of Cost/Benefit and Risk Analysis

With regard to the costs to implement this recommendation, the Company disagrees with NorthStar's conclusion that National Grid would incur limited if any incremental costs. Specifically, the Company has identified the following two categories of incremental costs:

- The Company would need to work with the various business functions to develop the data necessary to support new metrics. In addition, training would be required for proper tracking and reporting of the SLA data to support performance assessment under the KPIs. Although an organization is currently in place, the scope of the SLAs as recommended by NorthStar would be expanded and require additional resources. The Company would likely form a small project team to oversee the development of these detailed metrics. To develop the current SLAs in FY14, an internal project team (utilizing some consultant resources) was engaged for approximately fourteen months. Assuming it takes six to eight months to develop the detailed KPIs described in these recommendations, the Company estimates it would incur $400,000-500,000 in costs.

Measures of Success

Submission of revised FY16 SLAs and detailed plan in the timeframe described above.

Chapter V– System Planning

Recommendation V-1

Develop an integrated natural gas system-wide plan. The system plan should include all reliability work, mandated replacements, growth projects and system planning work identifiable over a five-year period.

- The system plan should include all projects identified based on their relative merit and need dates. It should not be limited by budget amounts.
- The system plan should be updated annually.
- It should also include associated project cost estimates, risk scores and resource requirements.
- The integrated system plan should provide input to the Investment Planning process to create the Five-Year Investment Plan.

Implementation Plan Leads

Executive Sponsor:	Marie Jordan, SVP – Gas Operations
Team Lead(s):	Tim Small, VP – Gas System Engineering Laurie T. Brown, Director – Network Strategy, Gas Amy Smith, Director – Regulatory Support Reporting

Implementation Priority: Medium

Recommendation Accepted: Yes

Background Information

The auditors found that, notwithstanding National Grid's well-developed planning processes and analyses, the gas system planning function does not effectively identify future system reinforcement, reliability and special projects for KEDLI, KEDNY and NMPC. As an example, the auditors note that National Grid has not yet developed an integrated system plan that explicitly addresses both long-term system needs and infrastructure replacements.

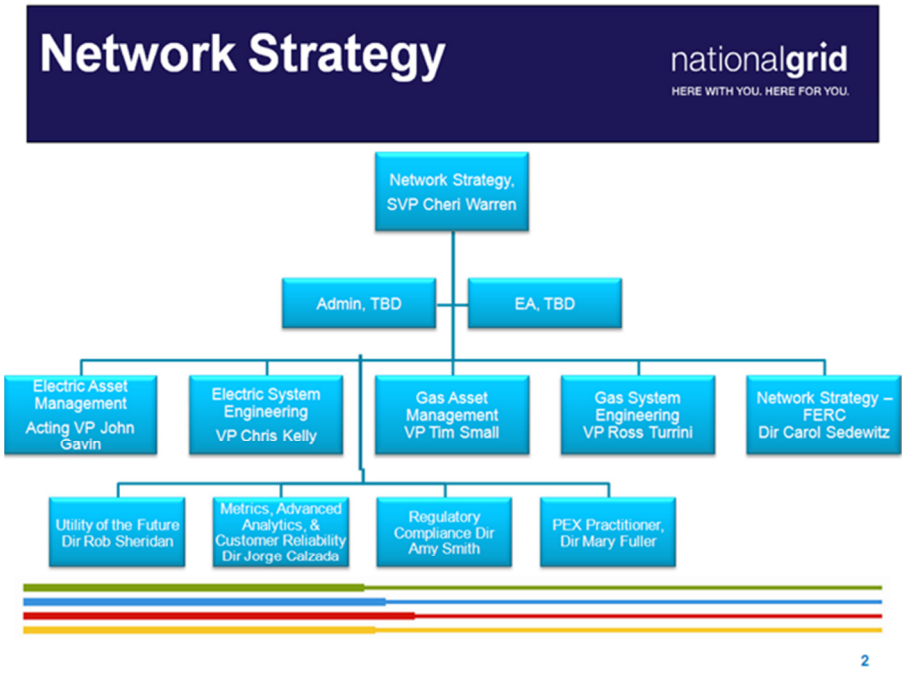
Proposal

Historically, Network Strategy's Gas Engineering group coordinated a centralized gas system planning process. All organizations within Gas Engineering were involved in various aspects of gas system planning, including the asset management and investment planning groups. During the course of the audit, Network Strategy underwent an organizational review to consider ways to better align and focus gas engineering resources. As a result of this review, Network Strategy reorganized to clearly identify the resources responsible for long-term planning and asset management in a manner intended to enhance the focus on long-term asset management, consistent with this recommendation.

Asset Management Group

To enhance the focus on asset management and long-term system planning, National Grid's Network Strategy organization has restructured Gas System Engineering to provide for separate asset management and gas engineering functions. The new Asset Management Engineering group will act as the "asset owners" responsible for identifying future system reinforcement, reliability and special projects for the gas system.

To lead these gas engineering functions within Network Strategy, the Company has created two distinct positions: (1) Vice President, System Engineering and (2) Vice President, Gas Asset Management.



The Vice President, System Engineering will continue to be responsible for gas design and work delivery for Gas Operations.

The Vice President, Gas Asset Management will be primarily responsible for the development of

the system-wide, Five-Year Capital Work Plan. Functions reporting to this new role will include Gas Investment Planning, Long Term Planning, Transmission Engineering, Distribution Engineering and Pressure Regulation Engineering. Collectively, these groups will develop a comprehensive assessment of the work required to support the long-term and short-term needs of the gas system. Among other items, this Asset Management group will be responsible for preparing an integrated system plan for the Company's gas assets.

Five-Year System Plan

National Grid has historically prepared annual, five year gas system send-out forecasts that are utilized to support the planning process. National Grid also developed a long-term evaluation of the adequacy of the supply main infrastructure to assess infrastructure needs required to support continuing growth and reliability. Going forward, the Asset Management group will develop an integrated natural gas system-wide plan that includes all reliability work, mandated replacements, growth projects and system planning work identifiable over a five year period. This integrated gas system plan will include:

- A description of all gas projects identified for inclusion in the plan;
- Project cost estimates, risk scores and resource requirements;
- Input for the Investment Planning process to create the Five-Year Investment Plan;
- Visibility for long-term resource requirements;
- Potential reliability issues and areas of risk; and
- A baseline for the following year's planning process that provides an estimate of all system work.

Asset Management will coordinate with the Company's Load Forecasting, Supply, Sales and Gas Control groups to ensure that all long term system requirements are appropriately considered in the five year plan.

The five year gas system plan will be updated annually by Asset Management. In addition to the five year plan, Asset Management will continue to prepare longer term (10 year) system plans as part of its Strategic Infrastructure initiative. The 10 year plan will focus on larger scale projects related to interstate pipeline reliability and transmission and major main system resiliency - including projects that allow gas to be transported across the system from various interstate pipeline delivery points and support contingency operations when various system components experience an unplanned outage. Such projects will also support long term system requirements for growth and will be integrated with system integrity driven work and any mandated replacement programs.

The Company will share its five and ten year gas system plans with Staff when available.

Schedule

Major Activities and Milestones	Estimated Start Date	Estimated Completion Date	Actual Completion Date	Current Status
New structure separating the engineering and asset management functions			08/1/2014	Complete
Integrate Investment Planning Group into Gas Asset Management organization			09/1/2014	Complete
Develop and formalize an integrated 5 Year System Planning Process	10/04/2014	7/1/2016		In progress

Summary of Cost/Benefit and Risk Analysis

National Grid is currently reviewing the appropriate staffing levels required to support the integrated long-term gas system plan.

Measures of Success

Timely preparation of the integrated, five-year system plan.

Chapter V – System Planning

Recommendation V-2

Update the companies' IMPs in § Part 192.911, including:

- An identification of all high consequence areas, in accordance with § 192.905.
- A baseline assessment plan meeting the requirements of § 192.919 and § 192.921.
- An identification of threats to each covered pipeline segment, which must include data integration and a risk assessment. An operator must use the threat identification and risk assessment to prioritize covered segments for assessment (§ 192.917) and to evaluate the merits of additional preventive and mitigation measures (§ 192.935) for each covered segment.
- A direct assessment plan, if applicable, meeting the requirements of § 192.923, and depending on the threat assessed, of §§ 192.925, 192.927, or 192.929.
- Provisions meeting the requirements of § 192.933 for remediating conditions found during an integrity assessment.
- A process for continual evaluation and assessment meeting the requirements of § 192.937.
- If applicable, a plan for confirmatory direct assessment meeting the requirements of § 192.931.
- Provisions meeting the requirements of § 192.935 for adding preventive and mitigation measures to protect the high consequence area.
- A performance plan as outlined in ASME/ANSI B31.8S, section 9 that includes performance measures meeting the requirements of § 192.945.
- Record keeping provisions meeting the requirements of § 192.947.
- A management of change process as outlined in ASME/ANSI B31.8S, section 11.
- A quality assurance process as outlined in ASME/ANSI B31.8S, section 12.
- A communication plan that includes the elements of ASME/ANSI B31.8S, section 10,

and that includes procedures for addressing safety concerns.

Implementation Plan Leads

Executive Sponsor:	Cheri Warren, SVP – Network Strategy
Team Lead(s):	Tim Small, VP – Gas System Engineering Michael Kern, Director – Gas Transmission Engineering

Implementation Priority: High

Recommendation Accepted: Yes

Background Information

The audit report notes that KEDLI/KEDNY's Integrity Management Plan (IMP) was last updated in 2007, and that NMPC's IMP was last updated in 2006. The auditors also suggest that certain written procedures do not appear to address all federal IMP and DIMP requirements (49 CFR 192.911).

Proposal to Implement Recommendation

National Grid believes that its IMPs are fully compliant with all applicable regulations. Notwithstanding, the Company agrees the current versions are due for review and update. National Grid intends to update its IMP plan in accordance with the recommendation and to consolidate the KEDLI, KEDNY and NMPC IMP plans into one combined IMP plan for all operating regions in New York.

