AUDIT OF AFFILIATED TRANSACTIONS BETWEEN NEW JERSEY NATURAL GAS COMPANY AND NEW JERSEY RESOURCES AND AFFILIATES

PURSUANT TO N.J.S.A. 48: 3-49, 48: 3-55, 48: 3-56, 48: 3-58 & N.J.A.C. 14:4-5 ET. SEQ.

AND A

COMPREHENSIVE MANAGEMENT AUDIT OF NEW JERSEY NATURAL GAS COMPANY

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FINAL REPORT

NORTHSTAR CONSULTING GROUP
MANAGEMENT CONSULTANTS

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CHAPTER I. EXECUTIVE SUMMARY

This Chapter provides an overview of New Jersey Resources (NJR), New Jersey Natural Gas Company (NJNG) and its affiliates and summarizes the results of our audit. Chapter II provides background on NJNG and an overview of the scope, objectives and audit methodology. Chapters III though XVIII provide detailed findings and conclusions for each audit area.

A. Background

In February 1999, the New Jersey Legislature passed and Governor Whitman signed the Electric Discount and Energy Competition Act, New Jersey Statutes Annotated (N.J.S.A.) 48:3-49 *et seq*. (EDECA) into law, partially deregulating the electric and gas markets with the goal of creating competition, giving consumers more choice, and reducing prices.

In response to EDECA, the new Jersey Board of Public Utilities (BPU or Board) adopted the "Affiliate Relations, Fair Competition and Accounting Standards and Related Reporting Requirements" (Competitive Service Standards or Rules) that govern the interactions between the New Jersey utilities and their affiliated companies. These Rules were originally adopted by the Board pursuant to an Order dated March 15, 2000 in Docket No. EX99030182, and were codified in Chapter 4 "Energy Competition Standards" of the New Jersey Administrative Code (N.J.A.C.) Title 14. (The Affiliate Relations, Fair Competition and Accounting Standards and Related Reporting Requirements and the relevant sections of the N.J.A.C. are collectively referred to as the Competitive Service Statutes.) In general, the Statues are designed to promote fair competition in retail markets where regulated utilities deals with their affiliates. Simply stated, NJNG's affiliates should not gain any unfair competitive advantage as a result of their relationship with NJNG.

NorthStar was retained by the BPU to perform an Audit of the Affiliated Transactions between NJNG and its affiliates and a Comprehensive Management Audit of NJNG in response to RFP 13-X-22139. The scope of the audit included the fiscal years 2009 through 2013. The objectives of the audit were to assist the BPU in determining whether NJNG is in compliance with EDECA as specified in N.J.S.A. 48:3-49, N.J.S.A. 48:3-58 and N.J.A.C. 14:4-3 et seq. both in a retail and wholesale capacity and the Board's Affiliate Standards, and to determine if the management practices, functions, operational procedures, and other internal workings of NJNG are effective.

B. NJNG Overview

NJNG is a local natural gas distribution company that provides regulated retail natural gas service to approximately 500,000 residential and commercial customers in central and northern New Jersey. It is the principal subsidiary of NJR, a Fortune 1000 Company. NJNG owns approximately 6,860 miles of distribution main, 6,810 miles of service main, 228 miles of transmission main and approximately 519,000 service meters. Additionally, NJNG owns and operates two Liquefied Natural Gas (LNG) storage plants in Stafford Township, Ocean County, and Howell Township, Monmouth County. NJR is a New Jersey corporation formed in 1981 pursuant to a corporate reorganization. It is an energy services holding company providing retail and wholesale energy services to customers in states from the Gulf Coast and Mid-Continent regions to the Appalachian and Northeast regions, the West Coast and Canada. NJR's other subsidiaries and businesses are all non-regulated, and include:[1]

- NJR Service Corporation (NJRSC) which provides the NJR family of subsidiaries with shared support services, including communications, financial, administrative, auditing, legal, human resources and technological expertise.

- NJR Clean Energy Ventures (NJRCEV) which invests in, owns and operates renewable energy projects that generate clean power and provide low carbon energy solutions, including commercial and residential solar projects, as well as on-shore wind projects through a 19.9 percent ownership interest in OwnEnergy.

- NJR Energy Services (NJRES) an energy trading company which provides wholesale energy services to customers in New Jersey, and in states from the Gulf Coast to New England, and Canada. NJRES maintains and transacts around a portfolio of physical assets consisting of natural gas storage and transportation contracts. NJRES also provides wholesale energy management services to other energy companies and natural gas producers.

- NJR Retail Holdings (Retail Holdings) which consolidates NJR's unregulated retail operations. Retail Holdings consists of the following wholly-owned subsidiaries:

  - NJR Home Services (NJRHS) provides home-appliance service, sales and installations to customers in Ocean, Monmouth, Morris and Middlesex counties, New Jersey.
  - NJR Plumbing Services (NJRPS) provides plumbing repair and installation services. NJRPS operates as part of NJRHS.
  - Commercial Realty & Resources (CR&R) holds and develops commercial real estate.

- NJR Energy Investments (NJREI) which consolidates NJR's unregulated energy-related investments. NJREI includes the following wholly owned subsidiaries:

  - NJR Midstream Holdings Corporation (formerly NJR Energy Holdings Corporation). NJR Midstream primarily invests in energy-related ventures through its subsidiaries, NJR Steckman Ridge Storage Company, which holds NJR's interest in Steckman Ridge, a natural gas storage facility and NJR Pipeline Company, which holds NJR's ownership interest in Iroquois. Steckman Ridge and Iroquois comprise the NJR Midstream segment.

[1] NJR 10-K Annual Report filed 11-29-2012 for the period ending 9-30-2012

- NJR Investment makes and holds certain energy-related investments, primarily through equity instruments of public companies.
- NJR Energy Corporation (NJR Energy) invests in energy-related ventures.

NJNG's primary interfaces are with NJRSC which provides shared services to NJNG, NJRHS for which it provides billing and payment processing services, NJRCEV for which it provides billing services and NJRES. NJNG executes trades with NJRES as discussed in further detail in the Gas Supply Procurement Chapter.

C. Summary of Findings and Conclusions

Key findings and conclusions are summarized below. Detailed findings and conclusions for each audit area are provided in Chapters III – XVIII.

Executive Management, Governance and Planning

NJR is governed by an eleven-member Board of Directors (BOD): ten independent directors and Mr. Laurence Downes who serves as the NJR Chief Executive Officer (CEO) and Chairman of the Board. The CEO and BOD members are well-qualified and have extensive experience in both public and private enterprise. Six of the Directors (including Mr. Downes) are former utility and energy industry executives. Other Board members provide expertise in government relations, human resources, auditing and financial services. The NJNG BOD comprises five members including Mr. Downes. The Boards of the subsidiaries (including NJNG) meet concurrently with the NJR BOD. Prior to November 2011, the NJNG BOD met separately but changed to concurrent meetings because the directors found they were repeating presentations and discussions at the NJR-level that had just occurred at the NJNG BOD meeting.

All planning for the utility and its affiliates occurs at the NJR-level. NJNG does not conduct strategic planning. The NJR planning process, and resulting plan, is based on the corporate Vision and Mission and "Commitment to Stakeholders" (CTS). The CTS is a corporate-wide initiative that embodies the NJR corporate values and provides focus for employee actions and goals. The CTS applies to all subsidiaries. Although the CTS has been embraced by the organization and provides an appropriate vehicle for measuring performance and ensuring commitment, improvements are possible in NJR's strategic planning process. In a number of respects, the corporate planning process results in an annual plan that is primarily operational, rather than strategic, in nature. NJNG management generally sees little need for NJNG-specific long-term planning, believing future operations will continue "business as usual".

NJR's mission and vision have been effectively communicated throughout the organization. Employees understand the vision and are committed to the success of the organization; however, employees do not generally distinguish between NJR, NJNG and its affiliates. The organization operates more as one entity than separate regulated and unregulated companies. NorthStar found limited recognition that the regulated utility might have different goals and management needs than its unregulated affiliates. NJNG also shares officers with certain of its affiliates, which is prohibited by the affiliate rules.

Affiliate Relationships and Transactions

NJNG provides and receives a variety of products and services from its affiliates and NJR. These include shared services, customer service, billing, leases, external contracts and corporate taxes. In a typical year, there are in excess of 5,000 transactions between NJNG and its affiliates. These transactions range from a few cents to as much as $3 million. EDECA requires that the assignment or allocation of costs should not result in utility subsidization of the non-regulated businesses. The process by which costs are assigned to the various NJR entities is outlined in the Cost Allocation Manual (CAM). NJR has an extensive and well-written CAM that has been updated twice during the audit period. The CAM contains a great deal of detail and explanation on how cost allocations are performed.

NorthStar tested a number of transactions between NJNG and its affiliates to assess the validity of accounting information and the assignment or allocation of costs. In the great majority of cases, costs were appropriately assigned or allocated to the correct affiliate. The allocation methods used were consistent with the procedures outlined in the CAM and were reasonably causally-related. NorthStar's review identified some errors in time charges and insufficient controls over the time-keeping process. NorthStar also found the method used to determine affiliate lease costs results in a potential subsidy as it is inconsistent with lease terms and not market-based..

Finance

NJR displayed consistent, strong financial performance during the audit period. In 2013, NJNG achieved its 22nd consecutive year of improved financial performance. Credit rating agencies and lenders generally praise NJNG's financial management, citing conservative management of financial resources, a diverse service area that has experienced higher than average growth with lower than average volatility, and a supportive relationship with the BPU. As a result, both Standard and Poor's and Moody's Investor Services have rated NJNG as stable investment grade credit. NJNG and NJR are not separately rated.

Despite its strong financial performance, NorthStar is concerned about the effects of NJR's reliance on variable rate debt and its business diversification on NJNG's credit rating which could, and may already have had, a detrimental effect on ratepayers. Lower credit ratings increase a utility's cost of financing. To date, NJNG's decision to use a relatively high proportion of variable rate debt has saved significant amounts of money; however, rating agencies have indicated that additional reliance on floating rate debt could result in a ratings downgrade. Rating agencies have also indicated that an increase in NJR's non-regulated affiliate business above the current level could lead to a reduction in NJNG's credit rating. NJNG currently contributes about 65 to 70 percent to NJR's net financial earnings. It is likely that the current credit rating is already lower than it might be absent these factors.

NJR manages its cash effectively and no funds belonging to any affiliate are comingled with NJNG funds at any time. NJNG handles cash from affiliates in only limited circumstances; however, the associated processes could be improved. NJNG's processes for handling NJRHS billing and receivables results in a subsidy to NJRHS.

Gas Supply Procurement

NJNG supplies approximately 50 million dekatherms (dths) of gas annually to its Basic Gas Supply Services (BGSS) sales customers at a delivered cost of approximately $400 million in fiscal year (FY) 2013. NJNG transports an additional 10 million dths each year for aggregation and large commercial/industrial customers who have contracted for their gas supply through independent Third Party Suppliers (TPSs). NJNG recovers the cost of gas (both demand charges and commodity costs) from its ratepayers through the BGSS process. On an annual basis, NJNG files its forecasted sales and projected costs of gas and other fees and credits with the BPU. The resulting annual BGSS rate is a levelized cost of gas that is applied to consumption on residential and small commercial customers' bills to recover the cost of gas supply. As a result of the BGSS process, NJNG ratepayer bills are not directly impacted by short term fluctuations in the market price of gas.

NJNG's gas supply procurement activities have a strong short-term bias and are conducted in a highly informal manner. There is little analytic rigor, limited oversight and management attention, and weak documentation of capacity and procurement decisions. The organizational placement of the utility's gas supply function does not provide sufficient visibility and executive attention for this key function. NJNG's ratepayers have been largely insulated from adverse impacts of the informal gas supply management processes by a combination of the BGSS gas cost recovery process and a delivery portfolio with considerable storage capacity, particularly with the relatively low gas prices and mild weather over the audit period. The existing processes likely would be insufficient to assure best cost gas supply under less favorable market conditions.

NJNG's gas procurement and hedging transactions are subject to review by the Risk Management Committee (RMC). The RMC was established by the BOD through its Audit Committee and charged it with oversight of risks and risk management associated with gas trading, counterparty credit risk and overall hedging activities. The RMC oversees transactions for both NJRES and NJNG, operating through a single bi-weekly meeting with one agenda and reviewing a single consolidated monitoring report covering both entities. The concurrent oversight by the RMC of both NJNG and NJRES gas transactions is not in the best interests of NJNG ratepayers or stockholders. Transactions between NJNG and NJRES are not covered by the BPU's Affiliate Relations guidelines or by Federal Energy Regulatory Commission (FERC) requirements. However, the potential exists for self-dealing between the affiliates, and existing RMC processes and controls are insufficient to assess whether transactions and other interfaces between the two entities are appropriate. NJR's corporate internal audit function does not provide sufficient independent review of the gas procurement activities.

Distribution and Operations Management and Contractor Oversight

During FY 2009, NJNG implemented an Accelerated Infrastructure Program (AIP) to enhance the reliability of its gas distribution system and to support economic development and job growth in New Jersey. Since inception of the program, the BPU has approved total infrastructure investments of $131 million, including $70.8 million related to the initial phase of construction projects (AIP I) and $60.2 million related to the second phase of construction projects (AIP II). On March 20, 2012, NJNG filed a petition with the BPU seeking to implement a Safety Acceleration and Facility Enhancement (SAFE) program, whereby NJNG would invest up to $204 million over a five-year period to replace portions of NJNG's bare steel and cast iron gas distribution infrastructure. NJNG entered into a stipulation with the BPU Staff and Rate Counsel to include a four-year incremental investment program of $130 million, exclusive of Allowance for Funds Used During Construction (AFUDC) accruals.

In FY 2012, NJNG committed or spent capital expenditures totaling $120.1 million. In fiscal 2013 and 2014, NJNG has estimated capital expenditures of $119.3 million and $119.9 million, respectively.

The vast majority of NJNG's construction work is performed by two contractors, under an "Alliance" agreement. The Alliance contracts were initially established on August 3, 2001 with a non-competitive-bid contract. They have been amended a number of times and currently span 20 years, terminating August 3, 2021. The most recent amendments extending the contract end dates were the result of a negotiated rather than competitive bid process. Although the contracts were initially signed in 2001, Kiely and Gray have provided pipeline construction services to NJNG since 1952.

The Alliance contractors do not compete against each other or internal NJNG resources for construction jobs. Although NJNG believes the Alliance contracts have resulted in a high degree of responsiveness and construction quality, the Alliance contractors bear no financial risk and there is an absence of a baseline against which to determine the relative cost-effectiveness of the arrangements. The Alliance contractors are reimbursed for all reasonable actual direct and indirect project costs (i.e., direct labor and labor-related expenses, materials, equipment, general and administrative overheads, and annual wage adjustments) plus an initial profit margin currently set at 13 percent. While the use of "Alliance" agreements is common to the utility industry, NorthStar has not previously encountered such a heavy reliance on alliance contractors. Despite numerous prior audit recommendations requiring competitive analysis of the agreements, no such analysis has been performed

D. Recommendations

Exhibit I-1 provides a listing of NorthStar's audit recommendations.

Exhibit I-1
Recommendations

Ch.	Recommendation
Executive Management and Organization	
III	1. Develop a policy on the separation of the roles and responsibilities of the CEO and Chairman of the Board. The policy should address whether the positions should be separate or combined by design, and whether the Chairman should be selected from the non-employee directors or be an employee.
III	2. Establish a culture from the BOD and throughout the organization that stresses the need for separation of duties and responsibilities between NJNG and its affiliates, and clarifies the different goals, objectives and constraints associated with operating a regulated utility. Establish processes that ensure the BOD and executive management clearly differentiate their roles and decision-making responsibilities for the utility.
III	3. Clearly differentiate the administrative and functional responsibilities of NJNG officers and senior management from its affiliates by developing a set of functional mission statements for NJNG along with formalized roles and responsibilities for management.
III	4. Comply with N.J.A.C. 14:4-3.5(q), regarding corporate structure and reorganize or reassign the officers currently in violation of the rules.
III	5. Consider using an executive search firm in addition to current processes to fill future BOD positions.
III	6. With the assistance of outside experts, restructure the Internal Audit Department (IAD) processes to improve the depth of analysis, encourage a broader view of potential control, risk and affiliate matters, widen the scope, and vary the topic areas addressed in the audit plan. Establish a culture of responsibility and accountability for the implementation of recommendations, regardless of the audit source.
Strategic Planning	
IV	7. NJNG should develop a strategic and business planning process for the utility that incorporates the elements of successful strategic planning. The NJNG planning process should be under the direction of the NJNG Management team, and the planning and analysis should be performed by NJNG personnel. The NJNG planning process should provide for the following planning elements: • Reflect a planning horizon of seven to ten years. • Include a Strength, Weaknesses, Opportunities and Threats (SWOT) analysis, including employee and technology resource assessments, updated annually to reflect changing conditions and performance expectations. • Consider whether adjustments to the NJR Vision or Mission would provide improved clarity or focus for NJNG's planning or operations. • Identify market and technology trends that could impact any of the aspects of NJNG's business – supply, infrastructure, customer demands. • Identify and explore a range of possible opportunities for achieving the NJNG Vision, including creative ideas that might come from outside the utility industry, consistent with the NJR corporate strategic direction and the CTS elements. • Identify risks and uncertainties around business operations and future programs, and develop options to mitigate or manage the risks and reduce uncertainties. • Include analysis of ratepayer impacts under a range of economic, market and gas supply assumptions, creating alternative scenarios. • Identify preferred strategies and appropriate mid- and short-term action plans to achieve the strategies. • Assess NJNG's financial performance and the impact on ratepayers under the desired plan and under alternative scenarios. • Include goals, objectives and performance targets for NJNG based on its strategic plan that may be in addition to those included in the NJR Plan.