Schedule

The updated and consolidated IMP plan will be filed with the Commission by December 31, 2014.

Summary of Cost/Benefit and Risk Analysis

Work to update/revise the Company's IMP will be performed by existing internal resources and, therefore, the Company estimates minimal incremental costs.

Measures of Success

Successful implementation will be achieved upon timely filing of the updated and consolidated IMP plan.

Chapter V – System Planning

Recommendation V-3

Update procedural documentation/manuals per § 192.614 and § 192.615, including:
• Correct any documentation deficiencies in relation to § 192.614.
  o Include the identity, on a current basis, of persons who normally engage in excavation activities in the area in which the pipeline is located.
  o If the operator has buried pipelines in the area of excavation activity, provide for actual notification of persons who give notice of their intent to excavate of the type of temporary marking to be provided and how to identify the markings.
• Correct any documentation deficiencies in relation to § 192.615.
  o Provide information about the responsibility and resources of each government organization that may respond to a gas pipeline emergency.
  o Develop plan for how the operator and officials can engage in mutual assistance to minimize hazards to life or property.

Implementation Plan Leads

Executive Sponsor:	Cheri Warren, SVP – Network Strategy
Team Lead(s):	Tim Small, VP – Gas System Engineering Michael McCallan, Director – Emergency Planning Diane Benedetto, Manager – Damage Prevention

Implementation Priority: High

Recommendation Accepted: Yes

Background Information

The audit report notes that National Grid programs and procedures to comply with the federal safety standards specified in 49 CFR 192 appear to be inadequate in the areas of:

1. Written program to prevent damage by excavation activities (192.614); and
2. Procedure to establish and maintain liaison with appropriate fire, police and other public officials (192.615).

Proposal to Implement Recommendation

National Grid believes that the items identified in this recommendation regarding 192.614 and 192.615 are already addressed in the Company's current policies and procedures. For example:

- The requirements of 192.614(c)(1) are contained in the Company's Damage Prevention

and Public Awareness Communications programs. Under these programs, National Grid, in coordination with the two New York one call centers, identifies individuals who normally engage in excavation in accordance with 49 CFR 192 and related industry standards.

- With regard to 192.614(c)(4), a description of the temporary markings used by all New York utilities are contained in New York's damage prevention regulations (16 NYCRR Part 753). Instructions on identifying temporary makings are provided in educational materials that are made available to excavators by the Company, the New York one call centers and the Common Ground Alliance, an industry organization dedicated to damage prevention. In addition to being available online, these materials are distributed at regular training courses held for excavators, and disseminated by National Grid's damage prevention supervisors in the field.

- Coordination with emergency responders and other public officials is addressed in the Company's Gas Emergency Response Plan ("ERP"), not in the IMP. The Company is in the process of reviewing and updating its New York Gas ERP. The revised ERP (expected to be issued in the second half of 2014) will include enhancements to the provisions addressing interactions with emergency responders and the resources of each governmental organization.

Notwithstanding, National Grid will perform a review of the procedural documentation/manuals to ensure compliance with 192.614, Procedure 070005-PL [Preparation of Gas Facility Records] and Procedure 0010015-PL [Gas Pipeline Public Awareness and Communication]. If the Company identifies any noncompliant documentation, it will submit a compliance plan to Staff.

Schedule

Major Activities	Estimated Start Date	Estimated Completion Date	Actual Completion Date	Current Status
Review procedural documentation/manuals for compliance with 192.614 & 192.615	11/1/2014	12/31/2014	January 2015	Complete
If required, update procedural documentation/manuals	1/1/2015	3/31/2015	February 2015	Complete
Finalize revised Gas ERP	11/1/2014	12/31/2014	January 2015	Compete

Summary of Cost/Benefit and Risk Analysis

Any work to update/revise the Company's policies and procedures would be performed by existing internal resources and, therefore, the Company estimates minimal incremental costs.

Measures of Success

Success will be achieved upon confirmation of compliance with regulations.

Chapter VI – Project Management

Recommendation VI-1

Address deficiencies identified in the Project Management group's adherence to the Playbook project documentation requirements. This should include:

- Update the Project Management Documentation Policy to identify the requirements and responsibilities for records management on project-managed projects
- Continue periodic audits of project files by Internal Audit or an external auditor.

Implementation Leads

Executive Sponsor:	Cedric Williams, VP – Project Management & Complex Construction Gas Robert DeMarinis, VP – Maintenance & Construction (NY Gas)
Team Lead(s):	Thomas Buckleman, Manager – Gas Project Management TBD, Director - Gas Project Management

Implementation Priority: Low

Recommendation Accepted: Yes

Background Information

The auditors found that Project Management's adherence to the Gas Project Management Playbook was deficient in the areas of project documentation. In the auditor's opinion, the Project Managers were not consistent with their overall filing of documents, drawings and specifications, as well as establishing an auditing system where these files would be reviewed and evaluated.

Proposal to Implement Recommendation

The Company agrees that improvement is required in the area of project management documentation.

In December 2013, a revised folder system for project document management was rolled out to all of the project managers. This new system included a standard series of electronic folders to store Project Management documentation. Project Management subsequently performed an overall evaluation of the December 2013 electronic documentation system, at which time instances of deviations from this documentation system were identified.

In February 2014, Project Management implemented a monthly auditing process through a third party consultant to review the project managers' compliance with the project documentation system. To date, ten audits have been conducted.

Going forward, the Company will address any deficiencies with adherence to the Project Management Playbook through the continued use of periodic audits, enhanced supervisory control mechanisms and the adoption of performance objectives measuring project managers' adherence to the Playbook.

Schedule

An updated audit schedule, supervisory control mechanisms and performance objectives will be implemented by January 2015.

Summary of Cost/Benefit and Risk Analysis

The costs to implement this recommendation will be negligible.

The benefits of ensuring compliance with the Company's centralized project documentation requirements include more accurate, up-to-date project documentation, thereby enabling improved project management.

Measures of Success

Success is measured through positive results in the periodic documentation audits.

Chapter VI – Project Management

Recommendation VI-2

Develop an estimating program for gas projects that is consistent with that used for NG USA's electric utilities.

Implementation Leads

Executive Sponsor:	Cheri Warren, SVP – Network Strategy
Team Lead(s):	Ross Turrini, VP – Gas Systems Engineering Chris Connolly, Director – Project Engineering & Design

Implementation Priority: Medium

Recommendation Accepted: Yes

Background Information

National Grid currently utilizes an enterprise-wide estimating tool to generate engineering and construction estimates for "complex work" as defined by the Project Engineering & Design Playbook. This Microsoft Excel based tool was developed in-house and is primarily utilized by project engineers designing large, complex projects. This tool is managed by one engineer. The data tables are updated on a periodic but inconsistent basis with support provided from the Finance, Investment Planning, Construction and Procurement organizations. National Grid recognizes that gaps currently exist in the estimating process for gas, which is driving inconsistency and variations in estimated cost to actual cost. These variances are a result of several factors, including poor estimate accuracy driven by lack of project coordination (planning and execution) inconsistency, as well as a lack of project-level actual cost reporting resulting from recent IS system challenges.[3] As such, a team focused on the end-to-end estimating process is needed. This team should have the training, skills and experience, along with an enhanced estimating tool, necessary to deliver reliable project estimates for complex gas projects.

Proposal to Implement Recommendation

National Grid will establish a Gas Estimating Department ("Estimating Center of Excellence" or "ECoE") within the Gas Systems Engineering Organization.[4] When staffed and fully trained, this group will support a consistent estimating end-to-end process for gas, including documentation of

[3] Please refer to Exhibit VI-7 in the Audit Report for a summary of actual cost to final estimate variance analysis for large complex projects.

[4] The Gas ECoE will be under the leadership of Network Strategy organization.

responsibilities and KPIs to measure performance.

The scope of the Gas ECoE will include complex capital projects, as defined by the Gas Project Engineering & Design Playbook. This work includes, but is not limited to, pressure regulating stations, transmission pipeline projects and bridge crossings. The number of projects this group will manage on an annual basis is estimated to be approximately 400 – 450 projects,[5] which includes gas capital projects included in the current work plan, gas growth projections and an increase in state and municipal public works projects.

In order to support this volume of work, the Gas ECoE will be staffed by four engineers, two analysts and one director reporting to the VP, Gas Systems Engineering. This group will provide services to all NY Operating Companies. The responsibilities of the group will include:

- Ownership and accountability of the end-to-end Estimating Process
- Estimating tool(s) selection and management of the tool(s)
- Training and development of individuals to execute the process
- Estimated cost to actual cost variance analysis and reporting

Estimates will be prepared according to the existing Project Engineering & Design Playbook guidance.

Upon creation of the group, the Gas ECoE will leverage the existing Project Engineering & Design Estimating Tool, which is deployed and utilized in all jurisdictions for complex projects as defined by the Project Engineering & Design Playbook. The group will analyze the existing estimating tool and strengthen the tool, as required, to drive improved estimate accuracy. Such action will reduce the dependency on existing mains and services contracts pricing, which can create estimate inaccuracies with larger scale complex projects. The Gas ECoE will also enhance abilities of the estimating tool(s) to include greater detail for non-stock materials as well as improved capabilities to include non-destructive testing requirements. Additionally, the Gas ECoE will assume ownership of the existing Standard (Unit Cost) Estimating Tool developed by Resource Planning and utilized by Network Strategy Gas Asset Management and Customer Fulfillment to plan and prepare estimates for standard projects. For both tools, the Gas ECoE will implement version control to appropriately and consistently manage updates to the tool.

Schedule

National Grid estimates that the Gas ECoE can be established to fulfill the previously identified scope of work within 12 to 18 months.

[5] This number represents the total number of complex projects enterprise wide. The New York jurisdiction is estimated to represent half of the total.