Ch.	Recommendation
IV	8. The NJR business planning process should be modified to explicitly include corporate-level elements from the NJNG Strategic Plan (Recommendation 1). In the revised process, the NJR Executive team and BOD would continue their current roles to establish the overall corporate strategy and objectives, provide guidance to NJNG on assumptions and approach, and approve the NJNG Strategic Plan along with the NJR Plan.
IV	9. The NJR planning process should be modified to incorporate elements of longer-term strategic planning. The revised process should include the elements identified in Recommendation 1 for the NJNG planning process, applied at the corporate level and for other affiliates. At a minimum, the NJR planning process should be expanded to a seven to ten year planning horizon, include assessments of the risks associated with the plan, and quantification of those risks through scenario analyses.
Affiliate Relationships	
V	10. Classify CR&R and NJRCEV as related competitive business segments.
V	11. Review and improve the current Affiliate Compliance Plan to include policies and procedures that are applicable to all NJNG affiliates.
V	12. Ensure that the information contained in the Affiliate Compliance Plan is correct, complete and includes the following: • Policies and procedures that deal with affiliate relationships. • Ensure that all affiliates are recognized as part of the Affiliate Compliance Plan. • Ensure that there are no violations of nondiscrimination rules or polices.
V	13. Develop service agreements between NJNG and affiliates that comply with the Competitive Service Statutes and are consistent with organization structure and the CAM, and reflect actual services provided. • Ensure that service agreements among affiliates are consistent with the CAM. • Correct allocation models that are used in billing between regulated affiliates and service providers. • When completed, seek approval by the BPU.
V	14. Comply with N.J.A.C. 14:4-4.5, which requires NJNG to obtain competitive bids for services provided by its affiliates. Alternatively, perform a benchmarking study of services provided by affiliates to demonstrate to the BPU's satisfaction that the charges and quality of services are competitive with other commercial providers and comply with N.J.A.C. 14:4-4.5.
V	15. Cease providing extended payment options to NJRHS customers.
V	16. NJNG should perform its own Marketing and Communications functions exclusively and discontinue any services sharing with its affiliates.
V	17. Develop, maintain and control access to NJNG databases and systems and which employees have access to systems. Report a list of employee access to databases and systems to the BPU on a semi-annual basis.
Accounting and Cost Allocation	
VI	18. Revise the CAM to reflect the actual organization and procedures used to allocate costs.
VI	19. Revise the instructions for using "Work with Time Sheets" to include more information on the circumstances that would lead an employee to enter charges to affiliates.
VI	20. Implement a validity check for its time inputting to verify the appropriateness of work orders.
VI	21. Modify the leases with affiliates to reflect current market conditions and thereafter follow the terms of the leases. The BPU may want to consider whether the terms of the existing leases should be applied retroactively.
VI	22. Revise the method of charging space-related costs to NJNG's affiliates in accordance with revised lease contracts. Alternatively, NJNG should modify the leases to reflect current terms.
VI	23. If NJNG continues to allocate lease costs based on occupancy square footage, it should use correct round off procedures in calculating allocation factors and amounts.

Market Conditions		
VII	24.	Improve the Energy Choice information on NJNG's website, and develop a process and schedule to review and update these pages at least quarterly. Specifically, the website should include: • A link to the competitive supplier section of the website should be placed in a highly visible location on the home page, and made more visible on both the "My Home" and "My Business" subpages. • The list of suppliers should include only active suppliers, or at least an indication of which suppliers are currently accepting new customers. • The current BGSS rate for comparison with TPS offers should be readily available and kept up to date, for both residential and commercial and industrial (C&I) customers. • There should be a simple, user-friendly explanation of the charges that would continue to come from NJNG and a schedule of the current NJNG distribution, customer, and other fees and charges. • NJNG should develop an on-line calculator that allows customers to input TPS offers and estimate the changes in either their bill (using their account number to access historical usage data) or a typical bill (for residential customers). Usage patterns for C&I customers are sufficiently variable that the use of a "typical bill" would not be appropriate.
VII	25.	Reinforce TPS neutrality among the call center representatives, ensuring they remain neutral and do not disparage competitors while continuing to provide customers with accurate information and assistance.
Gas Supply Procurement		
VIII	26.	Elevate the Gas Supply group to an NJNG officer-level Department, headed by a Vice President reporting to the NJNG Chief Operating Officer (COO). Specifically, The VP Gas Supply should: • Have appropriate experience in the management and procurement of gas capacity and supply for regulated utilities. • Be physically located adjacent to the Gas Supply personnel to facilitate collaboration on all matters, including daily transactions as well as long term planning, analysis of pipeline and market trends, oversight of transactions and controls, and regular department management.
VIII	27.	Develop or obtain additional analytic tools and training to support the long-term supply portfolio planning process and include the assessment of risks and ratepayer impacts in planning decisions. These resources can come through a combination of in-house personnel and outside entities. Specifically, NJNG needs the capability to: • Examine the impacts on ratepayers of uncertainties and risk factors associated with the current portfolio. (This can be accomplished through the use of Monte Carlo simulation tools with Excel™ spreadsheets.) • Identify and assess a wider range of contracting alternatives, supply options and pricing considerations. • More directly monitor trends and opportunities in the market and evaluate the potential roles and impacts on NJNG's portfolio and ratepayers.
VIII	28.	Improve the documentation of all aspects of gas supply planning and management decisions. All documentation should be maintained in files within the Gas Supply Department in an orderly manner. The minimum required documentation should include: • Hard copies (scanned or pdf) of all spreadsheets and other analytic tools that were used to support decisions. • Hard copies (scanned or pdf) of all contemporaneous market pricing and other market intelligence used in the analysis and in support of decisions. • A written discussion of the decision process including a summary of the options considered, assumptions and sources of data, results of the analyses supporting the recommended option, and an outline of the decision and approval process, noting the individuals and committees involved. • Any memorandum, letters or presentations associated with the decision.
VIII	29.	Extend the planning horizon for capacity needs to a minimum of seven years to ensure timely identification of future needs consistent with typical pipeline expansion planning horizons.

Ch.	Recommendation
VIII	30. Retain an outside firm to conduct a comprehensive analysis of the current hedging strategy, Storage Incentive Program (SIP), and Financial Risk Management program to assess their appropriateness and value to ratepayers in light of current and anticipated natural gas market conditions, the BGSS rate structure and other regulatory considerations, and NJNG's vision and strategy. Based on the results of the study, NJNG's hedging strategy should be adjusted, and appropriate procedures established for the execution of the strategy through the RMC and regulatory processes. The study and recommended adjustments and improved procedures should be presented to the BOD for approval and provided to the BPU for appropriate regulatory action.
VIII	31. Enhance the oversight by the RMC of NJNG's trading and procurement activities to address the gaps identified in this audit. The RMC Guidelines should be reviewed and revised to formalize the necessary policies, guidelines and procedures. At a minimum, the enhance oversight and guidelines should provide for: • Review of NJNG's procurement and trading transactions separately from those of NJRES. • Specification of timing, approval and documentation of all SIP and FRM transactions, including setting of the SIP benchmark as discussed in Conclusion 17 and the results of the hedging study specified in Recommendation 4. • Minimum standards for the review and approval of portfolio and major procurement decisions, along with improved documentation requirements specified in Recommendation 3. • A comprehensive review of the hedging strategy at least biannually. • Specific guidelines as to what constitutes acceptable and unacceptable affiliate transactions and how that will be determined. • Reporting and analysis of transactions (both affiliate and non-affiliate) to monitor for potential risks arising from opportunistic trading in general.
VIII	32. Address the matter of NJRES users with access to NJNG Gas Management System (GMS) files and data. At a minimum: • Review all dual user GMS access to NJNG files and remove NJNG access unless there are compelling reasons for such access. • Implement appropriate procedures for dual user authorization, including explicit approval by the Gas Supply group of such access and requiring written documentation of all dual access justifications.
VIII	33. Either cease sharing analysis results and support activities that have been conducted by NJNG personnel with NJRES, or implement a process and methodology, to be approved by the BPU, to allocate the fully loaded costs associated with these activities to NJRES. At a minimum the methodology should: • Clearly delineate what activities supporting both entities are authorized. • Ensure that NJNG personnel accurately identify the time spent supporting NJRES alone, and performing tasks that support both entities. • Base the cost charged to NJRES on the cost NJRES would incur were it to acquire the services independently.

Ch.	Recommendation
VIII	34. Improve IAD's oversight of the Gas Supply group's activities. At a minimum: • Relocate the Internal Auditor from the trading area. • Contract for an outside internal auditor with appropriate experience in energy trading and derivatives to conduct a comprehensive audit of NJNG's gas trading policies, procedures, activities, reporting, controls and related matters. The results of this focused audit should be reported to the CEO and the BOD within nine months of completion of this NorthStar Management audit. The final report on the focused audit should be submitted to the BPU within 12 months of the completion of the NorthStar audit. • Implement audit work plans for the gas supply area that ensure the audits cover activities in greater detail and with greater depth, and move beyond verifying calculations and data entry to, for example, consideration of areas where existing controls may be insufficient. • With the assistance of the outside internal auditor, develop a list of internal audit topics in the gas procurement and trading areas for implementation by IAD, resulting in the audit of key risk areas on a rotating basis over a three-year rotation. • Rotate internal auditors for Gas Supply audits such that no auditor conducts the same or significantly similar audit for more than two years in a row. If necessary, contract every third year for an outside internal auditor to conduct the audit and report to the CEO and BOD. • Develop specific professional development plans for auditors in the IAD to increase their understanding of energy procurement and trading, so that within four years there can be an internal rotation of IAD staff for the gas procurement function audits. The development plans should be filed with the BPU and update with progress annually.
VIII	35. Enhance the customer forecasting process by corroborating NJNG's market intelligence-based forecast with a regression model utilizing econometric variables such as population, personal income, economic activity and inflation. At the same time, expand the customer forecast to a ten-year horizon to be in line with the Design Day and Send out forecasts. Consider new and different types of construction in the service territory, including a separate forecast of multi-family dwellings.
VIII	36. Continue with plans to obtain the current version of Nostradamus and to reinstate the maintenance service contract to assure timely incorporation of software updates, corrections and enhancements.
Finance and Cash Management	
IX	37. Evaluate the benefits of the continued use of variable rate debt. Consider the warnings of the credit rating agencies and avoid increasing the proportion of variable rate debt unless the savings are compelling even if the rating agencies lower their rating of the company's other borrowing.
IX	38. Observe the limit established by credit rating agencies regarding the proportion of non-regulated business activity NJR engages in. Additionally, consider backing away from the existing level to ensure that borrowing costs are not increased at the expense of ratepayers
IX	39. NJR should seek to be rated separately from NJNG in order to clarify the effects of the additional risk carried by NJR and to ensure that the credit rating of NJNG is not adversely affected by actions of NJR or its other affiliates.
IX	40. Update the comparison panel used by NJNG and NJR. The panel should have more members who are higher performers to give NJNG something to strive for.
IX	41. Consider having an NJRCEV employee (rather than an NJNG employee) handle NRJCEV checks received in the mail room from the point they are opened to the point they are deposited in NJRCEV's bank account.
IX	42. Perform a detailed analysis of the receivables process to ensure that the discount factor applied to NJRHS appropriately reflects the costs and bad debt write offs associated with the service NJNG provides.
IX	43. Either pay NJRHS for the bills NJNG sends out on NJRHS's behalf on the same average payment cycle under which NJNG receives payments, or analyze the effects of carrying the extra working capital necessitated by the early payments to NJRHS and adjust the discount factor to ensure that NJNG ratepayers do not subsidize NJRHS.

Ch.	Recommendation
IX	44. NJNG should enhance its OpEx budget procedure to incorporate a more zero-based approach and document the process to insure that all areas of the utility follow the same procedures.
Previous Audit Recommendations	
X	45. Demonstrate the implementation of each recommendation accepted by the BPU in this audit. The demonstration and associated documentation should include: • An initial timeline and designation of an individual accountable for implementation of each recommendation. • Delineation of the specific steps to be taken to implement each recommendation. • Periodic status reports and/or meetings with the BPU. • Written policies, procedures, reports, operational proof or other demonstration of the recommendation's implementation and sustainability. Any ambiguity regarding terminology or the scope of audit recommendations should be agreed upon with the BPU and not allowed to delay or hinder implementation.
X	46. Demonstrate the implementation of each recommendation called for in the Liberty audit and addressed in NorthStar's audit to the satisfaction of the BPU. • Reporting on the status of implementation based on the acceptance and interpretation of NJNG has been shown to be problematic. • Demonstration should include written policies, procedures, reports, operational proof of their ongoing implementation, and sustainability.
X	47. Recommended improvements to the IAD process are discussed in NorthStar's Executive Management, Corporate Governance and Organization Chapter and in its Gas Supply Procurement Chapter (as relates specifically to the oversight of the gas supply procurement activities).
Distribution and Operations Management	
XI	48. Develop a comprehensive program to address the leak backlog and mitigate excavation damages.
XI	49. Develop a system planning function within NJNG. This function would be responsible for integrating all infrastructure planning and developing an effective and comprehensive long-term system plan.
XI	50. Remediate each of the pipeline documentation deficiencies noted in Conclusions 8 through 10 contained in NJNG's Standards, Operating, Maintenance and Emergency (SOME) Manual Volumes 3 and 4, the Transmission Integrity Management Program (IMP) and the Distribution Integrity Management Program (DIMP), and report on their individual completion to BPU Staff. • Procedures for handling abnormal operations for transmission lines (responding, investigating, and correcting the cause of incidents including, but not limited to, unintended closure of valves or shutdowns, increase or decrease in pressure or flow rate outside normal operating limits, loss of communications, operation of any safety device, and any other foreseeable malfunction). • Make SOME Manual construction records, maps, and operating history available to appropriate operating personnel. • Demonstrate that the manual has been reviewed and updated by the operator at intervals not exceeding 15 months, and at least once each calendar year.
XI	51. Complete all Sandy Lessons Learned action plans and activities prior to the next storm season.
XI	52. Develop and formally document an organized storm response liaison program.

Ch.	Recommendation
XI	53. Conduct pipeline construction in a competitive manner. • Limit the Alliance program to half of NJNG's construction work (or other proportion as agreed to with the BPU) until the Alliance program costs and benefits can be independently verified by the BPU. • NJNG resources could be used to perform comparable pipeline construction as a benchmark against Alliance contractors. • Use contractors other than Alliance contractors to competitively bid and perform pipeline construction work as a benchmark for comparison. • Annually document, through relevant benchmarking comparisons, the installed cost of mains and services for various types of work and service territory geography of work performed by the Alliance contractors and other contractors. The analysis should be performed by an external third-party that is not one of the Alliance contractors, with the results provided directly to the BPU.
XI	54. Improve oversight of the cost and quality of the work performed by the Alliance contractors. See the Contractor Performance Chapter for additional discussion.
Contractor Performance	
XII	55. Complete the ongoing effort to standardize the reporting of mark-out inspection results to consistently classify results.
XII	56. Improve processes and procedures to perform independent quality inspections of the Alliance contractors' work. • Discontinue the practice of allowing contractors to self-inspect work before it is inspected by NJNG inspector. • Improve the rating guidelines for the inspection reports so that all instances of non-compliance are rated "warning" and all unsafe practices are rated "unsatisfactory".
XII	57. Identify potential opportunities for Alliance contractor productivity improvements. • Compare Alliance contractor construction unit rates to AGA data. • Perform productivity trend analyses to determine and correct the cause of any declines in productivity.
XII	58. Document the process to determine the results of the contractors cost containment performance measure.
XII	59. Confirm that NJNG is not paying duplicative overheads, profit or other mark-up on equipment purchased by its Alliance contractors from subsidiaries of the Alliance contractor and then billed to NJNG. (Refers to Conclusion 10 and NorthStar's review of audit work papers.)

Ch.	Recommendation
XII	60. Expand the current Alliance contractor cost testing procedure to include the following. Audits should continue to be performed by individuals with an understanding of the nature of the construction work performed. • Testing of all categories and subcategories of costs including direct costs and compensation-related costs and adders (e.g., union expenses, and office and yard salaries). • Criteria for selection of transactions for detailed testing. • Coverage of all subcontractors or professional services providers retained by the Alliance contractors. NJNG can continue to select costs associated with subcontractors whose charges it has questioned in the past, but it should also ensure that all recurring vendors are eventually subject to review and one-time or atypical professional services/subcontractor costs are reviewed. • Criteria for supporting documentation requirements and the level of documentation support necessary to verify that cost are related to NJNG work. NJNG should drill down to a sufficient level to understand the nature of the charges and whether they were NJNG-related. For example, a summary level invoice from an office supply or hardware store that provides no detail on the items purchased or even the locations of the store is insufficient supporting documentation. Similarly a monthly insurance invoice providing a lump sum amount but no listing of covered employees is insufficient to ensure all costs should be charged to NJNG. • Criteria for and categories of allowable and disallowable Alliance contractor costs. Allowed categories of costs should be consistent with NJNG policies, laws, Internal Revenue Service (IRS), Generally Accepted Accounting Principles (GAAP) and other applicable state and federal regulations. Disallowed cost categories should be communicated to the Alliance contractors, who should discontinue charging these costs. Items to be considered include types of allowed vehicles or vehicle allowance amounts, charitable donations, dues and subscriptions, memberships, certain categories of entertainment expenses, meal policies, flowers, and upgrades to facilities that may benefit companies other than just NJNG.
XII	61. Consistently Track all Alliance Agreement performance measures.
Human Resources	
XIII	62. Continue to examine benefit costs and take steps as appropriate to bring benefits in line with other utilities.
XIII	63. Develop a more robust succession planning process that includes succession plans for all executive-level and key management positions and appropriate plans to back fill their positions. Develop more formal training and development plans for identified personnel.
XIII	64. Improve processes for monitoring and minimizing leave and other non-productive time, to increase efficiencies and reduce non-productive time. Continue to monitor for abuse and other trends. Pursue automated systems for Family Medical Leave Act (FMLA) and other leave processing and tracking (in process).
Customer Service	
XIV	65. Track and report BPU and Executive complaint response times.
XIV	66. Perform a detailed assessment of meter reader staffing levels and the relative costs and benefits of further Automated Meter Reading (AMR) deployment.
XIV	67. Develop targets to assess NJNG's performance against reported billing metrics.
XIV	68. Include an explanation of the conversion factors from hundreds of cubic feet (CCF) to British Thermal Units (BTU) on the back of the customer bill.
XIV	69. Include the State recommended disclosure, "Under applicable tax law, the State sales and use tax, corporate business tax, and Transitional Energy Facility Assessment are imposed upon the energy which you have used. To obtain the exact amount of tax included in your billing, please contact the utility at the telephone number listed on your bill", on the customer bill.
XIV	70. Perform a detailed cost-benefit/economic justification analysis for the addition of more field collectors. At a minimum, the analysis should consider projected available workload, the full-loaded cost of the collector and the anticipated dollars collected. Add field collectors if anticipated benefits exceed costs.

Ch.	Recommendation
XIV	71. Develop a written action plan for addressing call center service levels. The plan should include consideration of the following: • Outsourcing (but not off-shoring) a portion of utility calls, after discussions with the BPU Staff. This would also provide potential benefit during emergencies as an outsourced call center may be able to respond more quickly to an increase in call volume. • Outsourcing NJRHS calls. • Improved forecasting and staffing (underway). • Use of cross trained personnel (likely from revenue cycle services) to answer phones during times of high call volume (e.g., Mondays, extreme weather, seasonal turn-ons/offs). • Part-time agents and work-at-home agents. • The call center issues noted in Conclusion 12 through training and process improvements. Note: NorthStar is not recommending the purchase or development of a new CIS/Billing System.
XIV	72. Closely monitor call handle times for NJNG and NJRHS. If NJRHS handles times prove to be materially longer than NJNG calls, the cost allocation methodology may need to be adjusted. NorthStar recognizes that under the current methodology, as long as the calls are classified correctly the longer NJRHS handle time may be offset by the fact that NJRHS currently pays for any "joint" calls.
XIV	73. Continue to reinforce separation between NJRHS and NJNG as it relates to the customer service function. Perform an analysis of the cost of outsourcing NJRHS calls. The analysis should consider the cost and staffing impact to NJNG in addition to NJRHS.
XIV	74. To avoid customer confusion, do not include NJRHS marketing materials in NJNG customer bills.
Clean Energy and Related Programs	
XV	None
Remediation Costs	
XVI	75. Require that remediation work by all contractors go through the competitive bid process specified in NJNG's procedures.
XVI	76. Develop a procedure for the selection of OECs that requires issuance of an RFP and a formal, documented comparison of the technical and cost attributes of proposals.
External Relations	
XVII	77. Develop a formal storm communications strategy that address the issues identified in the Superstorm Sandy Lessons Learned Report. The plan should continue to ensure that NJNG speaks with one voice during a major event, providing customers, employees, emergency responders, state and local officials, the media and other stakeholders with consistent, accurate, timely information. As part of the plan NJNG should explore the use of text messaging.
Support Services	
XVIII	78. Assign facilities and real estate management responsibilities within Energy Delivery Support Services. Policies, procedures and measures of effectiveness should be formally developed along with this reorganization.
XVIII	79. Use NJR/NJNG employee communications media to inform employees of relevant legal guidelines and issues.
XVIII	80. Implement a formalized and documented inventory management process which uses management reports to manage inventory including the following. • Stocking levels • Minimum ordering and stocking quantities • Blanket orders • Just in time ordering to improve costs. • Insure critical components do not run out.
XVIII	81. Develop a training program to ensure employees understand and adhere to the document management policies and retention schedules.
XVIII	82. Update the Corporate Retention policy to address the 2012 Internal Audit findings.

Ch.	Recommendation
XVIII	83. Implement a cohesive consolidated set of IT function policies, procedures, and operating controls including: • Help Desk • Systems development • Software selection • Testing.
XVIII	84. Formalize the annual review of IT requirements with stakeholders as part of the yearly planning exercise.
XVIII	85. Implement a formal asset management program including written asset management policies, procedures and technology refresh cycle.
XVIII	86. Develop a cohesive set of security policies and procedures, taking the collection of current documents and combining them into a policy and procedure manual covering all aspects of security.
XVIII	87. Consider addition of a resource with law enforcement background or additional training for the existing employee.

CHAPTER II. BACKGROUND AND AUDIT APPROACH

This audit provides a unique opportunity to gain valuable insight into NJNG's operations and management and the relationship with and transactions between NJNG, its parent and affiliates. The audit has been conducted in a constructive manner, characterized by frank and open discussion of findings, conclusions and recommendations. NorthStar's final report provides a comprehensive, independent and objective evaluation of current performance.

A. Background

New Jersey Resources (NJR)

NJR is a New Jersey corporation formed in 1981 pursuant to a corporate reorganization. It is an energy services holding company providing retail and wholesale energy services to customers in states from the Gulf Coast and Mid-Continent regions to the Appalachian and Northeast regions, the West Coast and Canada. NJR's subsidiaries and businesses are all non-regulated except NJNG and include:[2]

- NJNG, a local natural gas distribution company, provides regulated retail natural gas service to approximately 500,000 residential and commercial customers in central and northern New Jersey.

- NJR Service Corporation (NJRSC) provides the NJR family of subsidiaries with shared support services, including communications, financial, administrative, auditing, legal, human resources and technological expertise.

- NJR Clean Energy Ventures (NJRCEV) invests in, owns and operates renewable energy projects that generate clean power and provide low carbon energy solutions, including commercial and residential solar projects, as well as on-shore wind projects through a 19.9 percent ownership interest in OwnEnergy.

- NJR Energy Services (NJRES) provides wholesale energy services to customers in New Jersey, and in states from the Gulf Coast to New England, and Canada. NJRES maintains and transacts around a portfolio of physical assets consisting of natural gas storage and transportation contracts. It also provides wholesale energy management services to other energy companies and natural gas producers.

- NJR Retail Holdings (Retail Holdings) consolidates NJR's unregulated retail operations. Retail Holdings consists of the following wholly-owned subsidiaries:

  - NJR Home Services (NJRHS) provides home-appliance service, sales and installations to customers in Ocean, Monmouth, Morris and Middlesex counties,

[2] NJR 10-K Annual Report filed 11-29-2012 for the period ending 9-30-2012

New Jersey. NJRHS offers comprehensive appliance service contracts and related products and services.

- NJR Plumbing Services (NJRPS) provides plumbing repair and installation services. NJRPS operates as part of NJRHS.
- Commercial Realty & Resources (CR&R) holds and develops commercial real estate.

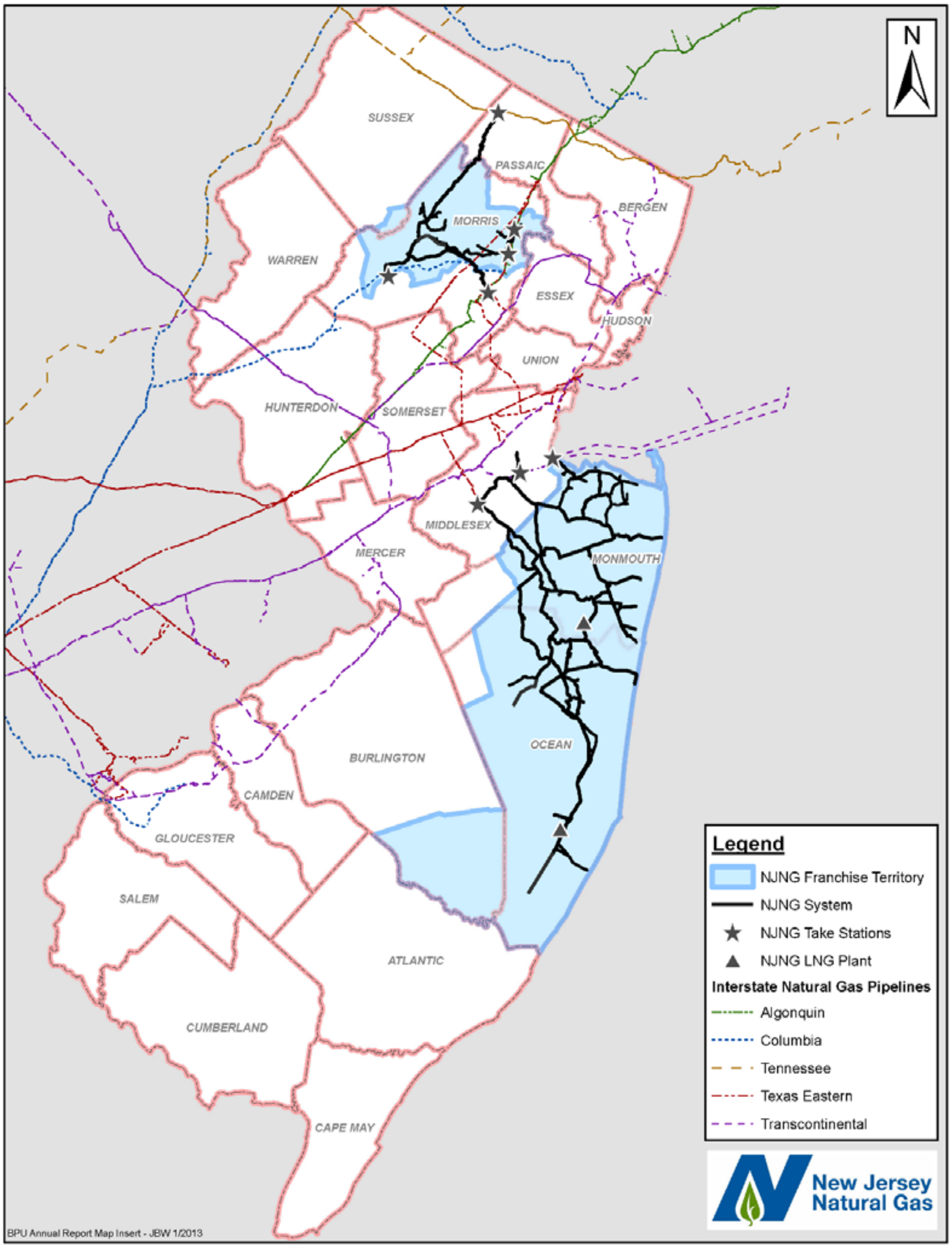
• NJR Energy Investments (NJREI), consolidates NJR's unregulated energy-related investments. NJREI includes the following wholly-owned subsidiaries:

  - NJR Midstream Holdings Corporation (formerly NJR Energy Holdings Corporation). NJR Midstream primarily invests in energy-related ventures through its subsidiaries, NJR Steckman Ridge Storage Company, which holds NJR's 50 percent combined interest in Steckman Ridge, a natural gas storage facility and NJNR Pipeline Company, which holds NJR's 5.53 percent ownership interest in Iroquois. Steckman Ridge and Iroquois comprise NJR's Midstream segment (formerly Energy Holdings segment). On November 7, 2013, NJR Energy Holdings Corporation changed its name to NJR Midstream Holdings Corporation.
  - NJR Investment makes and holds certain energy-related investments, primarily through equity instruments of public companies.
  - NJR Energy Corporation (NJR Energy) invests in energy-related ventures.

NJNG

NJNG is a local natural gas distribution company that provides regulated retail natural gas service to approximately 500,000 residential and commercial customers in central and northern New Jersey. NJNG supplies approximately 50 million dekatherms (dths) of gas annually to its Basic Gas Supply Services (BGSS) sales customers. NJNG transports an additional 10 million dths each year for aggregation and large commercial/industrial customers who have contracted for their gas supply through independent Third Party Suppliers (TPSs). NJNG owns approximately 6,860 miles of distribution main, 6,810 miles of service main, 228 miles of transmission main and approximately 519,000 service meters. Additionally, NJNG owns and operates two LNG storage plants in Stafford Township, Ocean County, and Howell Township, Monmouth County. **Exhibit II-1** (page following) provides an overview of NJNG's service territory.

Exhibit II-1
NJNG's Service Territory



Key Regulations

In February 1999, the New Jersey Legislature passed and Governor Whitman signed into law the Electric Discount and Energy Competition Act, N.J.S.A. 48:3-49 *et seq*. (EDECA), partially deregulating the electric and gas markets with the end goal of creating competition, giving consumers more choice, and reducing prices.

In response to EDECA, the BPU adopted the “Affiliate Relations, Fair Competition and Accounting Standards and Related Reporting Requirements” (Competitive Service Standards or Rules) that govern the interactions between the New Jersey utilities and their affiliated companies. These Rules were originally adopted by the Board pursuant to an Order dated March 15, 2000 in Docket No. EX99030182, and were codified in Chapter 4 “Energy Competition Standards” of the N.J.A.C. Title 14. The Affiliate Relations, Fair Competition and Accounting Standards and Related Reporting Requirements and the relevant sections of the N.J.A.C. are collectively referred to as the Competitive Service Statutes. The Statutes are designed to promote fair competition in retail markets where NJNG deals with its affiliates. Simply stated, NJNG’s affiliates should not gain any unfair competitive advantage as a result of their relationship with NJNG. Key requirements are provided below.

Affiliate Relations, Fair Competition and Accounting Standards and Related Reporting Requirements (Competitive Service Standards)

The Competitive Service Standards set forth standards of conduct between an electric or gas public utility and a related competitive business segment (RCBS). In general terms, an RCBS is defined as any business venture of an electric or gas public utility or its public utility holding company (PUHC) including, but not limited to, functionally separate business units, joint ventures, and partnerships, that offers to provide or provides competitive services.[3] Competitive services are defined as any services the BPU has determined (or will determine) as competitive pursuant to Sections 8 or 10 of EDECA, and include electric generation services (Section 8) and the following service related to gas industry deregulation (Section 10):

1) Metering, billing and related administrative services that are deemed competitive by the BPU;
2) Services related to safety and reliability of utility businesses;
3) Competitive services that have been offered by any electric or gas public utility since prior to January 1, 1993 or that have been approved by the board prior to the effective date of EDECA to be offered by any electric public utility or gas public utility;
4) Services that are substantially similar to competitive services that are permitted; and,
5) Competitive services to non-residential customers using utility employees and assets.[4]

A gas public utility or an RCBS of that gas public utility may provide other services that are offered for nominal or no consideration to existing non-residential customers in the ordinary course of business. A gas public utility shall not offer any competitive service to retail customers without the express prior written approval of the BPU. The BPU may require that a gas public utility file and maintain tariffs for competitive services, which tariffs shall be subject to review and approval by the BPU.[5]

- Section 1 of the Standards establishes the scope of the Affiliate Rules. Section 2 provides definitions of terms used.

[3] Competitive Service Standards, Section 2
[4] EDECA Section 10
[5] EDECA Section 10

- Sections 3 through 5 set forth standards related to non-discrimination, information disclosure and separation.
- Section 6 sets forth standards related to competitive products and services offered by a utility or an RCBS.
- Sections 7 through 9 address regulatory oversight, dispute resolution, violations and penalties.

In implementing the Standards, the Board reserved the right to promulgate any additional interim standards as may be required to effectuate the intent of the Act.

The standards provide for a limited exemption. A New Jersey electric and/or gas public utility, which is also a multi-state electric and/or gas public utility and subject to the jurisdiction of other state or federal regulatory commissions, may file an application, requesting a limited exemption from these standards or part(s) thereof, for transactions between the electric or/gas public utility and its affiliate(s) solely in its role of serving its jurisdictional areas wholly outside of New Jersey. The applicant has the burden of proof to establish the appropriateness of the requested exemption.

New Jersey Administrative Code

The Standards were codified in N.J.A.C. Title 14, Chapter 4. Key regulations are summarized below.

N.J.A.C. 14:4-3 addresses affiliate relations:

- N.J.A.C. 14:4-3.3 through 3.5 set forth standards of conduct applicable to transactions between an electric public utility or gas public utility, including an RCBS of an electric or gas public utility, and an RCBS of the electric or gas PUHC providing or offering competitive services to retail customers in New Jersey or the PUHC itself providing or offering competitive services to retail customers in New Jersey. Section 14:4-3.3 covers Non-Discrimination, Section 14:4-3.4 covers Information Disclosure and Section 14:4-3.5 addresses Separation.
- N.J.A.C. 14:4-3.6 (Utility RCBS Standards) sets forth standards of conduct applicable to electric and/or gas public utilities and the RCBS of each electric public utility and gas public utility, as well as the transactions, interactions and relations between an electric and/or gas public utility and an RCBS of an electric and/or gas public utility.
- N.J.A.C. 14:4-3.7 through 3.9 address regulatory oversight, dispute resolution and violations and penalties applicable to electric and/or gas public utilities regarding affiliate relations, fair competition, accounting standards and related reporting requirements.

N.J.A.C. 14-4 addresses PUHC Standards:[6]

- N.J.A.C. 14:4-4.5 (Service Agreements) contains substantive requirements concerning the Board's review and ratemaking treatment of service agreements between an electric or gas public utility and its PUHC system. The intent of this section is to ensure that service agreements between an electric or gas public utility and an affiliate in its PUHC system fairly allocate costs to ratepayers.

- N.J.A.C. 14:4-4.6 (Structural Separation) contains structural separation requirements. These requirements protect ratepayers and the State from abuses that could result when the interests of the electric or gas public utility are not entirely aligned with the interests of its PUHC system. This section also requires that each public utility maintain a distinct corporate identity, imposes independence requirements on certain utility directors and requires various information from an electric or gas public utility in order to facilitate effective Board oversight.

- N.J.A.C. 14:4-4.7 (Retail Choice Consumer Protection) contains operational separation requirements. These requirements are intended to protect ratepayers and the State from cross-subsidization between an electric or gas public utility and its PUHC system. The section allows the Board to implement restrictions if it finds that the capital of an electric or gas public utility may be impaired. This includes the authority to limit or stop payment of a dividend or a distribution to shareholders or the PUHC system. Additionally, it requires notice before either the transfer of more than five percent of the electric or gas public utility's retained earnings to its public utility holding company, or the declaration of a special or un-regular cash dividend. Finally, the provision restricts utility involvement in intra-holding company money pools.

B. Scope and Objectives

NorthStar was retained by the BPU to perform an audit of the Affiliated Transactions between NJNG and its affiliates and a Comprehensive Management Audit of NJNG in response to RFP 13-X-22139. The scope of the audit included fiscal years 2009-2013. The objectives of the audit were to assist the BPU in determining whether NJNG is in compliance with EDECA as specified in N.J.S.A. 48:3-49, N.J.S.A. 48:3-58 and N.J.A.C. 14:4-3 et seq. both in a retail and wholesale capacity, and the Board's Affiliate Standards, and to determine if the management practices, functions, operational procedures, and other internal workings of NJNG are effective. NorthStar fulfilled these objectives by:

- Examining the strategies, practices, programs and methodologies employed by NJNG to comply with the Act and the Standards.

- Evaluating the financial control and integrity, corporate accountability, degree of separation, and wholesale and retail transactions between NJNG and its affiliates.

[6] http://www.nj.gov/bpu/pdf/rules/Chapter%204%20Readoption%20Proposal%20-%20_21%20April%202011_%20COURTESY%20C.pdf

- Reviewing and evaluating NJNG's internal control system and processes.

- Assessing the effectiveness of NJNG's and NJR's organization, general management functions, policies, procedures, and practices, and identifying opportunities for improvement.