Major Activities	Estimated Completion Date	Actual Completion Date	Current Status
Phase I - Establish Gas ECoE Group Charter Development End-to-End Estimating Process Review PE&D Playbook Review/Update RACI Development Staffing Department	Q2 – 2015		In progress
Phase II - ECoE Capability Build Estimator Training Estimating Tool Evaluation Estimating Tool Enhancements and Maintenance Future ECoE Estimating Software Review and Evaluation	Q4 – 2015		
Phase III - Estimating Process Benchmarking Variance Analysis – FY16 Projects	Q1 – 2016		
Phase IV - Implementation FY18 Projects Estimating KPI Tracking / Reporting Established	Q2 – 2016		

Summary of Cost/Benefit and Risk Analysis

The annual cost to staff and operate the Gas ECoE is estimated to be approximately $1.29M capital[6] and $0.31M operating expense[7] within the first full year. The cost to establish the new department as well as enhance and maintain the existing Project Engineering & Design Complex Estimating Tool is incremental to the current business plan(s) beginning in Year 1, and is anticipated to occur in FY16. Additional analysis is required to estimate the IS costs of a new estimating software beyond Year 1 with the expectation that the new solution would not be in place until FY19. The benefits of this plan are not easily quantified or measurable. National Grid anticipates that, with the creation of this group, benefits will result in improved estimate accuracy and delivery of complex projects within appropriate estimate tolerance, which, in turn, will drive improvements in the Capital Business Plan efficiency in each jurisdiction.

[6] The internal labor expenses and IS Expenses highlighted in Table 2 include only the New York jurisdiction.

[7] Labor and IS costs to support enhancements and maintain the existing Gas Estimating Tools include the New York jurisdiction only.

Capex Cost ($M)			
	FY16	**FY17**	**FY18**
Resources (FTEs)			
1 Director	$0.30	$0.30	$0.30
4 Engineers	$0.86	$0.86	$0.86
2 Analysts	$0.13	$0.13	$0.13
IS (System Enhancements & Maintenance)			
NY	$0.00	TBD	TBD
Total	**$1.29**	**$1.29**	**$1.29**

Opex Cost ($M)			
	FY16	**FY17**	**FY18**
Resources (FTEs)			
1 Director	$0.03	$0.03	$0.03
4 Engineers	$0.10	$0.10	$0.10
2 Analysts	$0.13	$0.13	$0.13
IS (System Enhancements & Maintenance)			
NY	$0.05	TBD	TBD
Total	**$0.31**	**$0.26**	**$0.26**

Measures of Success

Successful implementation of the Gas ECoE will be measured in accordance with the KPIs below:

Project Estimate Tolerance
Year 1 (FY18 Projects): 80% of Projects, Estimate Accuracy +/-20%
Year 2 (FY19 Projects): 80% of Projects, Estimate Accuracy +/-15%
Year 3 (FY20 Projects): 80% of Projects, Estimate Accuracy +/-10%

This phased approach to improving estimating accuracy is driven by several important factors:

- Challenges with sub-surface construction (*i.e.*, utility or other unknown conflicts)
- Permitting stipulations (*e.g.*, day/hour work restrictions imposed by a municipality)
- Surface restoration costs subject to municipality requirements and/or commodity pricing
- Material costs subject to commodity pricing

Chapter VI – Project Management

Recommendation VI-3

Implement a WBS system to organize and manage gas projects as part of the implementation of Primavera P6.

Implementation Leads

Executive Sponsor:	Cedric Williams, VP – Project Management & Complex Construction Gas Robert DeMarinis, VP – Maintenance & Construction (NY Gas)
Team Lead(s):	William Kern, Manager – Long Term Resource Planning Thomas Buckleman, Manager – Gas Project Management TBD, Director - Gas Project Management

Implementation Priority: Medium

Recommendation Accepted: Yes

Background Information

The auditors determined the Company has an opportunity to better manage complex gas projects using a work breakdown structure ("WBS") system. In the auditor's opinion, the Company should adopt a model to organize and manage complex project work similar to NMPC Electric's Primavera P6.

Proposal to Implement Recommendation

National Grid plans to implement Primavera P6 into the Gas organization using a multi-step approach. The Project Management and Resource Planning teams will work together to build all complex gas project work into P6 by August 2015. The following steps will be instituted over the course of the next year in preparation for gas integration to P6:

- Creation of complex Gas project templates
- Establishment of the Enterprise Project Structure for Gas (EPS structure)
- Creation of a library of project codes and roles/resources
- Data entry into P6, including codes/resources, project folder creation, and project updates
- Development and delivery of training and job aids for new Gas users of the Enterprise Project Management platform
- Identification of the requirements to track lower complexity construction work and Maintenance/Inspection (short cycle) Gas work

Schedule

Major Activities	Estimated Completion Date	Actual Completion Date	Current Status
Create Gas Project Templates	January 2015		In progress
Establish a Gas Library (Codes, Roles/Resources)	March 2015		In progress
Build Pilot gas Projects into P6 • Review logic and template for accuracy	August 2015		
Training	May 2015		
Build remaining project managed gas projects into P6	August 2015		

Summary of Cost/Benefit and Risk Analysis

The Company does not anticipate any additional software cost to National Grid because the Company currently holds enough software licenses (approximately 1,000) to incorporate users in the Gas organization. The Company anticipates incurring the following incremental costs for IS implementation and business support:

	Cost Types	Total Cost
Year One	System architecture and conversion, IS support, business support, training	$200,000-300,000
Year Two and Subsequent	Ongoing IS support, business support, training	$100,000

The use of an enterprise project management tool will allow complex project milestones to be tracked and archived more efficiently.

Measures of Success

Success will be measured on the timely completion of the above milestones and the sustained use of the newly implemented project management tools and processes.

Chapter VI – Project Management

Recommendation VI-4

Institute a process to track, monitor and report complex project status, including: budget variances, committed costs and actual costs to date, estimated cost at completion, projected year-end expenditures, schedule variance, pending and approved scope changes, and progress-to-date.

Implementation Leads

Executive Sponsor:	Cedric Williams, VP – Project Management & Complex Construction Gas Robert DeMarinis, VP – Maintenance & Construction (NY Gas)
Team Lead(s):	TBD, Director - Gas Project Management Thomas Buckleman – Manager - Project Management

Implementation Priority: Medium

Recommendation Accepted: Yes

Background Information

National Grid currently uses Microsoft Project to develop complex project schedules and track costs for project managed gas capital projects using work orders from Power Plan. The gas project managers prepare monthly Complex Project Summary Reports, which include some of the recommended report data:

- High level schedule milestones
- Current FY budget, actual FY costs and projected year-end costs
- Total sanctioned amount, total costs to data and projected final costs
- Scope changes

However, National Grid does not currently use a work breakdown structure ("WBS") to estimate, track and monitor complex gas projects.

Proposal to Implement Recommendation

National Grid has implemented an organizational change that provides more focus on gas project management. The Gas Project Management & Complex Construction organization is in the process of migrating all complex projects to the Primavera Enterprise project management tool. This new tool will facilitate the tracking of schedules and costs for project managed gas capital projects (discussed in the response to Recommendation VI-3). Once the Primavera tool is

implemented, the Company will incorporate the use of a WBS for complex gas projects.

Schedule

Major Activities	Estimated Start Date	Estimated Completion Date	Actual Completion Date	Current Status
Develop Complex Project Reports	3/01/15	12/31/15		In progress
Schedule Monthly Complex Project Review Meetings	1/31/15	1/31/15	January 2015	Completed

Summary of Cost/Benefit and Risk Analysis

Please refer to Recommendation VI-3 for the cost to achieve the Primavera implementation for gas.

Benefits of implementing this recommendation include:

- Greater definition of work activities
- Improved planning to ensure adequate resources are available to complete project tasks
- Further definition/clarification of project scope and identification of critical issues early in the project
- Detailed costs estimates/budgets, which may improve the accuracy of cost estimates
- Project task scheduling at the most detailed and accurate level possible
- Detailed costs and schedule tracking
- Improved accountability for specific tasks
- Improved project performance monitoring

Measures of Success

Success will be measured by review of the complex project reports during monthly complex project review meetings.

Chapter VI – Project Management

Recommendation VI-5

Institute controls to ensure project change control logs are updated on a timely basis and that accurate change order information is contained in the Project Summary Reports. Include a review of the change order logs and the change order portion of the Project Summary Report as part of the periodic audits of project files recommended in Recommendation VI-1.

Implementation Leads

Executive Sponsor:	Cedric Williams, VP – Project Management & Complex Construction Gas
Team Lead(s):	Thomas Buckleman, Manager – Gas Project Management Dianne Sharron – Manager - Project Controls

Implementation Priority: Low

Recommendation Accepted: Yes

Background Information

The auditors found that disparities existed with the change controls on a project between the various reporting mechanisms established by Project Management. It was determined that the project managers were consistently updating the change controls proposed on the Change Control Log and the individual Change Control Forms, but the Change Control Tab on the Monthly Project Summary Report was not always updated.

Proposal to Implement Recommendation

The Company agrees that improved change control documentation would be beneficial and appropriate. The Company has implemented the following process improvements to ensure accurate recording of change controls for gas complex projects:

- Previously, the project manager was required to maintain several different reports for change controls, including a Change Control Log, an individual Change Control Form and the Change Control Tab on the Monthly Project Summary Report.

- Going forward, the Change Control Tab on the Monthly Project Summary Report will be the official repository of all scope increases and the separate Change Control Log will be eliminated. The Change Control Tab was modified in July of 2014 for this purpose. This updated Monthly Project Report format was communicated to all project managers for

their use and comment and is awaiting further evaluation. The format may be further modified based on the feedback of project managers.

Project Management will continue to maintain the Change Control Log within the Monthly Project Summary Report. To ensure compliance and consistency among all project managers, this topic has been added to the Monthly Desktop Audits as of February 2014. The Desktop Auditor reviews all Change Control Forms and ensures they are included on the Change Control Log. In addition, the change control documentation process has recently been added as a discussion item for the bi-weekly Project Review Meetings with action items identified to those individuals responsible for submittal of Change Control Forms.

Schedule

Implementation of this new process is underway with full implementation expected in November 2014 (completed).

Summary of Cost/Benefit and Risk Analysis

The costs of implementing this recommendation are negligible. The Company does not foresee any risks associated with this implementation plan.

Benefits include more consistent and complete documentation of all scope changes that will improve project management, including future project estimates and lessons learned.

Measures of Success

Bi-weekly Project Review Meetings will track compliance with the change control documentation process.

Chapter VI – Project Management

Recommendation VI-6

Resolve data issues regarding the KPIs for materials services and the fleet metrics reports.

Implementation Leads

Executive Sponsor:	William Hillbrunner, Acting Vice President – Operations Support
Team Lead(s):	Craig Berlette, Director – Inventory Management

Implementation Priority: Low

Recommendation Accepted: Yes

Background Information

In the auditors' opinion, the quality of Line and Order Fill Rate and Material Availability KPIs are low. Problems getting the correct "due dates" into the Company's Inventory Management system when orders are placed and SAP implementation challenges have contributed to the decline in data quality.

Similarly, systems issues have prevented the Company from producing fleet performance metrics, including KPIs measuring and monitoring on-time completion of vehicle inspection reporting and performance of planned maintenance.

Proposal to Implement Recommendation

National Grid has completed a review of the Line and Order Fill Rate report as well as the Stock Availability report and has identified that an upgrade to SAP is required to correct the outstanding issue due dates for both metrics. Once the capability to track these metrics has been established, Inventory Management will be able to track these KPIs.

The Company's fleet KPIs include on-time completion of vehicle inspection reporting and performance of planned maintenance. These KPIs are now in place and no further action is required with regard to fleet KPIs.

Schedule

Data on Line and Order Fill Rate and Stock Availability (with due date) will be available once changes have been made in SAP. This is tentatively due to take place in April 2015. After the SAP upgrade is made, Line and Order Fill Rate as well as Stock Availability data will be tested weekly for accuracy.

Summary of Cost/Benefit and Risk Analysis

There are minimal incremental costs associated with this recommendation. The data issues described in this recommendation are being analyzed and will be corrected in the normal course of business with minimal incremental costs.

Line and Order Fill Rate and Material Availability KPIs will accurately reflect actual performance and provide insight on how to drive improved performance.

The benefits of implementing this recommendation include:

- Improvement of the resource planner's ability to estimate the duration of jobs;
- Better resource allocations;
- Avoidance of unnecessary overtime expenses; and
- Better near, medium, and long-term planning for labor needs.

Measures of Success

Success will be measured through tracking of Fleet KPIs and, when available, Order Fill Rate and Material Availability KPIs.

Chapter VII – Work Management

Recommendation VII-1

Develop and implement, within the existing work management processes and systems, a program to track and manage crew and individual worker productivity.

Implementation Leads

Executive Sponsor:	Cedric Williams, VP – Project Management & Complex Construction Gas
Team Lead(s):	TBD, Director – Resource Planning Patricia McVeigh, Manager Resource Planning Felicia Midkiff, Manager – Finance & Decision Support

Implementation Priority: Medium

Recommendation Accepted: Yes

Background Information

The auditors found that National Grid currently does not use its work management systems, or apply work measurement standards, to manage its workforce or identify performance improvement opportunities. The auditors further stated that National Grid does not set targets or establish estimates for the work to be performed, nor does it measure crew or employee productivity.

The auditors also found that productivity reporting currently available at the yard level was sporadic, and that the reports produced did not differentiate costs between materials, transportation and vehicle, overhead and other items not related to worker or crew productivity. In addition, the labor hours being charged to work were too general and did not distinguish between productive and non-productive time (travel, yard time, material handling, delays, safety meetings, training, etc.).

Proposal to Implement Recommendation

National Grid has developed a near-term plan to implement this recommendation and is exploring a long-term, enterprise-wide front office solution to track and manage productivity.

Implementation Plan

Gas Resource Planning and Decision Support are working with internal IS resources to deliver cost/unit and hours/unit KPIs by operating company and work type, down to the local level (*i.e.*, by yard).

To fully implement this recommendation, the Company will need to add new activity codes to SAP to track non-productive work time, link its systems to implement consistent and accurate reporting of productivity metrics and refresh its mobile technology in the field.

New Productivity Codes

To fully address the recommendation, additional time entry categories will be added to SAP to capture data related to employee utilization as defined by NorthStar. As systems are modified to capture incremental data, the complexity associated with capturing and reporting productivity metrics increases as does the ability to ensure proper and accurate time reporting. Increased complexity may require direct investment in technology and training and additional processes to ensure organizational compliance.

Link Systems

To enable data to be aggregated to facilitate relational reporting in accordance with the recommendation, SAP data must be linked to the Company's project/work tracking system, PowerPlan.

Evaluating Mobile Technology

The Company will initially look to leverage existing systems to capture all currently available data capable of supporting productivity metrics. Going forward, the Company will explore options to refresh the MDSI data capture devices currently in use for KEDLI and KEDNY. The most viable near-term solution to address the audit recommendation is to develop a standalone data-entry solution for NMPC and to continue to use MDSI for KEDLI and KEDNY with a refresh of the mobile technology. Data from the newly-developed application for NMPC would be loaded into a Business Intelligence data warehouse ("BI DW"). The MDSI data for KEDNY and KEDLI would also be loaded into the same BI DW, such that all data is co-located with SAP and PowerPlan data, for integrated metrics reporting.

Front Office Solution

National Grid is also assessing a new enterprise-wide, front-office system that would consolidate multiple work management and mobility applications and processes to enhance the Company's ability to deliver standardized reporting. The output of the front-office project would allow the Company to track the metrics recommended by the auditors. In the event that the front-office solution develops in a manner that addresses the identified KPI gaps while building on the SAP foundation in a more cost efficient manner than the near-term implementation plan, National Grid will re-evaluate its implementation of this recommendation. The Company will advise Staff of the progress of the front-office solution and any anticipated impacts on this implementation plan.

Schedule

National Grid estimates that the near-term implementation plans could be phased in over a twelve to twenty-four month period, with some productivity reports being available in as little as three to six months.

Summary of Cost/Benefit and Risk Analysis

Total cost for the near-term solution is $5.7M. Below is a summary of the cost to achieve the near-term solution by operating company. The majority of these costs are capital expenditures.

Combined Step Totals	Year One	Year Two	Year Three	Year Four	Year Five	5 Year Totals	OpEx	CapEx
SAP Data Capture	$54,000	$0	$0	$0	$0	$54,000	$0	$54,000
BI Enviroment	$1,077,650	$167,000	$115,000	$115,000	$115,000	$1,589,650	$659,016	$930,634
Field Data Capture Devices	$2,361,500	$926,240	$201,600	$201,600	$201,600	$3,892,540	$849,440	$3,043,000
Data Integration	$95,000	$95,000	$0	$0	$0	$190,000	$140,030	$49,970
Implementation Totals	**$3,588,150**	**$1,188,240**	**$316,600**	**$316,600**	**$316,600**	**$5,726,190**	**$1,648,486**	**$4,077,604**

KEDNY- Step Totals	Year One	Year Two	Year Three	Year Four	Year Five	5 Year Totals	OpEx	CapEx
SAP Data Capture	$22,568	$0	$0	$0	$0	$22,568	$0	$22,568
BI Enviroment	$603,257	$82,978	$59,462	$59,462	$59,462	$864,621	$340,750	$523,871
Field Data Capture Devices	$1,439,875	$5,038	$5,038	$5,038	$5,038	$1,460,029	$20,101	$1,439,875
Data Integration	$43,176	$43,176	$0	$0	$0	$86,351	$58,795	$27,386
Implementation Totals	**$2,108,875**	**$131,192**	**$64,500**	**$64,500**	**$64,500**	**$2,433,569**	**$419,647**	**$2,013,699**

KEDLI- Step Totals	Year One	Year Two	Year Three	Year Four	Year Five	5 Year Totals	OpEx	CapEx
SAP Data Capture	$20,394	$0	$0	$0	$0	$20,394	$0	$20,394
BI Enviroment	$349,624	$44,368	$27,261	$27,261	$27,261	$475,775	$156,220	$319,554
Field Data Capture Devices	$660,125	$4,553	$4,553	$4,553	$4,553	$678,338	$18,165	$660,125
Data Integration	$32,758	$32,758	$0	$0	$0	$65,516	$53,131	$12,555
Implementation Totals	**$1,062,901**	**$81,679**	**$31,814**	**$31,814**	**$31,814**	**$1,240,022**	**$227,516**	**$1,012,628**

NMPC- Step Totals	Year One	Year Two	Year Three	Year Four	Year Five	5 Year Totals	OpEx	CapEx
SAP Data Capture	$11,038	$0	$0	$0	$0	$11,038	$0	$11,038
BI Enviroment	$124,769	$39,653	$28,277	$28,277	$28,277	$249,254	$162,045	$87,209
Field Data Capture Devices	$261,500	$916,648	$192,008	$192,008	$192,008	$1,754,174	$811,174	$943,000
Data Integration	$19,067	$19,067	$0	$0	$0	$38,133	$28,104	$10,029
Implementation Totals	**$416,374**	**$975,368**	**$220,286**	**$220,286**	**$220,286**	**$2,052,599**	**$1,001,323**	**$1,051,277**

Recommendation #1

Five Year Payback Analysis:	Savings not projected						
	Capital- All NY Gas Companies						
		Y1	**Y2**	**Y3**	**Y4**	**Y5**	**5YR Capital Costs**
	One-time costs	$3,337,119	$783,625	$0	$0	$0	$4,120,744
	Increased annual costs	$0	$0	$0	$0	$0	$0
	Cumulative costs	$3,337,119	$783,625	$0	$0	$0	$4,120,744
Savings cannot be predicted until	Annual savings	$	$	$	$	$	$0
enhanced productivity tracking have	Cumulative savings	$	$	$	$	$	$0
been implemented.	Net savings	$	$	$	$	$	$0
	O&M- All NY Gas Companies						
		Y1	**Y2**	**Y3**	**Y4**	**Y5**	**5YR O&M Costs**
	One-time costs	$251,031	$88,015	$0	$0	$0	$339,046
	Increased annual costs	$0	$316,600	$316,600	$316,600	$316,600	$1,266,400
	Cumulative costs	$251,031	$404,615	$316,600	$316,600	$316,600	$1,605,446
Savings cannot be predicted until	Annual savings	$	$	$	$	$	$0
enhanced productivity tracking have	Cumulative savings	$	$	$	$	$	$0
been implemented.	Net savings	$	$	$	$	$	$0