As part of the audit, NorthStar reviewed business and regulatory compliance strategies, competitive services offerings, affiliate transaction documentation, past audits, internal control processes, functions, organizational structure, performance and accountability in relation to the Act and other Board rules, regulations, and orders related to the provision of natural gas services. The audit assessed whether there is appropriate separation and allocation of revenues, costs, assets, risks, and functions, between NJNG's gas distribution operations and its related competitive business segments, and whether NJNG is managed in an effective and efficient manner. Specific areas addressed in the audit(s) included:

- Procurement strategies of the utility in relation to its affiliates.
- Holding company and affiliate activities and their effect on the utility and its ratepayers.
- The effect of utility/affiliate practices on market competitiveness.
- Utility/affiliate cost allocation methodologies.
- Implementation of previous audits and recommendations.
- Organizational and functional separation of the utility and affiliates.
- Executive management and corporate governance.
- Employment policies and procedures.
- Strategic planning.
- Corporate finance and cash management.
- Environmental issues and remediation costs.
- Distribution operations.
- Contractor performance.
- Accounting and property records.
- Customer service.
- External relations.
- Support services.

C. Methodology

NorthStar prides itself on performing independent and objective management audits for regulators. In this context, we planned and conducted the audit to maximize BPU Staff participation, and worked closely with the BPU project manager and NJNG throughout the engagement.

The affiliate and management audits were conducted concurrently, in three Phases discussed in additional detail below.

- Phase I. Orientation and Planning

- Phase II. Detailed Audit Investigation
- Phase III. Report Development

NorthStar's initial information request was submitted to NJNG on June 17, 2013 and its first site visit occurred the week of August 12, 2013. During the orientation and detailed audit investigation, NorthStar submitted over 700 information requests and conducted over 150 interviews, including follow-ups.

NorthStar's draft audit report was submitted to the BPU staff on March 3, 2014. Upon approval by the BPU Staff, on March 24, 2014, NorthStar submitted the draft report to NJNG requesting identification of confidential information and verification of the factual accuracy of the report. On April 11, 2014, NJNG identified the information it considered to be confidential, but indicated it would not provide factual verification, despite the subsequent urgings of NorthStar and the BPU Staff. NorthStar addressed NJNG's confidentiality concerns, and a revised draft report was submitted to the BPU Staff on May 12, 2014, absent the standard fact verification. The BPU Staff reviewed and approved the final confidentiality edits, and on May 26, 2014 the draft report was finalized. On May 27, 2014, the BPU Staff submitted the final draft report to NJNG. On June 24, 2014, a three-party meeting involving the BPU Staff, NorthStar and NJNG was held at the BPU's offices in Trenton, NJ, as the last step prior to finalizing the report. NJNG was told to come prepared to address any and all items of concern. No significant issues were raised during that meeting. On June 26, 2014, NorthStar prepared and submitted the Final Report to the BPU Staff.

Phase I. Orientation and Planning

The objectives of the first phase of the audit were to confirm our understanding of the audit objectives and scope and the BPU's expectations from the audit; finalize contractual, project management and other administrative matters; perform preliminary data collection; and develop and obtain approval of our detailed work plan which guided our activities during the remainder of the audit. Specifically, NorthStar:

- Met with BPU Staff to discuss any concerns regarding NJNG and any additional issues or areas to be considered, and further explore the Staff's objectives for the audit.
- Completed logistical and contractual arrangements with BPU Staff and NJNG. Specifics regarding project logistics, key contacts, interfaces, schedules and communications were established as well as agreement on protocols for the audit:
    - Procedures for requesting and tracking interviews and documents.
    - Working paper and documentation requirements.
    - Procedures for adhering to auditing standards.
    - Policies and procedures for treating confidential information.
    - Quality control and reporting procedures.
- Reviewed responses to our initial and subsequent information requests.

- Obtained an orientation presentation and conducted initial interviews.

- Prepared our final work plan and obtained BPU Staff approval. The work plan was submitted to the Staff and approved in mid-September 2013. The work plan included evaluative criteria, audit tasks, consultant assignments, hours, and a revised audit schedule.

Phase II. Detailed Audit Investigation

In this phase, the audit team performed its principal investigation, data collection and other technical review activities for each of the affiliate and management audit areas. In general, our audit tasks and activities included the following:

- Review of applicable New Jersey Statutes including the New Jersey Administrative Code, the Electric Discount and Energy Competition Act, the Affiliate Relations, Fair Competition and Accounting Standards and Related Reporting Requirements, and other applicable regulatory requirements.

- Review and analysis of documents and other data requested from NJNG.

- Direct observation of NJNG operations, including site visits and a tour of portions of the service territory affected by Superstorm Sandy.

- Interviews with NJNG, NJR and affiliate personnel.

- Review and testing of direct and allocated costs.

- Testing compliance with NJNG, industry and other standards and regulatory requirements.

In formulating conclusions, the audit team focused on substantive issues. NJNG's management practices were evaluated against existing rules and regulations as well as sound, generally accepted business practices. NorthStar applied a standard of reasonableness which regulators and courts have accepted in a wide range of evaluations of management performance, that is, one that does not require perfection, is not based on outcomes, and does not rely on hindsight.

The audit conclusions reflect areas where NJNG is appropriately managing as well as areas where improvement is required.

Phase III. Report Development

Upon completion of the audit field work and analyses, NorthStar prepared draft and final reports. A preliminary draft report was prepared and submitted to the BPU staff for review and comment on March 3, 2014. The report included an executive summary, a description of the audit process, and completed chapters that addressed each of the audit topic areas. Each of the technical chapters included a background, evaluative criteria, findings, conclusions and recommendations. The final report was submitted on June 26, 2014.

D. Organization of this Report

This report comprises 18 chapters, including an Executive Summary and this Chapter which provides an overview of NorthStar's approach to the audit.

The technical chapters are organized as follows. In general, the first series of Chapters (Chapters III-X) address areas of corporate focus or affiliate interest. The second series of Chapters (Chapters XI-XVIII) are more exclusively focused on NJNG's operations and associated support functions.

Corporate or Affiliate-Related

Chapter III.	Executive Management, Corporate Governance and Organization
Chapter IV.	Strategic Planning
Chapter V.	Affiliate Relationships
Chapter VI.	Accounting and Cost Allocation Methodologies
Chapter VII.	Market Conditions
Chapter VIII.	Gas Supply Procurement
Chapter IX.	Finance and Cash Management
Chapter X.	Previous Audit Recommendations

NJNG Operations and Support Functions

Chapter XI.	Distribution and Operations Management
Chapter XII.	Contractor Performance
Chapter XIII.	Human Resources
Chapter XIV.	Customer Service
Chapter XV.	Clean Energy and Related Programs
Chapter XVI.	MGP Remediation Costs
Chapter XVII.	External Relations
Chapter XVIII.	Support Services

Each of the RFP audit areas are addressed in this report. **Exhibit II-2** provides a mapping of the RFP area to the NorthStar Chapter in which it is covered.

Exhibit II-2
RFP Audit Area Coverage

RFP Area	NorthStar Chapter
3.1.1 Purchasing and Procurement Activities (Gas Supply)	VIII
3.1.2 Affiliate Relationships	V
3.1.3 Market Conditions	VII
3.1.4 Recommendations and Review of Previous Audit	X
3.1.5 Affiliate Cost Allocation Methodologies	VI
3.2.1 Executive Management and Corporate Governance	III
3.2.2 Organizational Structure	III
3.2.3 Human Resources	XIII
3.2.4 Strategic Planning	IV
3.2.5 Finance	IX

RFP Area	NorthStar Chapter
3.2.6 Cash Management	IX
3.2.7 Accounting and Property Records	VI
3.2.8 Customer Service	XIV
3.2.9 External Relations	XVII
3.2.10 Distribution and Operations Management	XI
3.2.11 Clean Energy	XV
3.2.12 Support Services	XVIII
3.2.13 Contractor Performance	XII
3.2.14 Remediation Costs	XVI

CHAPTER III: EXECUTIVE MANAGEMENT, CORPORATE GOVERNANCE AND ORGANIZATIONAL STRUCTURE (RFP 3.2.1 & 3.2.2)

This Chapter addresses the corporate structure and the oversight of NJNG by the NJR and NJNG Boards of Directors (BOD).

A. Background

Effective executive management and governance have the following attributes:

- An experienced, diverse and knowledgeable BOD with appropriate committees to provide effective oversight and direction.
- Senior management with the right number of people with a vertical skill set.
- A proper organizational focus and direction supported by effective corporate planning.
- Effective communications among executives on important business, legal and regulatory issues, and comprehensive reports on cost and performance results.
- Clear communication with employees so they understand the mission of the company and are motivated to achieve that mission.

Exhibit III-1 (page following) provides an overview of the NJR corporate organization. NJR currently operates with one individual, Mr. Laurence Downes, serving as Chairman of the Board, President and CEO. Mr. Downes was elected by the BOD as President and CEO in July 1995 and Chairman of the Board in September 1996. Prior to his election as President and CEO, he served as Senior Vice President and Chief Financial Officer (CFO).

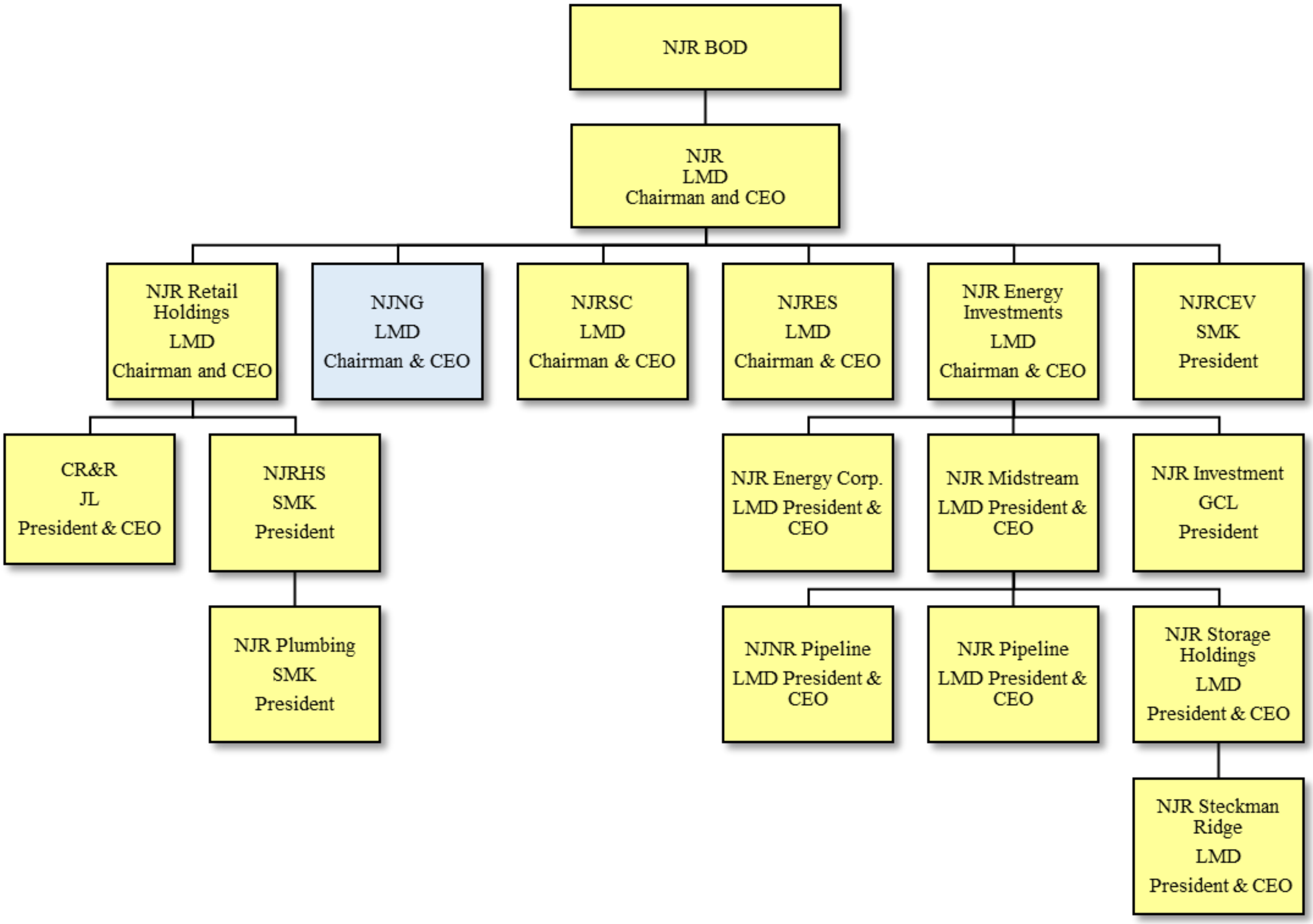
Exhibit III-2 compares the operating revenues and net financial earnings for each of NJR's business segments.

Exhibit III-2
Operating Revenue and Net Financial Earnings by Business Segment - FY 2012
(Dollars in Thousands)

Business Segment	Operating Revenue	Net Financial Earnings
NJNG	$ 627,713	$ 73,238
NJRCEV	2,257	19,452
NJRES	1,580,611	10,791
NJR Midstream		6,749
NJRHS and Other [Note 1]	42,195	2,366
Eliminations	(3,853)	(179)
Total	**$ 2,248,923**	**$ 112,417**

Note 1: CR&R results are included in the "Other" category. CR&R currently owns two fully leased buildings totaling 25,000 square feet and has about 200 acres of undeveloped land. CR&R sold a total of approximately 20 acres in 2000.
Source: SEC 10K 2012.

Exhibit III-1
NJR Organization [Note 1]



Note 1: LMD = Laurence M. Downes, SMK = Stan M. Kosierowski, JL = John Lishak, GCL = Glen C. Lockwood
Source: DR 4.

NJR is governed by an eleven member BOD: ten independent directors and Mr. Downes. The Board has four committees: Audit, Nominating/Corporate Governance, Executive, and Leadership Development & Compensation. NJNG and the other subsidiary entities each have a BOD, comprised of a subset of the NJR BOD. **Exhibit III-3** provides a listing of the Directors for NJR, NJNG, NJCEV and NJRES.

Exhibit III-3
Board of Directors

Board Member	Date Elected – NJR BOD	NJR	NJNG	NJRCEV	NJRES
Lawrence R. Codey	May 9, 2000	X Lead Director	X		
Donald L. Correll	May 14, 2008	X	X		
Laurence M. Downes Elected Chairman of Board	July 12, 1995 September 11, 1996	X	X	X	X
Robert B. Evans	September 15, 2009	X	X		X
Rev. M. William Howard, Jr.	September 14, 2005	X		X	X
Jane M. Kenny	September 13, 2006	X		X	
Alfred C. Koeppe	October 20, 2003	X	X Lead Director		
J. Terry Strange	January 15, 2003	X		X	X
Sharon C. Taylor	November 14, 2012	X			
David A. Trice	March 10, 2004	X		X	X
George R. Zoffinger	May 9, 1996	X		X	X

Source: 2012 Annual Report.

To encourage the independent directors to play a more significant role in the leadership of the organization, the NJR BOD established the position of Lead Director in 2003. Mr. Lawrence Codey currently serves as the NJR Lead Director. Mr. Alfred Koeppe serves as the Lead Director for NJNG. The Lead Director is elected by the independent directors so that the BOD operates independently of management. Additionally the Lead Director provides an independent BOD contact for the other directors and shareholders.[7] The NJR BOD expanded the responsibilities of the Lead Director in 2010, directing the Lead Director to be in frequent contact with the Chairman of the Board and CEO and for the Lead Director to be regularly consulted on material matters.

B. Evaluative Criteria

- Are NJNG's executive management and governance processes appropriate, given the Company's position as a subsidiary of a diversified energy company? (Conclusions 1 through 8)
- Does NJNG have the management structure and foundation necessary to achieve its strategic goals and objectives, while maintaining compliance with various regulatory requirements? (Conclusions 1 through 5)
- Does adequate separation exist between NJNG and its affiliates? (Conclusions 4 and 5)

[7] DR 496 (Confidential)

- Does the governance and management relationships between NJNG, NJR, and all subsidiaries provide appropriate protection and advocacy for NJNG ratepayers and the provision of reliable best cost service to customers? (Conclusions 4 and 5)

- Do current organizational structures effectively facilitate the business needs of NJNG? Are ratepayers detrimentally affected by corporate structure or the conduct of its officers? (Conclusions 4)

- Are resources allocated to regulated activities appropriate relative to non-regulated activities? (Conclusions 4 and 8) See also the Strategic Planning and Finance Chapters.

C. Findings and Conclusions

1. The NJR BOD has the experience and knowledge to fulfill NJR's corporate goals and objectives. The NJNG BOD and executive management are appropriately involved in the governance of NJNG.

- The members of the NJR BOD and NJNG BOD have significant years of experience as shown in **Exhibit III-4**. The average tenure is nine years.

Exhibit III-4
BOD Tenure

Board Member	Date Elected - NJR	Also on NJNG BOD	Tenure	Age
Lawrence R. Codey	May 9, 2000	X	13 years	69
Donald L. Correll	May 14, 2008	X	5 years	63
Laurence M. Downes Elected Chairman of Board	July 12, 1995 September 11, 1996	X	18 years	56
Robert B. Evans	September 15, 2009	X	4 years	65
Rev. M. William Howard, Jr.	September 14, 2005		8 years	67
Jane M. Kenny	September 13, 2006		7 years	62
Alfred C. Koeppe	October 20, 2003	X	10 years	67
J. Terry Strange	January 15, 2003		10 years	69
Sharon C. Taylor	November 14, 2012		1 year	59
David A. Trice	March 10, 2004		9 years	65
George R. Zoffinger	May 9, 1996		17 years	65
Average Tenure			**9 years**	

Source: NJR 2013 Annual Report to Shareholders (http://investor.njresources.com), DR 38 and 493 (Confidential).

- The BOD members have extensive experience in both public and private enterprise as summarized in **Exhibit III-5**. Six of the Directors (including Mr. Downes) are former utility and energy industry executives. Other BOD members provide expertise in government relations, human resources, auditing and financial services. The BOD includes numerous former CEOs and Chief Operating Officers (COO).