Recommendation #1

Five Year Payback Analysis:	Savings not projected						
	Capital- KEDNY						
		Y1	**Y2**	**Y3**	**Y4**	**Y5**	**5YR Capital KEDNY Costs**
	One-time costs	$1,983,459	$25,565	$0	$0	$0	$2,009,024
	Increased annual costs	$0	$0	$0	$0	$0	$0
	Cumulative costs	$1,983,459	$25,565	$0	$0	$0	$2,009,024
Savings cannot be predicted until	Annual savings	$	$	$	$	$	$0
enhanced productivity tracking have	Cumulative savings	$	$	$	$	$	$0
been implemented.	Net savings	$	$	$	$	$	$0
	O&M- KEDNY						
		Y1	**Y2**	**Y3**	**Y4**	**Y5**	**5YR O&M KEDNY Costs**
	One-time costs	$125,416	$41,128	$0	$0	$0	$166,544
	Increased annual costs	$0	$64,500	$64,500	$64,500	$64,500	$258,001
	Cumulative costs	$125,416	$105,628	$64,500	$64,500	$64,500	$424,545
Savings cannot be predicted until	Annual savings	$	$	$	$	$	$0
enhanced productivity tracking have	Cumulative savings	$	$	$	$	$	$0
been implemented.	Net savings	$	$	$	$	$	$0

Recommendation #1

Five Year Payback Analysis:	Savings not projected						
	Capital- KEDLI						
		Y1	**Y2**	**Y3**	**Y4**	**Y5**	**5YR Capital KEDLI Costs**
	One-time costs	$995,848	$21,456	$0	$0	$0	$1,017,304
	Increased annual costs	$0	$0	$0	$0	$0	$0
	Cumulative costs	$995,848	$21,456	$0	$0	$0	$1,017,304
Savings cannot be predicted until	Annual savings	$	$	$	$	$	$0
enhanced productivity tracking have	Cumulative savings	$	$	$	$	$	$0
been implemented.	Net savings	$	$	$	$	$	$0
	O&M- KEDLI						
		Y1	**Y2**	**Y3**	**Y4**	**Y5**	**5YR O&M KEDLI Costs**
	One-time costs	$67,053	$28,409	$0	$0	$0	$95,462
	Increased annual costs	$0	$31,814	$31,814	$31,814	$31,814	$127,256
	Cumulative costs	$67,053	$60,223	$31,814	$31,814	$31,814	$222,718
Savings cannot be predicted until	Annual savings	$	$	$	$	$	$0
enhanced productivity tracking have	Cumulative savings	$	$	$	$	$	$0
been implemented.	Net savings	$	$	$	$	$	$0

Recommendation #1

Five Year Payback Analysis:	Savings not projected						
	Capital- NMPC						
		Y1	**Y2**	**Y3**	**Y4**	**Y5**	**5YR Capital NMPC Costs**
	One-time costs	$357,812	$736,605	$0	$0	$0	$1,094,417
	Increased annual costs	$0	$0	$0	$0	$0	$0
	Cumulative costs	$357,812	$736,605	$0	$0	$0	$1,094,417
Savings cannot be predicted until enhanced productivity tracking have been implemented.	Annual savings	$	$	$	$	$	0
	Cumulative savings	$	$	$	$	$	0
	Net savings	$	$	$	$	$	0
	O&M- NMPC						
		Y1	**Y2**	**Y3**	**Y4**	**Y5**	**5YR O&M NMPC Costs**
	One-time costs	$58,562	$18,478	$0	$0	$0	$77,040
	Increased annual costs	$0	$220,286	$220,286	$220,286	$220,286	$881,143
	Cumulative costs	$58,562	$238,764	$220,286	$220,286	$220,286	$958,182
Savings cannot be predicted until enhanced productivity tracking have been implemented.	Annual savings	$	$	$	$	$	$0
	Cumulative savings	$	$	$	$	$	$0
	Net savings	$	$	$	$	$	$0

**Costs associated with non-productive employee training time have not been included.*
***Cost allocations by operating company used Net Plant Splits for CapEx and Customer Base for OpEx.*
****Costs for deploying Field Data Capture Units for NMPC are included (although not being recommended).*

Benefits of implementing this recommendation include better ability to manage worker productivity by identifying productivity outliers and applying best practices across the enterprise.

Measures of Success

Putting these tools in place will improve the Company's ability to accurately assess the performance of each work type at the yard level. If inefficiencies in productivity can be observed at the job/yard level, then improvements can be sought and measured. Ultimately, improved year over year productivity by work type will be the measure of success.

Chapter VII – Work Management

Recommendation VII-2

Develop a manpower planning program.

Implementation Leads

Executive Sponsor:	Cedric Williams, VP – Project Management & Complex Construction Robert DeMarinis, VP – Maintenance & Construction (NY Gas)
Team Lead(s):	TBD, Director – Gas Resource Planning TBD, Director – Gas Complex Construction/Contractor Strategy

Implementation Priority: Medium

Recommendation Accepted: Yes

Background Information

The auditors found that National Grid's process to determine manpower requirements for maintenance and construction work does not ensure that the resulting mix of contractors and in-house resources will deliver the work at the lowest practical cost. More specifically, no workforce productivity data (man-hours per unit) exists from which to build accurate work plans.

Improvements in this area, as specified in Recommendation VII-1, will help National Grid compare in-house crews to contracted crews more effectively and also allow National Grid to better schedule work based on an improved understanding of productive time for in-house crews. A more solid understanding of productivity for in-house crews will provide National Grid with better visibility of contractor needs and will allow the Company to better manage overtime volumes.

Proposal to Implement Recommendation

National Grid agrees that the ability to properly estimate the hours and costs associated with a work plan will improve the Company's manpower planning. The system enhancements set forth in the implementation plan for Recommendation VII-1 may provide accurate productivity metrics, which can be used to improve the Company's manpower planning capabilities. Once the solution for Recommendation VII- 1 has been implemented, the Company will update its current excel-based work planning tools to address Recommendation VII-2.

Schedule

The implementation timeline for Recommendation VII-2 is twelve to twenty-four months and will be consistent with the implementation of Recommendation VII-1.

Summary of Cost/Benefit and Risk Analysis

The total cost estimate to implement a resource forecasting and planning solution is approximately $700,000.

Recommendation #2

Category/Cost	Year One	Year Two	Year Three	Year Four	Year Five	5 Year Totals	OpEx	CapEx
Labor								
IS Analyst	$120,000	$0				$120,000	$120,000	
IT Programmer	$170,000	$42,500				$212,500	$212,500	
Field Problems and Issues	$210,000	$105,000				$315,000	$315,000	
Outside Services								
Field Training	$38,000	$0				$38,000	$38,000	
Manpower Planning Implementation Costs	$538,000	$147,500	$0	$0	$0	$685,500	$685,500	

Recommendation #2

Five Year Payback Analysis:	Savings not projected						
	Capital- All NY Gas Companies						
		Y1	**Y2**	**Y3**	**Y4**	**Y5**	**5YR Capital Costs**
	One-time costs						
	Increased annual costs						
	Cumulative costs	$0	$0	$0	$0	$0	$0
Savings are uncertain until the productivity measurement systems are implemented.	Annual savings						
	Cumulative savings						
	Net savings						
	O&M- All NY Gas Companies						
		Y1	**Y2**	**Y3**	**Y4**	**Y5**	**5YR O&M Costs**
	One-time costs	$538,000	$147,500	$0	$0	$0	$685,500
	Increased annual costs						
	Cumulative costs	$538,000	$147,500	$0	$0	$0	$685,500
Savings are uncertain until the productivity measurement systems are implemented.	Annual savings						
	Cumulative savings						
	Net savings						

The benefits of implementing this recommendation include:

- Improvement of the resource planner's ability to estimate the duration of jobs;
- Better resource allocations;
- Avoidance of unnecessary overtime expenses; and
- Better near, medium, and long-term planning for labor needs.

Measures of Success

The measure of success for the implementation of improved manpower planning will be improved overtime management, more consistent management of contractor resources and improved adherence to compliance dates.

Chapter VIII – Load Forecasting

Recommendation VIII-1

Establish a process to retain day-ahead forecasts of send out volumes, and of weather and other input assumptions for each of the operating companies. On a regular basis, conduct comparisons of forecast to actual send out volumes under forecast and actual weather conditions. Develop a process for assessing and reporting on the performance of the day-ahead model.

Implementation Leads

Executive Sponsor:	James Cross, VP – Customer Analytics & Risk Management
Team Lead(s):	Theodore Poe, Jr, Manager – Gas Forecasting & Analysis Elizabeth Arangio, Director – Gas Supply Planning Thomas Amerige, Director – Gas Control and Meter Data Services

Implementation Priority: Low

Recommendation Accepted: Yes

Background Information

The Audit Report notes that day-ahead forecasts for day-ahead supply planning and gas purchasing are prepared by Gas Control and are unrelated to the forecasting products developed in the Analytics, Modeling and Forecasting group. The performance of the day-ahead forecasts, as compared to actual throughput, cannot be determined as the data is not retained because, among other reasons, the spreadsheet template used to track forecast data is updated numerous times during the forecast period and only the final version is retained. As a result, the Company is unable to evaluate the accuracy of the day-ahead forecasts. To address this issue, NorthStar recommends that National Grid establish a process to retain day-ahead forecasts of sendouts, as well as forecast assumptions (*e.g.*, weather), to improve the Company's ability to analyze the accuracy of sendout models.

Proposal to Implement Recommendation

National Grid recognizes the importance of measuring accuracy in forecasting and communicating its performance. The Company will implement this recommendation as follows:

- Develop a framework that allows comparison of forecast and actual results and an understanding of the variances in the day-ahead model that can be used to improve forecasting and procurement performance.
- Define policies and procedures that foster consistency in the approach to forecasting, provide guidance to new employees and facilitate increased management understanding of the supply procurement process.
- Perform quarterly review/audit of forecasts and set-up plans to identify forecasting inaccuracies and inefficiencies in procurement activities.
- Implement Recommendation IX-4.