Exhibit III-5
Board Member Background and Experience Summary

Board Member	Background
Lawrence R. Codey	President and COO, Public Service Electric & Gas Company from September 1991 through February 2000; Director, United Water Resources, Inc., a public water utility holding company with subsidiaries providing water and wastewater services; Director, Horizon Blue Cross Blue Shield of New Jersey, a health care insurance provider; Director, Sealed Air Corporation, a manufacturer and seller of food and specialty packaging and sanitary materials and systems.
Donald L. Correll	President and CEO and member of the BOD of American Water Works, Inc., a New Jersey-based public water utility holding company from April 2006 to August 2010; President and CEO and member of the BOD of Pennichuck Corporation, a New Hampshire-based public water utility holding company from 2003 to 2006; Chairman, President and CEO of United Water Resources, a public water services company from 1991 through 2001. From 2001 to 2003, served as an independent advisor to water service and investment firms on issues relating to marketing, acquisitions, and investments in the water services sector; Director, HealthSouth Corp, a public national healthcare service provider.
Laurence M. Downes	Chairman of the Board of NJR since September 1996 and President and CEO since July 1995; Director, Questar Corporation, a public integrated natural gas company; Director, Interstate Natural Gas Association of America; Director and past Chairman, American Gas Association; Trustee, American Gas Foundation; Member, BOD of New Jersey Economic Development Authority; Chairman of Finance Council, Catholic Diocese of Trenton.
Robert B. Evans	President and CEO of Duke Energy Americas, a business unit of Duke Energy Corp., from January 2004 to March 2006; Transition executive for Energy Services, a business unit of Duke Energy Corp., during 2003; President of Duke Energy Gas Transmission from 1998 to 2002 and President and CEO from 2002 to 2003; Director, Targa Resources Partners LP, a provider of midstream natural gas and natural gas liquids services in the United States.
Rev. M. William Howard, Jr.	Pastor of Bethany Baptist Church, Newark, New Jersey, since 2000; President, New York Theological Seminary from 1992 to 2000; Past Chairman and Current Member, Rutgers University Board of Governors; Director, Choose New Jersey; Chair of the New Jersey Death Penalty Study Commission from 2006 to 2007; Chair of Newark Mayor Cory Booker's Transition Team in 2005; Trustee, McCarter Theatre
Jane M. Kenny	Managing Partner, The Whitman Strategy Group, LLC, a consulting firm specializing in governmental relations and environmental and energy issues, since January 2005; Regional Administrator of the Environmental Protection Agency, overseeing the federal agency's work in New York, New Jersey, Puerto Rico, and the Virgin Islands from November 2001 to December 2004; Commissioner of New Jersey Department of Community Affairs from May 1996 to November 2001; Visiting Associate, The Eagleton Institute of Politics, Rutgers University from 2010 to 2011; Trustee, NJ Future; Trustee, New Jersey Institute for Social Justice; Member, Sustainable State Institute for New Jersey.
Alfred C. Koeppe	President and CEO, Newark Alliance, a non-profit organization whose mission is to improve the City of Newark, New Jersey, since October 2003. Retired President and COO, Public Service Electric & Gas Company from March 2000 to October 2003; President and CEO, Bell Atlantic-New Jersey from 1990 to 1995; Chairman, New Jersey Economic Development Authority; Member, New Jersey Governor's Council of Economic Advisors; Director, Horizon Blue Cross Blue Shield of New Jersey; Member of the Board of Trustees of St. Benedict's Preparatory School.
J. Terry Strange	Vice Chair and Managing Partner of U.S. Audit Practice from 1996 to 2002 and Global Managing Partner of Audit Practice from 1998 to 2002, KPMG LLP, an independent accounting firm; Director, Newfield Exploration Company, a public independent crude oil and natural gas exploration and production company; Director, Group 1 Automotive, Inc., a public specialty retailer with automobile dealer franchises, collision service centers, financing, insurance and service contracts; Director, SLM Corp., a public company more commonly known as Sallie Mae, a leading provider of student loans and administrator of college savings plans.

Board Member	Background
Sharon C. Taylor	Senior Vice President, Human Resources, chair of The Prudential Foundation and a member of Prudential's Senior Management Committee. Top Human Resources officer reporting to the Chairman, accountable for HR policies, strategies, programs and infrastructure that support Prudential's domestic and international businesses.
David A. Trice	Chairman from September 2004 to May 2010, President and CEO from February 2000 to May 2009, President and COO from 1999 to 2000 and Vice President - Finance and International from 1997 to 1999, Newfield Exploration Company, a public independent crude oil and natural gas exploration and production company; Director, QEP Resources, Inc., an energy company specialized in natural gas and oil exploration and production; Director, McDermott International, Inc., a public engineering and construction company with a focus on the energy and power industries; Director, Hornbeck Offshore Services, Inc., a public owner and operator of tugs and tank barges that transport crude and refined petroleum products and supply vessels that support offshore oil and gas drilling and production from October 2002 to February 2011; Director, Grant Prideco, Inc., a drill stem technology and drill pipe manufacturing company, from May 2003 to April 2008. Past Chairman, The American Natural Gas Alliance, Inc. and the American Exploration and Production Council.
George R. Zoffinger	President & CEO, Constellation Capital Corp., a financial services company, since December 2007; President and CEO, New Jersey Sports & Exposition Authority from March 2002 to December 2007; President & CEO, Constellation Capital Corp., from March 1998 to March 2002; Director, Virgin Media, Inc., a United Kingdom media company; Chairman, New Brunswick Development Corporation, a not-for-profit urban real estate development company; Member of the Rutgers University Board of Governors.

Source: DR 493 (Confidential) and 497.

- BOD members actively participate in the governance process:
  - Board members are expected to attend and participate in all meetings of the Board, the committees on which they serve, and the annual meeting of shareholders. When attendance in person is impossible, every effort should be made to attend via telephone.[8]
  - During FY 2013, there were 13 meetings of the BOD. All but one Director attended more than 75 percent of the combined meetings of the BOD and the committees on which she or he served during the year. The remaining Director attended all but three BOD meetings, due to illness.
  - All of the directors serving at the time of the Annual Meeting of Shareholders held in January 2013 attended that meeting.[9]

- Members of the BOD are available to provide advice, mentoring, or guidance at management's request. The BOD or any member of the BOD, has the authority to meet with and discuss Company-related matters with any member of Company management or any employee, as determined by the BOD.[10]

- The role of the BOD in setting the strategic direction of NJNG is addressed in the Strategic Planning Chapter.

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[8] Corporate Governance Guidelines, Revised November 12, 2013 (http://files.shareholder.com/downloads/NJR/2941187725x0x57961/a46fe907-a41f-4017-8992-fb72506ce53f/Corporate_Governance_Guidelines.PDF)

[9] NJR Notice of Annual Meeting of Shareholders to be held on January 22, 2014

[10] Corporate Governance Guidelines, Revised November 12, 2013

2. **NJR's mission and vision have been effectively communicated throughout the organization.**

   - Executive leaders of NJR and NJNG invest a significant amount of effort communicating with employees and other stakeholders about the mission of NJR and the importance of employees in achieving the mission.

   - An obvious example is NJR's CTS, a one-page listing that succinctly expresses the intent of management. Employees often cite the CTS; it serves as the foundation of NJR's performance management processes, and is displayed on the walls of the headquarters building.

   - In speaking with employees, NorthStar was often told that executive leaders of the company, particularly the CEO, are effective communicators and provide strong leadership and motivation.

3. **The combined Chairman/CEO position has been effective because of the current Chairman and CEO's capabilities and experience, but may not be an appropriate model for the future.**

   - Mr. Downes currently serves as both Chairman of the Board and CEO.

   - There are potential conflicts of interest inherent in a combined Chairman and CEO position; however, this combined role is the most common in the United States.

     - A recent PricewaterhouseCoopers LLP (PwC) survey indicates that as of 2012, 43 percent of S&P 500 Boards currently separate the role. Of the companies that have a combined chair and CEO, about half of those BODs are discussing possibly splitting the role at their next CEO succession, according to PwC's 2012 Annual Corporate Directors Survey.[11]
     - The United Kingdom Corporate Governance Code requires that "the roles of Chairman and Chief Executive should not be exercised by the same individual. The division of responsibilities between the chairman and chief executive should be clearly established, set out in writing and agreed by the board".[12]

   - The NJR BOD does not have a policy on how the decision to separate the roles of the CEO and Chairman of the Board should be made, or if separate, whether the Chairman should be selected from the non-employee directors or be an employee.[13]

   - The NJR BOD believes that combining the Chairman of the Board and CEO positions is the right corporate governance structure at this time. Because Mr. Downes has extensive experience and understanding of NJNG and NJR, as well as 17 years of

[11] http://www.pwc.com/us/en/corporate-governance/board-leadership.jhtml
[12] The UK Corporate Governance Code 2012, Section A.2., Financial Reporting Council (https://www.frc.org.uk/Our-Work/Publications/Corporate-Governance/UK-Corporate-Governance-Code-September-2012.aspx)
[13] DR 496 (Confidential)

experience serving on the BOD, he is well situated to lead and execute strategy and business plans.[14]

- As part of its annual assessment process, the BOD evaluates its leadership structure. The BOD recognizes that there may be circumstances in the future that would lead it to separate the roles of CEO and Chairman of the Board.

4. The NJR BOD has not established clear boundaries between NJR, NJNG and its unregulated subsidiaries. This manifests itself in a sharing of personnel and resources, and has led to a lack of attention by the BOD and executive management to potential conflicts of interest throughout the organization.

- As shown previously in **Exhibit III-3**, the BODs for NJNG, NJRCEV and NJRES are made up solely of individuals serving on the NJR BOD.

- The NJR Chairman and CEO serves the same role on all subsidiary BODs.

- The BODs of the subsidiaries meet concurrently with the NJR BOD. Prior to November 2011, the NJNG BOD met separately but changed to concurrent meetings because the directors found they were repeating presentations and discussions at the NJR-level that had just occurred at the NJNG BOD meeting. Agendas of the BOD meetings do show separate "sections" of the meeting for each subsidiary.[15]

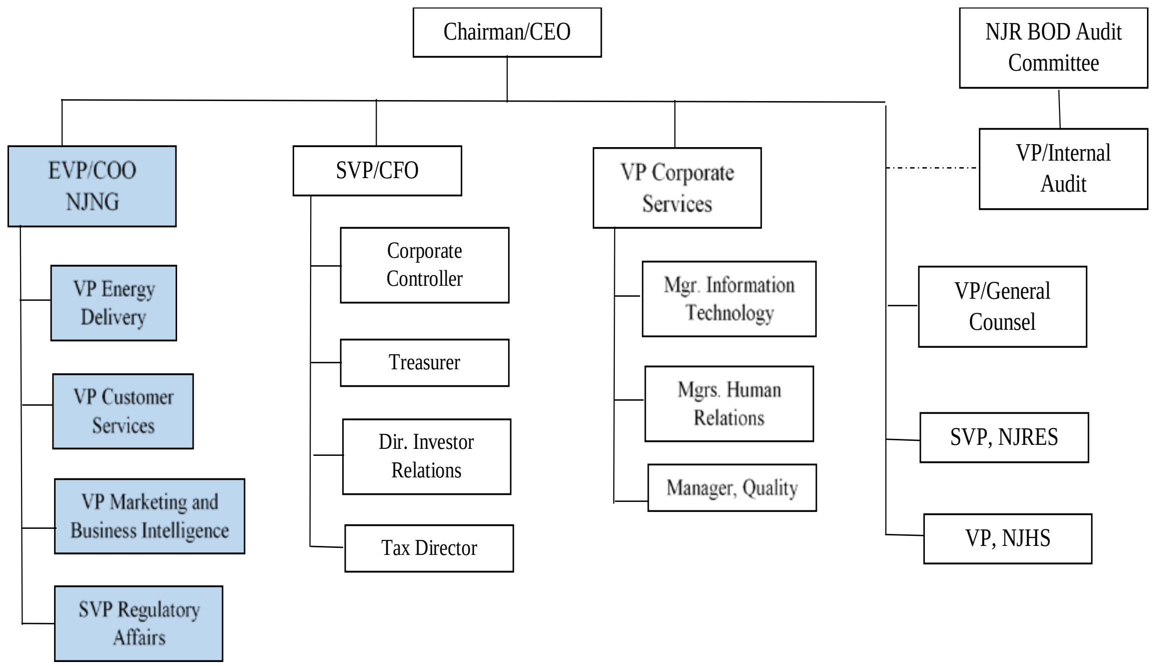
- The Corporate Governance Guidelines address only NJR and do not indicate how the NJR Directors can effectively differentiate their role as NJNG Directors or assure that the perspective of NJNG ratepayers is appropriately recognized in the concurrent BOD discussions.

- **Exhibit III-6** shows the organizational relationship between NJNG and NJR corporate functional groups that provide services to NJNG. While NJNG is a separate legal entity, numerous key management positions and functions of a public utility are not present, much less independent of its affiliates, and do not report to any NJNG management positions. As examples:

  - NJNG does not have a CFO. Instead the Corporate Controller serves in that role for NJNG, in addition to being Controller for NJR.
  - As discussed in the Affiliate Relationships Chapter, Corporate Communications, an NJRSC function, reports to NJNG.

[14] DR 496 (Confidential)
[15] BOD materials provided by email 2/24/14

Exhibit III-6
Organizational Relationships



Note: NJNG functions shaded in blue.
Source: DR 4 and NorthStar Analysis.

- Effective use of a shared services or matrix organization requires clear and logical definitions of responsibilities. In such an organization, the corporate or service company role is to establish policies and procedures and provide functional direction to the operating companies which are responsible for executing the policies. Nowhere are the respective roles and responsibilities of the shared and overlapping organizations and personnel defined for NJNG and its affiliates. The service level agreements between NJNG and the affiliates are discussed in the Affiliate Relationships Chapter.

- In interviews conducted throughout the NJNG organization and with groups providing services to NJNG, individuals did not distinguish between how NJNG and its affiliates were managed, and frequently there was minimal perception that the regulated utility might have different goals and management needs than its unregulated affiliates.

- This audit has identified numerous situations where lack of clarity on roles, or an apparent lack of understanding of the differences between regulated and unregulated operations have resulted in potential or actual issues.

5. NJNG shares officers with certain affiliates which is prohibited by the New Jersey Competitive Service Statutes.

- Section 5 of the Statutes stipulates rules concerning corporate structure, allowable corporate support functions, shared employees, and the types of transactions allowed between the utility and its affiliates.

- N.J.A.C. 14:4-3.5(q) specifically prohibits NJNG and NJR or a related competitive business segment from sharing corporate officers:

  > "An electric and/or gas public utility and the PUHC or related competitive business segments of its public utility holding company shall not have the same persons serving on the Board of Directors as corporate officers, except for the following circumstances:
  >
  > 1. In instances when these standards are applicable to public utility holding companies, any board member or corporate officer may serve on the holding company and with either the electric and/or gas public utility or a related competitive business segment of the public utility holding company, but not both the electric and/or gas public utility holding company and a related competitive business segment of the public utility holding company.
  >
  > 2. Where the electric and/or gas public utility is a multi-state utility, is not a member of a holding company structure, and assumes the corporate governance functions for the related competitive business segments, the prohibition against any board member or corporate officer of the electric and/or gas public utility also serving as a board member or corporate officer of a related competitive business segment shall only apply to related competitive business segments operating within New Jersey.
  >
  > i. In the case of shared directors and officers, a corporate officer from the electric and/or gas public utility and holding company shall verify, subject to Board approval, in the electric and/or gas public utility's compliance plan required pursuant to N.J.A.C. 14:4-5.7(a) through (e), the adequacy of the specific mechanisms and procedures in place to ensure that the electric and/or gas public utility is not utilizing shared officers and directors in violation of the Act or these standards."[16]

- In violation of the requirements, there are number of corporate officers shared between NJNG and either NJR or an affiliate:

  - L.M. Downes serves as Chairman of the Board/Director of NJR, NJNG, CR&R and NJCEV.
  - G.C. Lockwood serves as SVP and CFO of NJR, CFO and Treasurer/Director of CR&R, and CFO and Treasurer of NJCEV.

[16] N.J.A.C. 14:4-3.5(q)

- M. Dugan serves as Senior Vice President, General Counsel/Director of NJR, NJNG, CR&R and NJCEV.
- R.M. Figueroa serves as Corporate Secretary for NJR, NJNG, CR&R and NJCEV.
- P. Migliaccio (8/5/2013) serves as Treasurer of NJR, NJNG, NJNR Pipeline Company, NJRCEV, NJRES, NJRSC, and NJR Steckman Ridge Storage Company.[17]

- NorthStar has included the position of SVP/CFO in shared officers that are prohibited by the Standards because NJNG does not have a Financial and Accounting organizational unit. The SVP and CFO position and its function are contained within NJRSC and shared with NJNG and all NJR affiliates.

6. The NJR BOD Committee structure is appropriate.

- The NJR BOD has four standing committees: the Audit Committee, the Leadership Development and Compensation Committee, the Nominating/Corporate Governance Committee and the Executive Committee. Each committee has a separate chairperson and each committee, other than the Executive Committee, is composed solely of independent directors.[18]

- There are no committees of the NJNG BOD.

- **Exhibit III-7** provides membership for each of the BOD committees for FY 2013. NorthStar's analyses of the BOD committee memberships in relation to member skills, experience and capabilities revealed that all members are well qualified for their respective roles.[19]

Exhibit III-7
Members of the BOD Committees

BOD Member	Audit	Executive	Leadership Development & Compensation	Nominating & Corporate Governance
Lawrence R. Codey**	✓	✓*		✓
Donald L. Correll	✓		✓	
Laurence M. Downes			✓	
Robert B. Evans	✓	✓		
Rev. M. William Howard		✓	✓	
Jane M. Kenny		✓	✓	✓*
Alfred C. Koeppe	✓	✓	✓	✓
J. Terry Strange	✓*	✓		
Sharon C. Taylor			✓	
David A. Trice		✓	✓*	✓

17 http://www.njng.com/regulatory/postings.asp
18 DR 493 (Confidential)
19 DR 493 (Confidential)

BOD Member	Audit	Executive	Leadership Development & Compensation	Nominating & Corporate Governance
George R. Zoffinger				✓

* Committee chair
** Lead Director
Source: DR 493 (Confidential).

- NorthStar reviewed the committee charters from 2008 to the present and found :

    - The committees cover an appropriate range of corporate responsibility.
    - Formal charters have been established for all committees.
    - Charters have detailed roles, responsibilities, and meeting frequencies.
    - Charters are periodically reviewed and updated.

7. To date, the selection process for the BOD of NJR has proven effective, but the process could be improved.

- The BOD currently consists of eleven members divided into three cohorts with overlapping three-year terms.

- The BOD does not have limits on years of service, but observes compulsory retirement of Directors at age 75.

- New BOD member recruiting is done informally and largely through current member's business relationships. NJR has not used outside search firms to identify additional candidates. The process used for evaluation and selection includes interviews along with analysis of professional background and individual skills.

- NJR's Corporate Governance Guidelines use the New York Stock Exchange (NYSE) and the Securities and Exchange Commission (SEC) standards for BOD member independence.[20] Directors are appropriately screened for conflicts of interest, self-interest, or unreasonable influence.

- With the exception of Mr. Downes, the Chairman of the Board and CEO, the BOD has affirmatively determined that each member of the BOD is independent in accordance with the above standards.[21]

8. While the Audit Committee of the NJR BOD fulfills its statutory requirements, the audits conducted by the Internal Audit Department (IAD) under the direction of the Audit Committee are largely ineffective in identifying issues and bringing them to the attention of management and the BOD.

- The Vice President Internal Audit appropriately reports directly to the NJR BOD Audit Committee, with an administrative dotted line to NJR's Chairman and CEO.

[20] DR 495 (Confidential) and NJR Notice of Annual Meeting of Shareholders held on January 22, 2014.
[21] DR 495 (Confidential)

The Internal Audit function is therefore organizationally independent of audited entities.

- The role of the Audit Committee is to oversee management's responsibilities for accounting, internal control over financial reporting, and financial reporting and other areas of corporate risk. The Audit Committee oversees the work of the independent registered public accounting firm audit, reviews the results of the audit, and reviews management's response to any recommendations. The Audit Committee also accepts the annual audit plan from IAD, reviews the results of the internal audits, and directs management to implement any recommendations.[22]

- Many of IAD's audits are documented in "memorandums" rather than audit reports. Audits that are closed with a memorandum have no negative findings and produce no recommendations for improvement. Audits that have negative findings and/or include recommendations for improvement are closed with a "report". NorthStar reviewed a sample of audit reports and memorandums and found them to be very brief, contain little information on how the audit was conducted, identify few issues, and provide few meaningful recommendations to management addressing control weaknesses or potential process improvements. Follow up appears to be minimal in determining if recommended changes were implemented.

- The relatively few audit Reports is not consistent with NorthStar's experience at other utilities. It is not unusual for most internal audits to identify issues and opportunities for improvement.

- Of particular relevance for this audit, IAD's audits of affiliate transactions is inadequate. IAD conducts an audit of affiliate transactions annually as summarized in **Exhibit III-8**.[23] All but one of these audits singularly addressed gas supply transactions between NJNG and NJRES and had no significant findings.[24] Despite their title, none of these audits addressed any broader potential affiliate issues.

Exhibit III-8
NJR Audits of NJNG Affiliate Standards 2008 - 2012

FY Year	Report or Memo Number	Name	Scope
2008	02M-08	NJNG Management Audit – The Liberty Consulting Group – 1999 & 2000 Data Requests	Portion but not all of the Liberty audit recommendations. See the Previous Audit Recommendations Chapter for additional discussion
2008	17M-08	NJNG Affiliate Transactions	Gas supply
2009	10M-09	Affiliate Transaction	Gas supply
2010	11R-10	Affiliate Standards/Intercompany Allocations	
2010	18M-10	Affiliate Transactions	Gas supply

[22] http://investor.njresources.com/secfiling.cfm?filingID=1193125-13-457075&CIK=356309
[23] DR 18
[24] See the Gas Supply Procurement Chapter for further discussion.

FY Year	Report or Memo Number	Name	Scope
2011	12M-11	Affiliate Transactions	Gas supply
2012	9M-12	NJNG Affiliate Transactions	Gas supply

Source: DR 18.

- The one non-gas supply "affiliate transaction" audit (02M-08) concerned NJNG's implementation of the recommendations from the Liberty audit. As discussed in the Previous Audit Recommendations Chapter, this audit was incomplete in scope and did not identify numerous situations where NJNG had failed to comply with the Liberty recommendations.

- NorthStar's audit has identified numerous instances of control, oversight and affiliate relations issues in areas that had been reviewed by IAD and for which IAD found no issues.[25] As discussed in further detail in the Gas Supply Procurement Chapter, IAD's oversight and review of NJNG's procurement activities is completely inadequate for a functional area handling large dollar amounts and with a critical role in meeting ratepayer needs. Similar issues are identified in other Chapters of NorthStar's report.

D. Recommendations

1. Develop a policy on the separation of the roles and responsibilities of the CEO and Chairman of the Board. The policy should address whether the positions should be separate or combined by design, and whether the Chairman should be selected from the non-employee directors or be an employee. (Refers to Conclusion 3)

2. Establish a culture from the BOD and throughout the organization that stresses the need for separation of duties and responsibilities between NJNG and its affiliates, and clarifies the different goals, objectives and constraints associated with operating a regulated utility. Establish processes that ensure the BOD and executive management clearly differentiate their roles and decision-making responsibilities for the utility. (Refers to Conclusion 4)

3. Clearly differentiate the administrative and functional responsibilities of NJNG officers and senior management from its affiliates by developing a set of functional mission statements for NJNG along with formalized roles and responsibilities for management. (Refers to Conclusion 4)

4. Comply with N.J.A.C. 14:4-3.5(q), regarding corporate structure and reorganize or reassign the officers currently in violation of the rules. (Refers to Conclusion 5)

[25] See for example, the Chapters on Gas Supply Procurement, Accounting and Cost Allocations and Previous Audit Recommendations

5. Consider using an executive search firm in addition to current processes to fill future BOD positions. (Refers to Conclusion 7)

6. With the assistance of outside experts, restructure the IAD processes to improve the depth of analysis, encourage a broader view of potential control, risk and affiliate matters, widen the scope, and vary the topic areas addressed in the audit plan. Establish a culture of responsibility and accountability for the implementation of recommendations, regardless of the audit source. (Refers to Conclusion 8)

Chapter IV. Strategic Planning (RFP 3.2.4)

This Chapter addresses the strategic planning processes and products used for NJNG and the relationship between NJNG strategic planning activities and NJR strategic planning.

A. Background

Strategic planning provides a roadmap of a company's overall direction and plans for the future, and how it expects to achieve that future. A company's strategic planning process should include identification of trends and risks, the development of tactical/operational plans, and maintain consistency with its risk management, budgeting and financial planning processes. A strategic planning process can be a highly structured and complex process, involving outside consulting resources and detailed data collection, modeling and output materials. This level of sophistication is not essential and there are many possible methods organizations can use to develop quality strategic plans. Strategic Planning processes can vary in complexity and methodology. Whatever approach is used, successful strategic planning processes require clear and strong leadership from both the Executive officers and BOD, an active process to involve and obtain input from all parts of the organization, an ongoing corporate commitment to the plan, and explicit monitoring of progress towards the goals.

The relationship between the elements of corporate planning, risk management and planning horizons is illustrated in **Exhibit IV-1**.

Exhibit IV-1
Strategic Planning Components

Planning Horizon	Overall Direction	Qualitative Factors	Quantitative Factors	Performance Management
Near-Term Operational Plan (12-18 months)	Corporate Mission & Vision	Tactical Plans	Operating Budgets	Annual Targets
Mid-Term Business Plan (2-5 years)		• Likely challenges • Have-to and want-to activities • Multi-year projects	• 5-year capital plan • Net income projections • Financing plans	Measurable progress towards meeting mid-term objectives
Long-Term Strategic Plan (5-10 years)		• Industry and market trends • Strategies to reach desired future	Strategies to meet large future needs	Assure current goals consistent with future strategy

Source: NorthStar Consulting Group, Inc.

NJNG does not conduct strategic planning. Instead, all planning for NJNG and its affiliates occurs at the NJR-corporate level. The NJR planning process is directed by the CEO and involves all members of the Executive Management Team. There are no senior management or staff positions within either NJR or NJNG dedicated solely to strategic or business planning.[26]

The NJR planning process, and resulting plan, is based on the corporate Vision and Mission and CTS initiative.[27] The CTS is a corporate-wide initiative that embodies the NJR corporate values and provides focus for employee actions and goals. The elements included in the CTS are shown in **Exhibit IV-2** (page following).

The NJR planning process begins in February of each year and concludes in September with the approval of the plan by the BOD in advance of the start of the new fiscal year in October. The elements of the planning process generally include an environmental scan; review of the mission, vision, values and Key Performance Indicators (KPIs); development of business unit objectives, plans and budgets; and, Board approval.[28]

•

The NJR corporate Business Plan (the "NJR Plan") is formalized in two separate documents:[29]

- The "3-Year Financial Plan" provides a narrative discussion of each affiliate's situation and planned business activities over the three-year planning horizon, along with pro forma financials for each affiliate and NJR in total.

[26] There is a credit and risk group within the Finance organization that addresses counterparty risks and credit requirements.
[27] DR 168
[28] DR 49, DR 168 and DR 730 (Confidential)
[29] DR 47

Exhibit IV-2
Elements of NJR's Commitment to Stakeholders

OUR VISION

Through constant innovation and disciplined execution, we will be the nation's premier provider of safe, reliable natural gas and clean energy services, exceeding the value expectations of our stakeholders.

OUR MISSION

Our mission is to enhance our customers' quality of life by setting the standard for the provision of safe, clean energy services, driven by the principles embedded in our Commitment to Stakeholders, which informs our decisions and defines the actions of every employee.

OUR COMMITMENT TO STAKEHOLDERS

Safe, Reliable and Competitively Priced Service

Safe, reliable, competitively priced service is our first priority and, driven by employee performance, the foundation of our success.

Customer Satisfaction

Every employee will deliver outstanding customer care and achieve the highest level of customer satisfaction.

Growth

With enthusiasm and commitment, every employee will work to identify growth opportunities that meet the evolving needs of our customers and ensure the continued vibrancy of the organization.

Quality

Pursuit of quality will be a shared responsibility throughout our organization.

Valuing Employees

Recognizing the power of a diverse, highly trained workforce, we are committed to the professional and personal development of every employee, in a safe and respectful environment.

Corporate Citizenship

We will fulfill our commitment to being a responsible corporate citizen by maintaining our focus on integrity, philanthropy, charitable outreach, environmental stewardship and volunteerism, to enhance the quality of life in the communities we serve.

Superior Return

Supported by a strong financial profile and operational excellence, we will meet the expectations of our investors through consistent earnings and dividend growth, appropriately rewarding their confidence in us.

Source: DR 47.

- The "Commitment to Stakeholders Action Plan" that specifies desired outcomes and performance targets under each CTS element. The performance goals include metrics applicable to each of the affiliates individually (e.g., for NJNG, for NJRHS, for NJRES), some metrics that apply to more than one affiliate (usually NJNG and NJRHS), and some that are corporate-wide. The corporate CTS performance goals cascade from the NJR Plan to the goals set for each Department within NJNG.[30]

Over the audit period, there have been two major planning activities – the "Blue Sky" project and a Board-level assessment of the energy value chain relative to the NJR portfolio, both described below.[31]

The Blue Sky project was initiated in 2010 by the BOD. It asked NJNG management to consider how the utility system configuration might be different if they had known 20 years ago what they know today about where growth would occur and other system operational factors.[32] The project identified four "next steps", all of which are being implemented:

- Evaluate new interstate pipeline interconnection options for the lower portion of the service territory. As a result of additional studies, NJNG is evaluating the feasibility of a Southern Loop Reliability project, which would provide additional delivery capacity for the Central part of the service territory. .[33]

- Assess feasibility of liquefaction facilities at the Howell LNG plant. On-site liquefaction capabilities had been reviewed in the past and found to be cost ineffective. As a result of improvements in technology and cost reductions since that time, on-site liquefaction was determined to have become cost effective, and NJNG has contracted for the installation of liquefaction capability at the Howell plant.[34]

- Explore regulatory treatment options for distribution system expansion related to oil to gas conversions. NJNG received BPU approval for the SAFE Program and a second phase of its AIP. Additionally, NJNG is considering various oil-to-gas conversion marketing programs.[35]

- Evaluate electric generation service opportunities. .[36]

In 2012, the BOD and Executive Management reviewed the NJR portfolio of companies in light of the overall energy industry "value chain." The review encompassed the natural gas, electric and distributed generation industries, and ranged from upstream (i.e. natural gas exploration and production), through mid-stream (i.e. gas storage and transportation and electric generation and transmission), to downstream (i.e. distribution and behind the meter

[30] DR 50, DR 479
[31] DR 730 (Confidential)
[32] DR 323, IR 130, IR 133
[33] DR 305 (Confidential)
[34] DR 322 (Confidential)
[35] DR 47
[36] DR 68

end use). The BOD then identified elements within the value chain for corporate focus, where there was existing expertise and the risk profile was acceptable.[37]

There are two additional factors that influence NJR opportunities:

- The effects of Superstorm Sandy which continue to require considerable capital for reconstruction.[38]

- Indications from the financial community that non-utility activities should be less than 40 percent of the NJR portfolio, as discussed in further detail in the Finance Chapter.[39]

B. Evaluative Criteria

- Does NJNG's strategic planning process demonstrate appropriate guidance from above (NJR and NJNG Board and Officers), and involvement at the operating level? (Conclusion 1)

- Are the relationships between NJNG, its parent and affiliate companies appropriate as it relates to strategic planning inputs, assumptions, processes, and plan results? (Conclusions 1, 2 and 3)

- Does NJNG's strategic planning process include appropriate consideration of customer impacts, changes in market conditions, employee and corporate resources, and financial risk? (Conclusion 1 for NJNG planning, Conclusions 2 and 3 for NJR planning)

- Does NJNG have a well-defined purpose and mission, separate from, but aligned with those of NJR? (Conclusion 4)

- Are there negative impacts on NJNG's ratepayers from NJR's diversification activities, including any loss of focus by NJNG and NJR management to NJNG matters? (Conclusion 6)

[37] Review of BOD Strategic Planning materials (DR 54) and DR 730 (Confidential)
[38] DR 730 (Confidential), IR 43, and IR 130
[39] DR 615, DR 653, I 43

C. Findings & Conclusions

1. **Because NJNG does not perform strategic planning as a stand-alone entity, guidance is not provided by NJR or the BOD, nor can an NJNG planning process include input from operating levels or consideration of customer impacts, market conditions, internal resources and financial risks.**

    - There is no process, whether documented or informal, for NJNG to prepare a business plan, and there is no NJNG business plan.[40]

    - While the NJR Plan has a section on NJNG, the content of the section was not prepared by NJNG as a stand-alone plan.[41] The NJNG section includes pro-forma financial performance, delineation of plans and programs to be undertaken by the utility, and capital investment requirements.

    - No guidance regarding business planning processes or expectations is provided to NJNG management by the NJR Executive Team or BOD.[42]

    - Input from NJNG operating levels into the NJR Plan is limited to providing data related to ongoing operations and normal growth projections.[43] While data were provided by NJNG groups, the development of the NJNG portion of the NJR Plan was conducted by the NJR Executive Management Team.

    - The NJNG discussion in the NJR Plan does not mention customer impacts, changes in market conditions, NJNG employee resources or financial risks.

2. **With a few exceptions, the process used by NJR to develop its corporate-level business plan has gaps when compared to NorthStar's preferred strategic planning practices.**

    - **Exhibit** IV-**IV-3** compares elements of the NJR process to NorthStar's preferred practices.

Exhibit IV-3
NorthStar Strategic Planning Preferred Practice Checklist

NorthStar Preferred Practices	Yes	No
Directed by the CEO	X	
Has significant senior management involvement	X	
Is reviewed and approved by the Board of Directors	X	
Is coordinated and monitored by dedicated resources		X
Processes and responsibilities are well-documented and understood by key management		X
Process assures appropriate bottom-up input		X

[40] DR 47 Supplement and DR 356
[41] DR 47 and Supplement, DR 50 and DR 356
[42] DR 49, DR 168, DR 730 (Confidential) and IR 131, 132, 133
[43] See Chapter 3.1.1, Gas Supply Procurement for a discussion of the Load Forecasting process.

NorthStar Preferred Practices	Yes	No
Addresses a wide range of issues		X
Is responsive to dynamic changes in the operating environment		X

Source: NorthStar Consulting Group, Inc.

- The NJR business planning process is documented primarily through process flow charts. Textual process descriptions provided to NorthStar appear to have been prepared specifically for the audit.[44]

- The CEO and other members of the Executive Leadership Team are responsible for the entire planning process. There are no specific resources dedicated to analytic or research support of the planning process, limiting the ability to conduct research on trends, risk assessments or scenario analyses.[45]

- The processes used by the Executive Leadership Team to engage the BOD in discussions of strategy and options, and to prioritize and provide other feedback, are very good. Materials provided to the BOD include an evaluation of NJR's Strengths, Weaknesses, Opportunities, and Threats (SWOT), the Energy Value Chain for review, and an evaluation template for scoring opportunities.[46] The results of the BOD discussions, however, are not reflected in the NJR Plan itself.

- The planning process does not address how planning should occur at the business unit (subsidiary) level and there is no method for soliciting or incorporating input from the personnel or groups lower in the NJNG organization. There is no identified point on the planning schedule when business units are to provide input into the corporate planning and decision-making process. The first mention of the business units is in the last month of the plan development when "Business Unit Heads" are to develop their Objectives, Measures and Plans (including budgets). This is well after decisions regarding direction and corporate objectives would have been made.

- Because the planning process is driven from the top down, the issues considered are those with broader corporate impacts. Issues and opportunities of specific relevance to the utility outside of this scope are not included in the NJR Plan.

- The planning process results in a singular view of future performance with no flexibility in its planning activities. As discussed further in Conclusion 3, there is no consideration of risks or their impact on the plan. As a result, the plan becomes of minimal value in the face of changes in circumstances.

[44] DR 49 and DR 168
[45] DR 168 and IR 130/DR 730 (Confidential)
[46] DR 54

3. **The NJR corporate planning process results in an annual plan that is primarily operational, rather than strategic, in nature.**

- Although NJR represents the NJR Plan as the corporate "Strategic Plan," it lacks several elements that differentiate strategic plans from operational and tactical plans.[47]

- The NJR Plan has only a three-year planning horizon, rather than the seven to ten years needed for a strategic view. As a result of the short-term view, the plan does not include an assessment of future trends or innovations and has a bias towards "business as usual," particularly for NJNG.

- While the Executive Management Team and the BOD have undertaken some planning activities with a more strategic focus such as the Blue Sky project and the Value Chain assessment discussed previously, the outcomes of those assessments are not referenced in the NJR Plan and there are no strategic-level discussions in the NJR Plan.

- The plan does not acknowledge any risks or uncertainties related to any element of the plan, nor is there any consideration of SWOT factors or internal resource gaps. As a result there is no consideration of options for mitigating risks or alternative approaches to achieving the desired outcomes.

- While the NJR Plan includes considerable pro forma financial information, there is only one view of corporate financial performance. As presented in the NJR Plan, there is no uncertainty in financial performance.

- The plan does not acknowledge the financial connections between NJNG's growth and the ability of NJR to increase its non-regulated activities given the financial market's discomfort with increasing the non-utility portion of NJR above 40 percent.[48] There is no identification of priorities for non-utility investments should NJNG's growth not materialize as planned.