Note, this recommendation is integrated with Recommendation IX-4 to modify policies and procedures covering the monthly and daily procurement forecasting and processes for each of the operating companies.

Schedule

Gas Control, in consultation with the Gas Supply Planning and Analytics, Modeling and Forecasting groups, will define the framework of day-ahead forecasting that will address these requirements. The Company anticipates that it will take three to five months to develop this framework.

Summary of Cost/Benefit and Risk Analysis

Costs to implement this recommendation include the costs noted in the Implementation Plan for Recommendation IX-4 (*i.e.*, hiring a new FTE to gather, analyze and report the required data). Review and approval of the new policies and procedures will be performed as part of existing management job functions at minimal incremental cost.

Measures of Success

Implementation of the framework described above.

Capturing the data for day-by-day planning and reviewing should yield improvements in the process and better planning. Improvements should start to be realized within six months.

Chapter VIII – Load Forecasting

Recommendation VIII-2

Re-evaluate the residential forecasting model to identify opportunities to improve accuracy in forecasting during warm winters and to reduce variations from year to year in forecast results.

Implementation Leads

Executive Sponsor:	James Cross, VP - Customer Analytics & Risk Management
Team Lead(s):	Theodore Poe, Jr., Manager – Gas Forecasting & Analysis

Implementation Priority: Low

Recommendation Accepted: Yes

Background Information

The Audit Report notes that all of the NY Operating Companies have shown improvement in forecasting commercial/industrial firm sales. However, NorthStar reported that the model did not perform as well in 2012 as it had in the previous years. In particular, residential sales for KEDNY exhibited a ten percent variance from forecast in 2012. National Grid attributes the higher variance levels to the unusual weather pattern during 2012, when the utilities experienced the warmest winter on record.

Proposal to Implement Recommendation

National Grid recognizes the importance of regularly evaluating its sendout models to enhance accuracy of forecasts. The Company will implement this recommendation as follows:

- Review retail and wholesale volume data, in particular the 2012 data.
- Review existing forecasting methodology to see if any forecasting models may have missing or better independent variables.
- Prepare the 2015Q2 Gas Load Forecast with sufficient time for thorough review.

Schedule

This review will take place over the next four to six months and will be factored into the upcoming 2015 Q2 Gas Load forecasting cycle. That forecast is due on June 1, 2015.

Summary of Cost/Benefit and Risk Analysis

Implementation of this recommendation (together with Recommendations VIII-3 and VIII-4, discussed below) can be achieved through existing job functions. National Grid agrees with NorthStar's estimates regarding the level of effort required to implement these recommendations, but notes that actual costs could vary as follows:

Development of the improved documentation and variance reporting will require involvement of staff time from each of the user groups (Energy Procurement, Energy Efficiency, Gas Control, Operations, Rates and Regulatory).

Position Level	Annual Fully Loaded Labor Cost	Effective Hourly Rate*	Required Level of Effort (Hours)	Cost
Manager (Project Owner)	$350,000	$175.00	80 hours	$14,000
User representatives (6 people**)	$300,000	$150.00	8 hours each (48 total)	$7,200
Estimated total			**128 hours**	**$21,200**

* Assumes 2,000 hours per year.

** User groups include Energy Procurement, Energy Efficiency, Gas Control, Operations (2 people), Rates and Regulatory

Including additional scenarios and analysis in the residential forecasting model is an ongoing effort.

Position Level	Annual Fully Loaded Labor Cost	Effective Hourly Rate	Required Level of Effort (Hours)	Cost
ANNUAL				
Manager/Planner	$300,000	$150.00	160 hours	$24,000
Director	$400,000	$200.00	80 hours	$16,000
Estimated total			**240 hours**	**$40,000**

No outside services should be needed. All modeling software already in place and specified. No additional training should be needed.

Review of the forecasting model and reduction of year-to-year variances may lead to more accurate forecasts to support improved business decision-making.

Measures of Success

Success can be measured by reviewing the accuracy of the 2015 Q2 Gas Load forecast against current performance levels.

Chapter VIII – Load Forecasting

Recommendation VIII-3

Due to the complexity of the forecasting platform, improve reporting of forecast results and model performance on a level that is easily understood by upper management, internal customers and users, and outsiders. Examples include forecasts of number of customers by rate class, sales by rate class, separate reporting of firm vs non-firm customers, and reporting accuracy.

Implementation Priority: Low

Recommendation Accepted: Yes

Implementation Leads

Executive Sponsor:	James Cross, VP – Customer Analytics & Risk Management
Team Lead(s):	Theodore Poe, Jr., Manager – Gas Forecasting & Analysis

Background Information

While the Audit Report found that National Grid has a well-defined forecasting platform (including multiple forecasting horizons, appropriately-segmented customer models and sufficient data sources), NorthStar notes that National Grid utilizes a high-powered modeling system that could appear to be overly complex for the forecasting requirements. NorthStar also found that, while the relative benefits of this system justify the increased complexity of the model, the tracking and evaluation of model performance could be improved.

Proposal to Implement Recommendation

National Grid recognizes the importance of effectively communicating the performance of its forecast to all interested parties and will implement the recommendation as follows:

- Develop output reports and/or graphics from the Gas Load Forecasting process that can be easily understood by the various parties reviewing the forecast results.
- The reports should include the following information with regard to the forecast in a format easily understood by the reader:
    - Summaries of historical and forecast number of customers by major rate classifications and company;
    - Summaries of historical and forecast use per customer by major rate classifications and company; and

- Summaries of historical and forecast volumes by major rate classifications and company.

These reports/graphics are a part of the continuing development cycle of the Gas Load Forecast modeling system.

Schedule

The Analytics, Modeling and Forecasting group will develop prototype reports and graphics and solicit input from users of the forecast in time to integrate into its 2015 Q2 Gas Load forecasting cycle. That forecast is due on June 1, 2015.

Summary of Cost/Benefit and Risk Analysis

Costs are set forth in the Company's implementation plan for Recommendation VIII-2.

Benefits will include improved understanding of the Gas Load Forecast by its users in the 2015 Q2 forecasting cycle with subsequently fewer questions and issues.

Measures of Success

Positive feedback from forecast users regarding the reporting of forecast results and model performance.

Chapter VIII – Load Forecasting

Recommendation VIII-4

Analyze the treatment of energy efficiency goals in the sales, send out and design day forecasting processes and models to identify opportunities to improve accuracy and minimize impacts of over-forecasting future savings. In collaboration with PSC staff, determine an appropriate approach for handling energy efficiency program goals and achieved savings in future modeling.

Implementation Leads

Executive Sponsor:	James Cross, VP – Customer Analytics & Risk Management
Team Lead(s):	Theodore Poe, Jr., Manager – Gas Forecasting & Analysis

Implementation Priority: Low

Recommendation Accepted: Yes

Background Information

The audit report noted that energy efficiency is addressed in the Company's forecasting process as a post-model adjustment. Specifically, energy efficiency data is currently factored into the Company's modeling as follows:

- Achieved energy efficiency savings are included in the forecast as a constant and applied to historical forecast sales.
- Incremental energy efficiency goals (*e.g.*, energy efficiency goals less the savings already achieved) identified by New York State Energy Research and Development Authority ("NYSERDA") and approved by the Commission are allocated to each applicable rate class, sector, and system.
- The design day and sendout forecasts are then reduced by the incremental energy efficiency goals for each year, thereby incorporating an assumption that the full savings set by the goals will be achieved. There is a potential for understating design day requirements if energy efficiency goals are not achieved.
- National Grid does not prepare a forecast that deviates from the goals agreed to by the Commission.

Proposal to Implement Recommendation

National Grid recognizes the importance of accurately reflecting the impact of its energy efficiency programs in its forecasts. Implementation of this recommendation requires the Company to consider and work with Staff to explore options for handling treatment of energy efficiency program results and goals in the forecasting process, including investigating the impact of non-achievement of savings on gas procurement decisions.

Schedule

The Company will meet with Staff to solicit feedback on incorporating energy efficiency data in the forecast (within sixty days of the filing of the implementation plan). Thereafter, the Company will perform the required review and implement any necessary changes prior to the 2015 Q2 Gas Load forecasting cycle. That forecast is due on June 1, 2015.

In March 2015, the Company and Staff discussed whether the Company should consider the full impact of its energy efficiency goals (or some portion of the goals based on the Company's historic success rate) in the peak day gas forecast. The parties acknowledged that, by including the full amount of the efficiency goals, the Company could be understating its resulting peak day gas resource requirements. Accordingly, it was agreed that the Company will not deduct any impact for its energy efficiency goals over and above the success rate in its 2015 Q2 Gas Load Forecasting cycle. Additionally, the Company will develop a forecast to indicate the potential reduction in peak day gas resource requirements if the Company is able to fully achieve its Energy Efficiency Goals.

Summary of Cost/Benefit and Risk Analysis

Costs are set forth in the Company's implementation plan for Recommendation VIII-2.

In terms of benefits, proper accounting for the impact of energy efficiency programs yields a more accurate forecast and permits the Company to properly plan its financial resources and its natural gas portfolio.

Measures of Success

The Company will work with Staff to develop measures of success for this recommendation.

Chapter IX – Supply Procurement

Recommendation IX-1

Modify policies and procedures regarding the documentation and approval for the procurement of long-term supply and delivery commitments (longer than one year).

Implementation Leads

Executive Sponsor:	John Vaughn, VP – Energy Procurement Chris McConnachie, VP – US Treasury
Team Lead(s):	John Allocca, Director – Gas Contracting and Compliance Elizabeth Arangio, Director – Gas Supply Planning Alex Zhukovsky, Director – Quantitative Risk & Financial Reporting

Implementation Priority: Medium

Recommendation Accepted: Yes

Background Information

In the Audit Report, NorthStar noted that National Grid has appropriate decision-making processes with respect to portfolio changes and long-term supply options (longer than one year), but neither the processes nor the decisions are appropriately documented. Although the roles and responsibilities of the Energy Procurement Risk Management Committee ("EPRMC") and other Procurement review groups are set forth in written policies, there is minimal guidance regarding how decisions are to be made, and actual oversight by the EPRMC has been inconsistent.