- The narrative portion of the NJR Plan (located in the 3-Year Financial Plan document) is structured and written as if to an external audience rather than to outline objectives for internal stakeholders with responsibilities for implementing the plan.

- The CTS Action Plan document includes a summary of the expectations for the business under each of the CTS elements, and provides a listing of goals and metrics. However, there are no action plans for how the goals will be achieved, and there are no references to separate business unit or department materials where the action plans might reside.

[47] DR 47 and DR 50
[48] See discussion in Finance Chapter

4. **While NJNG does not have its own vision or mission statement, the NJR Vision and Mission are consistent with and supportive of the utility's operations. The associated CTS elements, goals and performance targets are also appropriate for NJNG.**

   - The NJR Vision – "Through constant innovation and disciplined execution, we will be the nation's premier provider of safe, reliable natural gas and clean energy services, exceeding the value expectations of our stakeholders." – is inclusive of the NJNG business and expected performance.

   - NJR's Mission statement – "…to enhance our customers' quality of life by setting the standard for the provision of safe, clean energy services, driven by the principles embedded in our Commitment to Stakeholders, which informs our decisions and defines the actions of every employee" – is appropriate for NJNG.

   - The elements in the CTS are fully applicable to NJNG employees and operations.

   - The objectives and performance targets identified in the CTS Action Plan document include numerous objectives and targets that arise from utility operations, and are generally consistent with performance objectives at other utilities.[49] However, these targets do not encompass the totality of utility performance that should be monitored or issues that need to be addressed.

5. **NJNG management generally sees little need for NJNG-specific long-term planning, believing future operations will continue "business as usual".**

   - Members of the NJNG Management Team stated that NJNG's plan was to continue to do what it had always done, and that the utility did not need to conduct any strategic planning. Five years in the future, NJNG management believes the utility will be doing exactly the same thing as it is now, in exactly the same way.[50]

   - Both NJR and NJNG management occasionally pointed to the Blue Sky study, conducted in 2011, as providing a strategic look for NJNG.[51] While the Blue Sky study did take a longer-term view of NJNG's future, it was not a strategic plan for the utility. Specifically:

     - The study focused on future growth opportunities (including oil-to-gas conversions, power generation and compressed natural gas vehicles) and the impact of that growth.[52]
     - The Blue Sky study did not examine day-to-day operational factors (e.g., distribution, meter reading), gas supply planning issues, technology opportunities to improve operational efficiency, economic factors, or customer usage trends, nor did it examine ratepayer impacts.

[49] NorthStar did not conduct an evaluation of the actual target levels of performance for the CTS objectives.
[50] IRs 131, 132, 133, 134 and 152
[51] IRs 131, 132, 133, 134 and 152,
[52] DR 323, the results of the study were addressed above in the Background section.

- The Blue Sky study has not been updated in lieu of changing conditions or expanded to cover broader operational factors.

- In interviews with NorthStar, NJNG Management Team members expressed little concern that changes in the business environment (e.g., new technology or gas supply patterns) would impact what NJNG did or how it was done.[53] Management team members also indicated that any potential impacts would be identified and addressed appropriately through the team's weekly meetings where they "discuss the long-term strategic plan as well as to discuss the Company's daily operations." No sample agendas, information packages or minutes for these meetings were provided.[54]

6. From a planning perspective, NJNG appears to be treated similarly to the other NJR subsidiaries with no more or less attention.

- The treatment of NJNG in the NJR Plan is similar in scope, content and level of detail as that of its affiliates. The limited amount of NJNG-specific strategic planning appears similar to the level of business unit strategic planning occurring for other affiliates.[55]

D. Recommendations

7. NJNG should develop a strategic and business planning process for the utility that incorporates the elements of successful strategic planning. The NJNG planning process should be under the direction of the NJNG Management team, and the planning and analysis should be performed by NJNG personnel. The NJNG planning process should provide for the following planning elements: (Refers to Conclusions 1 through 5).

- Reflect a planning horizon of seven to ten years.

- Include a SWOT analysis, including employee and technology resource assessments, updated annually to reflect changing conditions and performance expectations.

- Consider whether adjustments to the NJR Vision or Mission would provide improved clarity or focus for NJNG's planning or operations.

- Identify market and technology trends that could impact any of the aspects of NJNG's business – supply, infrastructure, customer demands.

- Identify and explore a range of possible opportunities for achieving the NJNG Vision, including creative ideas that might come from outside the utility industry, consistent with the NJR corporate strategic direction and the CTS elements.

[53] IRs 131, 132, 133, 134 and 152
[54] DR 169
[55] DR 47

- Identify risks and uncertainties around business operations and future programs, and develop options to mitigate or manage the risks and reduce uncertainties.

- Include analysis of ratepayer impacts under a range of economic, market and gas supply assumptions, creating alternative scenarios.

- Identify preferred strategies and appropriate mid- and short-term action plans to achieve the strategies.

- Assess NJNG's financial performance and the impact on ratepayers under the desired plan and under alternative scenarios.

- Include goals, objectives and performance targets for NJNG based on its strategic plan that may be in addition to those included in the NJR Plan.

8. The NJR business planning process should be modified to explicitly include corporate-level elements from the NJNG Strategic Plan (Recommendation 1). In the revised process, the NJR Executive team and BOD would continue their current roles to establish the overall corporate strategy and objectives, provide guidance to NJNG on assumptions and approach, and approve the NJNG Strategic Plan along with the NJR Plan. (Refers to Conclusion 1)

9. The NJR planning process should be modified to incorporate elements of longer-term strategic planning. The revised process should include the elements identified in Recommendation 1 for the NJNG planning process, applied at the corporate level and for other affiliates. At a minimum, the NJR planning process should be expanded to a seven to ten year planning horizon, include assessments of the risks associated with the plan, and quantification of those risks through scenario analyses. (Refers to Conclusion 2 and 3)

CHAPTER V. AFFILIATE RELATIONSHIPS (RFP 3.1.2)

This Chapter provides the results of NorthStar's review of the relationships between NJNG and its affiliates and NJNG's compliance with the affiliate standards. Transactions between NJNG and its affiliates are discussed in the Gas Supply Procurement and Accounting and Cost Allocation Chapters.

A. Background

As required by Section 7 of the Competitive Service Standards, NJNG submits an annual compliance plan to the BPU outlining its policies and guidelines regarding competitive services.[56] NJNG has stated that it is committed to the development and enforcement of company policies ensuring strict compliance with the Affiliate Rules. NJNG's 2012 Compliance Plan is a 169 page document including exhibits and attachments. The Compliance Plan establishes an important baseline for NJNG's understanding of the affiliate requirements and its compliance policy. The Compliance Plan is organized by the topic areas listed below, in a manner generally consistent with the standards.

- Employee Training and Awareness
- Company Organization
- Nondiscrimination
- Information Disclosure
- Separation
- Competitive Products and Services
- Regulatory Oversight
- Dispute Resolution
- Violations and Penalties

The compliance plan also contains the service agreements between NJNG and its affiliates. Service agreements operate in both directions: services provided from NJNG to its affiliates and another for services received by NJNG. The agreements specify the services to be provided and the cost allocation/billing procedures to be used to assign the costs. The agreements refer to "pools" which reflect the costs associated with NJNG's provision of a certain function. According to the service agreements, all NJNG's affiliates may accept the following services from NJNG:

- Building Expense Pool
- Vehicle Transportation
- Radio-Tie Line Expense Pool
- Inserter Room Expense Pool
- Hardware/Software Maintenance Expense Pool
- Application Development

[56] DR 2

- Communications Equipment Cost Pool
- Energy Services

NJNG also has a supplemental agreement with NJRHS that authorizes NJNG to provide call center, credit and collections, billing, remittance processing, payroll processing and transportation services.

There is an additional agreement between NJRSC and NJNG covering the following services:

- Accounting
- Internal Auditing
- Communications, including the website
- Facilities
- Human Resources
- Information Technology
- Legal
- Office Services
- Purchasing
- Treasury

B. Evaluative Criteria

- Are ratepayers detrimentally affected by: (Conclusions 1, 7, 8 and 9)
  - Corporate structure
  - Contracts and transactions with affiliates
  - Conduct of NJR's and NJNG's officers and supply managers and staff?
- Does the utility have adequate internal controls to ensure: (Conclusions 2, 3, 4 and 8)
  - Affiliate transactions are limited to those permitted in the Competitive Services Rules (See also the Accounting and Cost Allocation Chapter.)
  - The corporate structure does not serve as a conduit to circumvent the Competitive Services Rules and cause energy trading irregularities, market manipulations, false price information and/or improper supply cost allocations from the affiliate to the utility? (See also the Gas Supply Procurement Chapter.)
- Does the utility regularly review performance of affiliated transactions for compliance with applicable standards and internal policies and procedures? Are appropriate changes to policies and procedures implemented as necessary? (Conclusions 1 through 11)
- Are utility information systems adequately secure to prevent unauthorized access? (Conclusion 12)

- Do the Directors and Officers demonstrate conduct:

    - That is at arms-length with other utility and affiliate personnel
    - Complies with the fair competition standards
    - Is in the best interest of the ratepayers? (Conclusions 1 and 7)

C. Findings and Conclusions

1. NJNG does not recognize CR&R and NJRCEV as related competitive business segments.

- N.J.A.C. 14:4-3.2, Definitions include the following:

    - Competitive service means any service offered by an electric public utility or a gas public utility that the board determines to be competitive pursuant to section 8 or section 10 of this act or that is not regulated by the BPU.
    - Related competitive business segment of a public utility holding company means any business venture of a public utility holding company, including, but not limited to, functionally separate business units, joint ventures, and partnerships and subsidiaries, that offers to provide or provides competitive services, but does not include any related competitive business segments of an electric public utility or gas public utility.

- NJNG's Compliance Plan classifies CR&R as a "Non-Retail Affiliate" rather than a Retail Affiliate. CR&R develops and owns commercial office and mixed use commercial and industrial real estate projects in Monmouth and Ocean Counties, New Jersey. CR&R owns and leases commercial office space to end-use customers. Commercial office space products and services to end use customers make CR&R a retail affiliate and RCBS.

- NJR's failure to recognize CR&R as an RCBS was also observed in the Liberty Management Audit as follows.

    "CR&R provides retail services to end use customers. The Company's position that CR&R does not provide a retail competitive service to end-use customers and, therefore, is not an RCBS misconstrues the intent of EDECA and the Standards. The Standards have the clear intent of protecting third-party competitors against showing affiliates and subsidiaries forms of favoritism that arise from utility operations and relationships with customers. The effectiveness of the Standards in meeting this goal would substantially diminish under the Company's interpretation. It would make the application of the protections effective only where a holding company chose to make the same products and services available both through utility and non-utility affiliates. A holding company could make it lawful to use utility operations to favor or subsidize a non-utility affiliate simply by discontinuing or never initiating similar services through its utility. No language in the Standards supports such a distinction. That lack, and the fact that the Company's interpretation would allow facile frustration of the central purposes of the Standards, makes the Company's interpretation inappropriate."

- NJRCEV invests in, owns and operates residential and commercial solar installations in the State of New Jersey. NJRCEV owns a minority equity interest in an on-shore wind project development. As of September 30, 2012, NJRCEV placed a total of 35.9 MW (megawatts) of solar assets into service, including a combination of residential and commercial rooftop and ground mount solar systems.

- NJNG misclassifies NJRCEV as a Non-Retail Affiliate. NorthStar considers the provision of residential and commercial solar installations along with the sale of renewable energy certificates to be competitive energy-related products and services.

2. NJNG's Compliance Plan focuses on retail affiliates and does not have sufficient policies or procedures that address its relationships with its other affiliates.

- The Compliance Plan covers its retail affiliates (as defined by NJNG) and largely exempts NJNG's other thirteen affiliates.[57]

- The few specific NJNG policies related to "non-retail" affiliates are:

  - It is the Company's policy not to discriminate against any competitor in favor of any of its affiliates.
  - NJNG, NJR and all affiliates are separate corporate entities.
  - All books and records of NJNG, NJR and the NJR affiliates shall be separately kept and will be available for examination by the BPU upon request.

3. NJNG has six service agreements with affiliates. None of these agreements have been approved by the BPU.

- NJNG has entered into service agreements with:[58]

  - NJRSC
  - NJRES
  - NJR
  - NJRHS (two agreements)
  - CR&R
  - NJRCEV

- These service agreements generally cover building, vehicle, computer hardware and software, communications, payroll and credit/collections activities based on the requirements of the affiliate's needs.

[57] DR 2, Exhibit A
[58] DR 7

- NJNG's affiliate relationships are controlled in part by New Jersey statutes, requiring BPU approval. N.J.S.A. 48:3-7.1 in part provides that:

  > Any management, advisory service, construction or engineering contract that in itself or in connection with another contract relating to the same work, project, transaction or service involves the expenditure of a sum exceeding twenty-five thousand dollars, made by any public utility with any person or corporation owning, holding or controlling separately, or in affiliation with another person or corporation, five percent or more of the capital stock of such public utility or with any corporation five percent of the capital stock of which is owned, held or controlled by a person or corporation owning, holding or controlling separately, or in affiliation with another person or corporation, five percent of the capital stock of such public utility shall be submitted to the New Jersey Board of Public Utilities for approval. Any such contracts shall be reported annually at the time of filing of their annual reports to the BPU.

4. A number of functions performed for NJNG by NJRSC are not covered by service agreements.

- A number of functions performed by NJRSC for the regulated business segments are not specifically identified within the service agreement. These services and their respective organizational functions are charged to NJNG.[59]

  - Operations and Special Projects
  - Records Management
  - Quality

5. NJNG obtains numerous services from NJRSC which are covered by service agreements, and for the most part, these service agreements provide a mechanism for allocating charges among NJR entities.

- Agreements show that NJNG obtains numerous services from NJRSC including:[60]

  - Accounting Services
  - Internal Auditing
  - Communications
  - Communications Web Site
  - Facilities
  - Human Resources
  - Information Technology
  - Legal
  - Office Services
  - Purchasing
  - Treasury

- Within the Scope of the service agreements, all but two of the service agreements contain "Allocation and Billing Procedures" included with the agreement as Exhibit

[59] DR 4 and DR 7
[60] DR 7

1.[61] In each case, the Exhibit states that whenever possible services are directly charged, or the basis for their allocation. These service categories include:

- Building Expense Pool
- Vehicles & Transportation
- Inserter Room Expenses Pool
- Hardware/Software Maintenance Pool
- Application Development
- Communications Equip. Cost Pool
- Marketing
- Radio Tie-Line Expense Pool
- Energy Services

6. The service agreements have numerous irregularities. In some cases, they include charge pools for services that functionally do not exist in provider organizations.

- As discussed in further detail in the Accounting and Cost Allocation Chapter, NJNG does not provide Information Technology (IT) services. However, service agreements between NJNG and its affiliates show NJNG as providing these services. This function is performed by NJRSC. Nevertheless, the NJNG Hardware/Software maintenance pool common in the service agreements includes outside purchases for labor, various expenses, leasing, maintenance contracts and other overhead expenses initially booked to NJNG and then allocated to affiliates using a three-factor weighted calculation.

- The NJNG/NJRSC service agreement does not contain the Allocation and Billing Procedures that are common to the service agreements between NJNG and the other affiliates. It states that labor expenses are directly charged when possible, allocated on a predetermined basis (adjusted via quarterly timesheets), and indirect costs are allocated on the basis of direct labor. This presents the following issues when considering the other NJNG/affiliate service agreements:

  - NJRSC does not participate in the Allocation and Billing Procedures expense pools for buildings and vehicles/transportation. As a result, these expenses are not covered.
  - The Allocation and Billing Procedures expense pool, common among affiliates other than NJRSC, does not include Internal Audit, Facilities, HR, Legal, Office Services, Purchasing and Treasury functions. The NJRSC service agreement shows that these expenses are charged to NJNG, but the same expenses are not covered by NJNG's affiliates.

- The agreement between NJNG and CR&R indicates that CR&R retains NJNG to provide certain services (attached to and made a part of the Agreement as Exhibits 1 and 2). The description and scope of services provided by NJNG in Exhibit 1 is a list of services common to all of the services agreements called Allocation and Billing Procedures. The elements included contain: building expense pool, vehicles and transportation, computer hardware and software, communications, and energy services. Exhibit 2 reduces the services provided to only computer hardware/software and communications.

[61] DR 7. NJRCEV Exhibit 1 does not include Radio Tie-Line or Energy Services Expense Pool elements.

- NJNG does not functionally provide many of the services described in Allocation and Billing Procedures that are contained in Exhibit 1 of the services agreements. The utility obtains these services from NJRSC as noted above. Exhibit 2 of the services agreement shows that NJNG provides CR&R computer hardware/software and communications. NJNG does not perform these functions and obtains these from NJRSC.
- Exhibit 3 of the services agreement covers CR&R labor charges to NJNG for performing building management, building maintenance and related administrative support. NJNG's service agreement with NJRSC Exhibit 1 includes the same facilities services as provided by NJRSC.

- The services agreement between NJNG and NJR calls for NJNG to provide services that it does not perform. NJNG provides fleet services but NJNG obtains IT and communication services from NJRSC, it does not provide them.

- The service agreement between NJNG and NJRCEV indicates that NJRCEV obtains numerous services from NJNG including computer hardware/software, application development, communications, billing, remittance processing and marketing from NJNG. NJNG obtains a number of these services from NJRSC and does not perform these functions.[62]

7. NJNG affiliate relations policies and procedures do not adequately protect ratepayer interests.

- NJR's organizational structure does not protect NJNG ratepayer interests as NJRSC managers actually make planning, budgeting, provisioning and management decisions affecting NJNG.[63]

- Agreements with affiliates are primarily a mechanism for charging and do not recognize NJNG as a client, with the authority to accept or reject services, control service levels, price or quality.[64]

- Agreements are signed by officers that do not independently represent NJNG and are common to the utility and NJNG's affiliates.[65]

8. NJNG does not comply with N.J.A.C. 14:4-4.5, which requires NJNG to obtain competitive bids for services provided by NJR or NJRSC. Additionally, NJNG does not make effective challenges to NJRSC budgets or charges for services.