Proposal to Implement Recommendation

National Grid recognizes the importance of well documented governance procedures and will implement the recommendation as follows:

1. Document policies and procedures for decision-making processes with respect to portfolio changes and long-term supply options (NorthStar noted in its report, the process used by the Energy Procurement group for these decisions appropriately incorporates a range of options, consistent assumptions and input data, and is based on least cost supply to customers);
2. Finalize the EPRMC process;
3. Compile a recommendation memorandum that includes: specification of need; identification of options considered, assumptions and results of analysis; discussion of rate impacts and other factors; and a recommended decision that is supported by model outputs, emails, and other supporting items. The individual parts of this package are already being

prepared, so the work to be completed is the process of preparing the memorandum and its attachments, and uploading the complete package to designated file/archive location; and
4. Establish a schedule for EPRMC meetings.

Schedule

1. Energy Procurement will document policies and procedures: The Company expects to fully document policies and procedures within the next three to five months.
2. Middle Office to finalize the EPRMC process: **Completed.**
3. Energy Procurement to comply with documented policies and procedures: Compliance with policies and procedures will begin immediately following finalization of the policies and procedures.
4. Middle Office to hold EPRMC meetings and provide support: **Completed.** EPRMC will meet at least once per month.

Summary of Cost/Benefit and Risk Analysis

The below cost estimates are preliminary and require further development and testing as part of a comprehensive cost review.

Development of the policies and procedures:

Position Level	Annual Fully Loaded Labor Cost	Effective Hourly Rate	Required Level of Effort (Hours)	Cost
Manager (Project Owner)	$300,000	$150.00	60 hours	$9,000
Support team (manager & below) 4 people	$250,000	$125.00	40 hours each (160 total)	$20,000
Support team (director & above) 3 people	$500,000	$250.00	20 hours each (60 total)	$15,000
VP (Project Sponsor)	$600,000	$300.00	30 hours	$9,000
Estimated total			**310 hours**	**$53,000**

Note: Assumes 2,000 hours per year.

Finalize EPRMC process:

Level	Annual Fully Loaded Labor Cost	Effective Hourly Rate	Required Level of Effort (Hours)	Cost
Manager	$300,000	$150.00	10	$1,500
Director	$500,000	$250.00	20	$5,000
VP	$600,000	$300.00	10	$3,000
Estimated total			**40**	**$9,500**

Note: Assumes 2,000 hours per year.

Comply with policies and procedures:

Assuming incremental compliance activities will take two to four hours per decision (average of three used in calculation), to be done by a manager-level or below, and there are twenty long-term portfolio decisions each year (some cover more than one utility), the estimated total is $9,000.

EPRMC meetings and support:

Level	Annual Fully Loaded Labor Cost	Effective Hourly Rate	Required Annual Level of Effort (Hours)	Cost
Director/VP (EPRMC member) (assumes 6 members)	$550,000	$275.00	3 hours/month per member (18 total per month)	$59,400
Manager or below (in support) One person	$250,000	$125.00	8 hours/month	$12,000
Estimated total per year			**312**	**$71,400**

Note: Assumes 2,000 hours per year.

The benefits of implementing this recommendation include improved decision-making and improved documentation in support of decision-making.

Measures of Success

Success will be measured by more consistent monitoring of compliance with documentation procedures by the EPRMC on a monthly basis.

Chapter IX – Supply Procurement

Recommendation IX-2

As part of the annual gas supply plan submitted to the PSC, or in a separate filing, specifically document the five-year supply/demand balance and capacity plans. For capacity contracts that are up for renewal during the five-year planning horizon, provide a discussion of the current expectations regarding those plans. If the long-term supply portfolio review, including contracts not expected to be renewed, shows the need for new capacity to meet design day requirements, provide information on options being explored. Update information provided in previous plans regarding new capacity and capacity renewals.

Implementation Leads

Executive Sponsor:	John Vaughn, VP – Energy Procurement
Team Lead(s):	Elizabeth Arangio, Director – Gas Supply Planning Marybeth Carroll and Robert Moore, Managers – Gas Supply Planning

Implementation Priority: Medium

Recommendation Accepted: Yes

Background Information

In its final report, NorthStar noted:

- National Grid's long-term delivery and gas supply portfolios for the NY Gas utilities appropriately meet the needs of all customers for whom it retains the obligation as supplier of last resort.
- The current supply portfolios for the DNY utilities require the procurement of annual peaking contracts to meet design day requirements; the amount of incremental winter capacity needed for supply reliability is increasing such that additional firm capacity contracts likely will be necessary within five years.
- NMPC's capacity and supply portfolio provides adequate design day capacity through at least 2017-18, and appropriate steps have been taken to address the reliability needs for the eastern part of the service territory. National Grid appropriately monitors, evaluates and responds to changes in the gas markets, including new sources of gas supply and pipeline and storage options.

However, NorthStar found that centralized information regarding long-term supply portfolios is not adequately or consistently communicated to the Commission.

Proposal to Implement Recommendation

The Company recognizes the importance of consistent and adequate communication with the Commission and will implement the recommendation as follows:

- Consult with Staff to determine the information to be provided, the format of such information (five year forecast vs. ten year forecast) and the timing of report/filing; and
- Develop a plan/timeline to enhance data tracking/reporting to include this information.

Schedule

The Company will meet with Staff, discuss information to be included in the report, develop a plan to provide enhanced information for the report and complete the report within the next three to five months. The Company anticipates filing the report with its annual filing in July 2015.

Summary of Cost/Benefit and Risk Analysis

National Grid agrees with NorthStar's preliminary estimate of labor costs to implement this recommendation; however, actual costs may vary depending on the content and format of the reporting as agreed with Staff. The estimated costs are as follows:

Position Level	Annual Fully Loaded Labor Cost	Effective Hourly Rate*	Required Level of Effort (Hours)	Cost
YEAR 1				
Manager/Planner	$300,000	$150.00	160 hours	$24,000
Director	$400,000	$200.00	80 hours	$16,000
Estimated total			**240 hours**	**$40,000**
YEAR 2**				
Manager /Planner	$309,000	$154.50	80 hours	$12,360
Director	$412,000	$206.00	40 hours	$8,240
Estimated total			**120 hours**	**$20,600**

* Assumes 2,000 hours per year.

** Assumes a three percent escalation in salaries.

Benefits of implementing this recommendation include centralization of long-term supply portfolio data that may improve management and decision-making as well as enable better communication with regulators.

Measures of Success

Success will be measured through timely submission of the report to Staff.

Chapter IX – Supply Procurement

Recommendation IX-3

Add a representative from the Energy Procurement group to the NY Leadership Team as a regular full participant.

Implementation Leads

Executive Sponsor:	Ken Daly, President – New York Jurisdiction
Team Lead(s):	Elizabeth Arangio, Director – Gas Supply Planning

Implementation Priority: Medium

Recommendation Accepted: Yes

Background Information

At the time of the audit, the NY Leadership Team did not include a representative from Energy Procurement. The auditors noted that Energy Procurement plays a critical role in the Company's core function of delivering gas to customers (*i.e*., securing the gas supply), and further that gas commodity costs represent a significant portion of customers' bills. The auditors also observed that Energy Procurement must closely coordinate with other functional areas (*e.g*., system planning, gas control/operations, customer programs, rates and regulatory) in developing and executing its gas procurement strategy for New York. Accordingly, to increase the visibility of Energy Procurement and enhance communication with New York leadership, the auditors recommended that a representative from Energy Procurement be included in the NY Leadership Team.

Proposal to Implement Recommendation

The Vice President of Energy Procurement has joined the NY Leadership Team. The Vice President of Energy Procurement is responsible for both gas and electric procurement in New York and represents the energy/supply procurement functions for the gas and electric businesses on the NY Leadership Team.

Schedule

This recommendation has been implemented and is complete.

Summary of Cost/Benefit and Risk Analysis

There were minimal costs associated with implementing this recommendation.

Measures of Success

Appointment of representative on the NY Leadership Team.

Chapter IX – Supply Procurement

Recommendation IX-4

Modify policies and procedures covering the monthly and daily procurement forecasting and "set up" processes for each of the operating companies.

Implementation Leads

Executive Sponsor:	John Vaughn, VP – Energy Procurement
Team Lead(s):	Elizabeth Arangio, Director – Gas Supply Planning Marybeth Carroll and Robert Moore, Managers – Gas Supply Planning

Implementation Priority: Low

Recommendation Accepted: Yes

Background Information

In the Audit Report, NorthStar noted that National Grid's processes for determining short-term (monthly and daily) gas supply requirements are appropriate and consistent with processes used by other gas utilities. However, NorthStar found aspects of the Company's gas supply documentation policies and procedures to be lacking, specifically:

- Existing procedures for developing short-term procurement plans are insufficient, and no provision is made to retain daily set-up sheets for review or to identify opportunities for improving the set-up processes.
- National Grid does not maintain copies of the initial daily set-up plan. The morning set up sheet is revised throughout the day as purchases are made and weather changes. Only the final end of day actual is kept. As a result, it is not possible to compare the initial daily set up with actual activities and volumes to be able to identify inconsistencies or areas for improvement.

Proposal to Implement Recommendation

The Company will enhance its policies and procedures consistent with the recommendation as follows:

1. Hire an additional FTE responsible for all analysis associated with daily and monthly set-up plans and look-back review of plans based on actual weather and actual sendout. The individual will be responsible for working with Gas Control and Load Forecasting on forecasts.

2. Consult with Gas Control and Load Forecasting regarding development of forecasts to support consistency in the forecasts used by Gas Control and Load Forecasting for daily set-up.
3. Revise current spreadsheets to provide for consistency in the spreadsheets and presentation format from operating company to operating company. Spreadsheets should clearly identify:

    - Annual supply arrangements,
    - Monthly and seasonal contracts,
    - Storage injections and withdrawals,
    - Anticipated use of LNG and other supplies, and
    - Volumes of gas to be procured in the daily gas market.

4. Document the parameters, objectives and guidelines for the daily set up of the gas day, such that a substitute trader or new manager would understand the criteria under which expected purchases are identified (the morning set-up) and within which traders exercise judgment on sources of gas supply.
5. Similarly, document the parameters, objectives and guidelines for the monthly set-up such that a substitute planner or new manager would understand the criteria under which monthly gas supply is planned. The document will include the contributing elements such as storage plans, must take contracts, the impact of third party supply, etc.
6. Develop a document retention process to ensure that both the load forecast and the morning set-up sheets are retained in their morning state to enable comparison and analysis purposes for a period of three years. The process should include some trigger points, such as significant intraday increase in prices when National Grid had to execute intraday purchase, where screen shots would be required to document the changes in the market.
7. Schedule quarterly review of morning forecasts compared to actual send out for a representative sample of days during the quarter. The review should assess the variance in loads and determine the impact of weather. Non-weather forecast variances of significance should be reviewed to determine contributing factors and whether there is a need for any adjustments to the morning forecasting processes.
8. Schedule quarterly review of morning set-up plans compared to actual purchases for a sample of days during the quarter. The review should differentiate between the sources of variance in volumes, use of storage and delivery pipelines caused by weather, market conditions, availability of supply, pricing of supply as compared to index (if applicable), operational constraints or other factors. Variances should be reviewed for patterns and opportunities to improve the morning set-up process.

Schedule

1. Hiring of FTE: The Company expects to complete within the next four to six months.
2. Consultations with Gas Control & Load Forecasting: Dependent on implementation of Recommendation VIII-1.

3. Development of new spreadsheet for daily and monthly set up for both DNY and UNY; the Company expects to develop and utilize new spreadsheets for daily and monthly set-up within the next three months.
4. Documentation of daily and monthly parameters/objectives/guidelines: The Company expects to complete documentation of daily and monthly parameters within the next five to six months.
5. Schedule quarterly reviews for daily forecast and daily set-up plans: Dependent on implementation of Recommendations VIII-1 and 2.

Summary of Cost/Benefit and Risk Analysis

The cost to add an additional FTE is estimated as:

- Labor: $150,000/year
- Materials and Equipment: $3,500 (depreciated over three years)

Benefits of implementing this recommendation include improved management of forecasting and procurement performance.

Measures of Success

Success will be measured through quarterly review/audit of forecasts.

Chapter IX – Supply Procurement

Recommendation IX-5

Develop a gas supply performance review process, including a monthly metrics scorecard and associated reporting that assesses the overall performance of the Energy Procurement group in managing the gas supply portfolio.

Implementation Leads

Executive Sponsor:	John Vaughn, VP – Energy Procurement
Team Lead(s):	John Allocca, Director – Gas Contracting and Compliance Elizabeth Arangio, Director – Gas Supply Planning Mark Leippert, Director – Wholesale Gas Supply Steve McCauley, Director – Origination and Price Volatility Management Alex Zhukovsky, Director – Quantitative Risk & Financial Reporting

Implementation Priority: Medium

Recommendation Accepted: Yes

Background Information

NorthStar reported National Grid does not have metrics that assess the performance of the Energy Procurement group in managing the gas supply portfolio. At the current time, the only measure of the effectiveness of the Energy Procurement group used by National Grid is the Net Margin from Off-System Sales and Capacity Release ("OSS Net Margin") metric. However, the OSS Net Margin only measures how well the group is optimizing capacity that is not needed for customers, rather than any measure of performance for the customer.

Proposal to Implement Recommendation

The Company will develop metrics for the gas supply function as follows:

1. Consult with other LDCs (directly or via industry groups (*i.e.*, AGA)) and Staff regarding metrics that would be useful for the gas supply function.
2. Develop a gas supply performance review process, including a monthly metrics scorecard and associated reporting that assesses the overall performance of the Energy Procurement group in managing the gas supply portfolio.
3. Report performance metrics in monthly risk reports.

4. Develop reporting pack to SVP and NY Jurisdictional President.

Schedule

The Company expects to consult with other LDCs and Staff, develop a gas supply performance review process and associated reporting pack within the next six to nine months.

Summary of Cost/Benefit and Risk Analysis

Most of the metric development and on-going management/reporting will be part of the role of the analyst identified in the cost/benefit analysis for Recommendations VIII-1 and IX-4 and/or can be performed by existing personnel as part of their regular job function. The benefits of implementing this recommendation include improved gas procurement processes and ability of management to assess the performance of this key function and the personnel responsible for the activities.

Measures of Success

Following implementation, success will be measured through the ongoing performance review process.

Chapter IX – Supply Procurement

Recommendation IX-6

Conduct a thorough investigation of the allocation and assignment of costs, particularly labor costs, from Energy Procurement to the NY gas utilities to identify the reasons for the NY Gas utilities receiving an apparent disproportionate share of costs. Verify that costs charged to the NY gas utilities by other parts of the Customer functional areas, including the Analytics Modeling and Forecasting group that prepares the forecasts used for gas supply planning and procurement, and are appropriate and supportable. Modify cost assignments, time reporting and allocation procedures to resolve any identified inconsistencies. Document the results of the investigation and resulting recommendations to the PSC within six months.

Implementation Leads

Executive Sponsor:	John Vaughn, VP – Energy Procurement David Doxsee, Vice President – Finance (New York)
Team Lead(s):	Mark Leippert, Director – Wholesale Gas Supply Theodore Poe, Jr., Manager – Gas Forecasting & Analysis

Implementation Priority: High

Recommendation Accepted: Yes

Background Information

In the Audit Report, NorthStar found that recent trends in non-gas operating expenses of the Energy Procurement group may not reflect reasonable application of allocation procedures, with the NY Gas utilities bearing a greater burden of costs than would be expected.

NorthStar noted that the NY Gas utilities comprise approximately thirty percent of National Grid's US customers, but are paying forty percent of the Energy Procurement group's non-gas costs.

Proposal to Implement Recommendation

The Company will perform the analysis described in this recommendation and implement the recommendation as follows:

- Perform a detailed review of non-gas operating expenses of the Energy Procurement group as well as the Analytics Modeling and Forecasting group.

- Present findings and recommendations to Staff.
- Implement recommendations.

Schedule

The Company will document the results of the investigation and resulting recommendations to the Commission within six months.

Summary of Cost/Benefit and Risk Analysis

There are no expected incremental costs of implementing this recommendation.

The benefit of implementing this recommendation is verification that cost allocations are correct.

Measures of Success

Success will be achieved upon verification of cost allocations.

Chapter XI – Performance Management

Recommendation XI-1

With the FY 2016 planning cycle (beginning in FY15), modify the performance management process to replace Elevate 2015 and better align NG-plc, NGUSA, NY jurisdiction, and NY Operating Company goals and objectives with a more robust set of performance metrics. The revised performance management program should address/include the following:

- NG-plc, US, NY and operating company priorities should be aligned but reflect individual priorities.
- All priorities and strategies should have defined performance measures and targets and be reported monthly, at a minimum. Ideally metrics would be at the jurisdiction and operating company level in addition to the US level. Gaps such as those illustrated in Exhibit XI-5 (of the Audit Report) should not exist.
- Metrics should include leading indicators and should be used to monitor performance and address performance issues.
- The revised SLAs performance measures should be included in the performance management system.
- Operating and process improvement team metrics should continue to be robust and not driven to the minimal level of aggregate detail currently represented by Elevate 2015.
- NY Jurisdictional performance should be routinely reported at an operating company level, and should include SLA performance.
- Any construct developed to communicate the Line of Sight to employees such as Elevate 2015 should be clearly defined, easy to communicate, tie to the NY/operating company objectives/priorities and be supported by metrics that actually measure performance against the stated ambition or objective.

Employee performance evaluation objectives and measures should:

- Be defined and objective.
- Involve quantified performance targets, wherever possible, and milestones or specific deliverables.
- Reflect US goals and objectives, NY, operating company and business unit priorities, along with relevant SLA targets.
- Consider the employee's job function and include performance objectives related to that job function.
- Not be artificially tied to broader US ambitions that are not as applicable to the employee's job.
- Include a manageable set of performance requirements. Too many performance requirements make objective performance measurement difficult and can result in a loss of focus.
- Provide objective explanations as to how various performance objectives are weighted or used in the rating determination.

Implementation Leads

Executive Sponsor:	Ken Daly, President – New York Jurisdiction
Team Lead(s):	Evelyn Liddle, Vice President - Performance (New York)

Implementation Priority: Medium

Recommendation Accepted: Yes (with modifications)

Proposal to Implement Recommendation

National Grid is committed to ensuring that the US priorities are designed to achieve the National Grid plc vision. The US objectives will be established by the jurisdictions based on key performance measures. The objectives will represent the specific actions required to achieve the performance measures, thereby increasing clarity among employees of their role in delivering the objectives.

In addition, consistent with NorthStar's recommendation, National Grid is strengthening its employee performance evaluation P4G processes. Discussions with senior leadership and the materials presented to managers across the organization will clarify that employee objectives and measures of success must, among other items:

(i) involve quantified performance targets, wherever possible, and milestones or specific deliverables;
(ii) reflect US objectives, NY, operating company and business unit priorities, along with relevant SLA targets;
(iii) consider the employee's job function and include performance objectives related to that job function;
(iv) not be artificially tied to broader US ambitions that are not as applicable to the employee's job;
(v) include a manageable set of performance requirements; and
(vi) provide objective explanations as to how various performance objectives are weighted or used in the rating determination.

Schedule

Major Activities/ Milestones	**Estimated Completion Date**	**Actual Completion Date**	**Status**
Establish FY16 Objectives and Metrics	April 2015		In progress

Summary of Cost/Benefit and Risk Analysis

The items described in this recommendation will be addressed through the normal performance management planning process.

Measures of Success

Success will be measured by the successful development and implementation of a FY16 performance management process consistent with this recommendation.