- N.J.A.C. 14:4-4.5 provides the following requirements for service agreements:

  (g): An electric or gas public utility shall not purchase or contract for any product or service otherwise covered under a service agreement that the

[62] NJNG provides billing services for NJRCEV
[63] DR 7
[64] DR 7
[65] 2013 Annual Report to Shareholders http://files.shareholder.com/downloads/NJR/

electric or gas public utility can provide for itself or can procure from another company on more advantageous terms. The determination as to whether to refuse to purchase or contract for any product or service covered under the service agreement shall take into account all relevant factors, including, but not limited to, price, qualifications of the alternative provider, contract terms, quality of the product or service provided, and the efficiency, timeliness, and convenience of delivery or provision of the product or service. The determination above as to whether to refuse to purchase or contract for any product or service covered under the service agreement shall in no way limit the Board and/or Board staff from independently reviewing those activities. An electric or gas public utility shall not be required to take action that would result in a conflict of interest, violation of applicable law, or breach of any pre-existing contractual arrangements.

(h) An electric or gas utility or its designee shall review its purchases and contracts for any service under a service agreement beginning every three years after April 6, 2009, for compliance with (g) above. All reviews shall be documented and shall be provided to the Board and/or Board staff upon request.

(i) Nothing in (g) above shall apply to corporate governance or other activities, such as senior management services, treasury/finance functions, legal, system security, and shareholder and external relations. These services shall continue to be subject to the review by Board and/or Board staff to ensure just and reasonable rates.

- (j) A public utility holding company system shall not penalize an electric or gas public utility for any refusal of services under (g) above.

- Under NJNG's Compliance Plan, transactions between NJNG and any Retail Affiliates will be limited to: tariffed products and services; the sale or purchase of goods, property, products or services made available through an open competitive bidding process; and those services allowed under the Affiliate Rules. However, this policy does not apply to all affiliates.

  - When affiliate transaction policies were addressed, NJNG stated that from a purchasing perspective, an affiliate is treated no differently than any other supplier and the same competitive bid standards and purchasing controls apply.[66]
  - While the NJR Purchasing Policy and Procedure discusses the use of competitive bidding for goods and services, there is no internal requirement that all goods and services be obtained through a competitive bidding process.[67]
  - NJNG determined that the services provided to NJNG by NJR Service Company are obtained in a more efficient, effective and useful manner than what could be

[66] DR 23
[67] DR 290

obtained from an external vendor.[68] NJNG could not produce any analyses, comparisons or documentation to support this determination.

- NJNG then stated that the majority of services from the service company are exempt from the review discussed in N.J.A.C. 14:4-4.5(g).

- NJNG's determination that the company complied with N.J.A.C. 14:4-4.5(g), was done without competitive bidding, documented analyses, and comparisons of economics or service quality.[69]

- Services obtained from NJNG affiliates are not the result of competitive evaluations or evaluations of any kind that could be made available. The agreements are non-competitive.

- Most of the service contracts between NJNG and its affiliates do not have termination dates and no term limit is indicated. These "evergreen" contracts would not generally be considered industry appropriate contracts.

9. The service agreements are not competitive in terms of market conditions and only serve to provide a vehicle for cost allocation and inter-affiliate charging.

- NJNG service agreements do not address product or service pricing as costs are largely allocated from the respective provider entities. Product and service quality is not mentioned, nor are volumes, frequency or other fundamental elements of a commercial service agreement.

- Service level agreements between NJNG and NJRSC do not contain service by service unit cost, units of measure, units provided to NJNG per time period, measured performance, or quality.[70]

- NJNG could not demonstrate that NJRSC services are cost-competitive and that NJRSC charges the company less than what they might have cost if received from other sources.

10. NJNG's service agreement with NJRHS and amendments appear to violate a number of nondiscrimination rules and policies.

- NJNG provides services to NJRHS, a Retail Affiliate. These include the provision of an extended payment option to NJRHS customers who purchase products or services from NJRHS totaling no more than $1,000 at any one time.[71]

- Three extended payment option amendments were executed to assist NJRHS customers who were severely impacted by Hurricane Sandy and needed to replace damaged heating and water heating equipment. The First Amendment to the service

[68] DR 23, 45 and 290
[69] DR 45
[70] DR 2
[71] DR 7 Supplement, Section 1.4(a)(2)

agreement was effective November 12, 2012 and the Second Amendment effective August 16, 2013. The Third Amendment was made effective September 30, 2013, and extends coverage to December 31, 2013.

- These actions appear discriminatory in favor of a Retail Affiliate and do not comply with the following:

  - It is NJR's policy not to discriminate against any competitor in favor of any of its affiliates.
  - Transactions between NJNG and any Retail Affiliates will be limited to: tariffed products and services; the sale or purchase of goods, property, products or services made available through an open competitive bidding process; and those services allowed under the Affiliate Rules.
  - It is the Company's policy not to offer discounts or discretionary waivers to any Retail Affiliates.
  - The provision of any products and/or services or the availability of discounts, rebates or waivers of terms and conditions will not be tied in any manner to the taking of products and/or services from any Retail Affiliates.
  - NJNG will not provide assistance, aid, or services related to customer enrollment, marketing, or business development to a Retail Affiliate, unless offered to all competitors on a non-discriminatory basis.

- NJNG does not offer these services to all appliance providers. NJNG's extended payment options for NJRHS customers is not included within NJNG's Regulatory web site under Postings, or Notice of Affiliate Transactions – as noted below. NJNG's offer to provide these same services in a non-discriminatory manner to non-affiliated entities could not be found on the Company's web site and does not relieve the Company of compliance under the Standards.

  - This area of our [NJNG] Web site was created to comply with specific Affiliate Rules that require a means by which to notify interested parties of a transaction occurrence by, and between, NJNG and its retail and energy affiliates.
  - NJNG does not include this extended payment option under item III: Discount, Rebate or Waiver of Any Charge, Penalty or Fee Offered to Affiliate(s).

11. NJRSC performs a shared marketing and corporate communication functions. Marketing is prohibited by the Competitive Services Rules.

- N.J.A.C. 14:4-3.5(i) allows that an electric or gas public utility, its public utility holding company and related competitive business segments, or separate business segments of the public utility holding company created solely to perform corporate support services may share joint corporate oversight, governance, support systems and personnel.

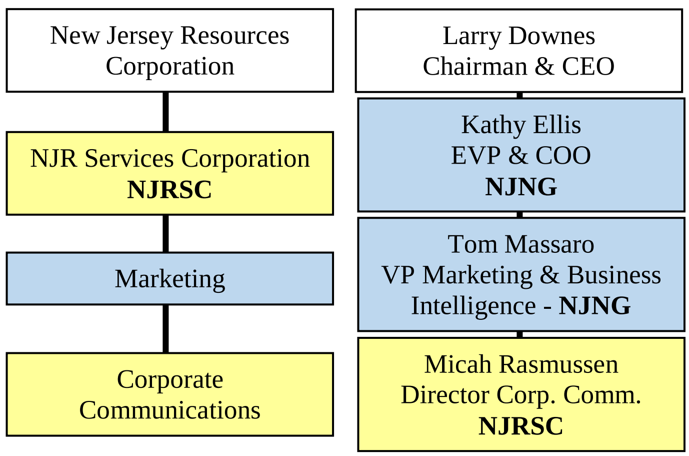
- The definitions section (N.J.A.C. 14:4-3.2) of the standards contains the following definition:

- "'Services that may not be shared' means those services which involve merchant functions, including, by way of example: hedging and financial derivatives and arbitrage services, gas and/or electric purchasing for resale, purchasing of gas transportation and storage capacity, purchasing of electric transmission, system operations, and marketing."

- The NJRSC Marketing and Corporate Communications organization reports to the NJNG COO.[72]

- This organization structure creates a sharing of officers and marketing function as shown in **Exhibit V-1**.[73] NJR organizational units are not shaded, NJRSC organizational units are shaded in yellow and NJNG organizational units are shaded in blue.

Exhibit V-1
Reporting Structure – NJR Service Corporation Marketing



Source: DR 4

- Combining the organizational structure, resources and management oversight cannot be considered separation, and shared marketing is prohibited by the Competitive Services Rules.

- The service agreement between NJNG and NJRCEV shows that NJNG provides Marketing services. Marketing is prohibited as a shared service.

- Many services provided in the service agreements between NJNG and affiliates cannot be considered corporate governance or allowed as shared services. The definitions section (N.J.A.C. 14:4-3.2) of the standards contains the following definition: "'Shared services' means administrative and support services that do not involve merchant functions, including by way of example: payroll, taxes, shareholder services, insurance, financial reporting, financial planning and analysis, corporate accounting, corporate security, human resources (compensation, benefits,

[72] DR 4
[73] Both charts from DR 4

employment policies), employee records, regulatory affairs, lobbying, legal, and pension management." These examples would not include:

- Building Expense & Facilities	- Communications
- Vehicles & Transportation	- Marketing
- Inserter Room Expenses	- Radio Tie-Line Expense
- Hardware/Software Maintenance	- Energy Services
- Application Development	- Office Services

- As these services are not corporate governance or allowed as shared services, NJNG must obtain the services competitively in compliance with N.J.A.C. 14:4-4.5 or at the very least demonstrate that they are competitive with non-affiliated providers.

12. NJNG cannot confirm that utility systems are adequately secure and prevent unauthorized access.

- The previous management audit by Liberty recommended that NJNG develop and maintain a list of databases as well as a master list of which departments and which employees have access to systems (ED-9).

- NJNG could only provide a list of individuals with remote access.[74] IT is addressed in greater detail in Chapter 3.2.12 – Support Services.

D. Recommendations

10. Classify CR&R and NJRCEV as related competitive business segments. (Refers to Conclusion 1)

11. Review and improve the current Affiliate Compliance Plan to include policies and procedures that are applicable to all NJNG affiliates. (Refers to Conclusion 2)

12. Ensure that the information contained in the Affiliate Compliance Plan is correct, complete and includes the following: (Refers to Conclusions 1 through 11)

    - Policies and procedures that deal with affiliate relationships.

    - Ensure that all affiliates are recognized as part of the Affiliate Compliance Plan.

    - Ensure that there are no violations of nondiscrimination rules or polices.

13. Develop service agreements between NJNG and affiliates that comply with the Competitive Service Statutes and are consistent with organization structure and the CAM, and reflect actual services provided. (Refers to Conclusions 3 through 9)

    - Ensure that service agreements among affiliates are consistent with the CAM.

[74] DR 620 through 623 including supplemental responses (all Confidential).

- Correct allocation models that are used in billing between regulated affiliates and service providers.

- When completed, seek approval by the BPU.

14. Comply with N.J.A.C. 14:4-4.5, which requires NJNG to obtain competitive bids for services provided by its affiliates. Alternatively, perform a benchmarking study of services provided by affiliates to demonstrate to the BPU's satisfaction that the charges and quality of services are competitive with other commercial providers and comply with N.J.A.C. 14:4-4.5. (Refers to Conclusions 8 and 9)

15. Cease providing extended payment options to NJRHS customers. (Refers to Conclusion 10)

16. NJNG should perform its own Marketing and Communications functions exclusively and discontinue any services sharing with its affiliates. (Refers to Conclusion 11)

17. Develop, maintain and control access to NJNG databases and systems and which employees have access to systems. Report a list of employee access to databases and systems to the BPU on a semi-annual basis. (Refers to Conclusion 12)

CHAPTER VI. ACCOUNTING AND COST ALLOCATION METHODOLOGIES (RFP 3.1.5 AND 3.2.7)

This Chapter describes NJR's and NJNG's accounting processes and procedures, including the processes used to allocate shared or common costs to and from NJNG and its affiliates.

A. Background

Accounting Systems and Processes

NJRSC performs all accounting functions for NJNG and its affiliates. General ledger accounting is performed using the J. D. Edwards Oracle Enterprise Resource Planning software system (JDE). NJNG has used JDE since the mid-1990s installing updates as they become available. JDE is a fully integrated accounting system that includes the following modules which feed directly to the general ledger:

- Accounts Payable
- Accounts Receivable
- Inventory
- Purchasing
- Payroll

JDE is used to account for all transactions including those between NJNG and its affiliates. The JDE system is configured such that each affiliate is a separate entity on the system. IT assigns access rights so that employees of one affiliate are not allowed access to the information of other affiliates. The exception to this is NJRSC, whose employees are required to access multiple affiliates in order to perform their shared service functions. All accounting transactions are processed in JDE. JDE is also used to prepare consolidated financial statements that include NJNG and all of its affiliates.

JDE is configured to accumulate some types of costs in pools. These pools serve one of two purposes. First, pools may be used to accumulate costs that are then allocated or loaded onto other charges. For example, employee-related costs such as pension, insurance and vacation accrual may be accumulated in a pool and then allocated on the basis of direct labor charges to specific departments. Vehicle and transportation services costs are an example of pooled costs that are allocated based on direct usage. For all affiliates except NJRHS, cost pools are maintained to accumulate vehicle operations and maintenance costs. These costs are then charged to each Business Unit/Department, based on the number of vehicles under control of that organizational unit. Another purpose of pools is to accumulate costs that may be allocated between different corporate entities.

A preliminary step in the closing process is to allocate the pool costs to various General Ledger (GL) accounts in accordance with the CAM. Allocations are made to those accounts based on a variety of methods. Overheads allocated to capital projects are made on the basis of the proportion of capital costs each project accrues during the current month.[75]

Other systems are used for specialized accounting functions including Power Plant, which is used to process capital asset data, and Power Tax, which is used for tax depreciation. Power Plant is a fixed asset system that interfaces with JDE. Power Plant contains the records of fixed assets for NJNG and all NJR affiliates as well as the NJNG work order ledger. Power Plant categorizes assets into several groupings including:

- Distribution
- Transmission
- Customer Services
- Meters
- Regulators
- Vehicles
- Miscellaneous (e.g., computers, software).

Files are extracted daily from JDE and loaded into Power Plant.[76]

NJNG also uses a number of in-house spreadsheets to perform specialized analyses and reporting. Approximately two years ago, in recognition of the importance of these tools, NJNG implemented a critical spreadsheet initiative. This procedure enhanced and standardized the documentation of spreadsheets used for important purposes. It also established controls and testing procedures for implementing changes or creating new spreadsheets.

Affiliate Transactions

NJNG provides and receives a variety of products and services from its affiliates and NJR. These include shared services, customer service, billing, external contracts and corporate taxes. EDECA requires that:

- Transfers of services not produced, purchased or developed for sale on the open market by the electric and/or gas public utility from the electric and/or gas public utility to related competitive business segments of its PUHC shall be priced at fully allocated cost.

- Transfers of services not produced, purchased or developed for sale on the open market by a related competitive business segment of the PUHC from that related competitive business segment of the PUHC to the electric and/or gas public utility shall be priced at the lower of fully allocated cost or fair market value.

In a typical year, there are in excess of 5,000 transactions between NJNG and its affiliates. These transactions range from a few cents to as much as $3 million. **Exhibit VI-1** summarizes the annual charges for services provided by NJNG to each affiliate for FY 2008

[75] DR 21
[76] DR 101

through FY 2013. **Exhibit VI-2** summarizes the annual charges for services provided by each affiliate to NJNG.

Exhibit VI-1
Annual Affiliate Transactions – Provided by NJNG

Affiliate	Services Provided by NJNG (Dollars in Thousands)					
	2008	**2009**	**2010**	**2011**	**2012**	**2013**
NJR	$ 19,031	$ 47,985	$ 29,918	$ 10,303	$ 12,939	$ 11,780
NJRES	2,822	6,245	2,2	4,739	1,637	1,056
NJRHS	35,501	35,098	34,58	40,372	41,603	36,782
NJRSC	33,079	26,332	29,06	22,253	21,783	22,816
NJR Pipeline Services	401	734		1,016	383	193
CR&R	421	384		450	966	253
NJR Intercompany Payroll	-	5,807	15,85	16,863	16,769	15,547
NJRCEV	-	-		2,301	1,361	751
NJR Energy Corporation	-	-		25	-	-
Total	**$ 91,255**	**$ 122,585**	**$ 112,437**	**$ 98,323**	**$ 97,441**	**$ 89,179**

Source: DR 333.

Exhibit VI-2
Annual Affiliate Transactions – Received by NJNG

Affiliate	Services Provided to NJNG (Thousands of dollars)					
	2008	**2009**	**2010**	**2011**	**2012**	**2013**
NJR	$ (19,479)	$ (46,821)	$ (27,816)	$ (13,196)	$ (12,680)	$ (11,246)
NJRES	(2,252)	(6,904)	(2,803)	(2,514)	(3,107)	(1,031)
NJRHS	(35,151)	(35,496)	(34,659)	(40,557)	(41,142)	(37,454)
NJRSC	(34,572)	(24,490)	(29,156)	(22,705)	(21,738)	(22,262)
NJR Pipeline Services	(394)	(738)	(261)	(510)	(895)	(194)
CR&R	(389)	(410)	(463)	(442)	(983)	(253)
NJR Intercompany Payroll	-	(5,807)	(15,856)	(16,864)	(16,767)	(15,576)
NJRCEV	-	-	(26)	(2,196)	(1,406)	(757)
NJR Energy Corporation	-	-	-	(25)	-	-
Total	**$ (92,236)**	**$ (120,665)**	**$ (111,040)**	**$ (99,007)**	**$ (98,719)**	**$ (88,774)**

Source: DR 333.

Procedures for allocated costs are defined in the CAM.[77] An important premise of the allocation methodology is that it should not result in utility subsidization of the non-regulated businesses as required by EDECA. Among the principles described in the CAM are:

[77] DR 12

- Direct assignment should be performed whenever it is clear that one entity causes a cost to be incurred and is the sole beneficiary. Direct assignment is preferred over allocation.

- Indirect costs should be charged on a fully allocated cost basis unless otherwise directed by the BPU.

- All charges between the utility and its affiliates should be traceable on the books of the regulated utility.

- When costs are allocated between the utility and its affiliates, the methods should ensure equitable cost sharing.

- The primary cost driver of common costs should be used as the basis of allocation.

- Indirect costs of each business unit should be spread to the services or products.[78]

The CAM provides detailed procedures that generally carry out these principles. The CAM specifies the services outlined in **Exhibit VI-3** as provided by NJNG.

Exhibit VI-3
Services Provided by NJNG

Service	Description	Provided to:
Building Maintenance	• Arrange and monitor improvements and replacement of facilities and systems • Coordinate janitorial, landscaping, snow removal, security, utilities and refuse services • Administer facility rental and leasing agreements	CR&R, NJR, NJRSC
Vehicle and Transportation Services	• Mechanic repair services • Coordinate outside service repairs not handled by the internal repair facilities • Coordinate vehicle fueling • Install natural gas powered capabilities into gasoline powered vehicles • On the road pickup and repair services for fleet vehicles • Coordinate the purchase or leasing replacement and salvage of fleet vehicles and equipment	NJRHS, NJR, NJRCEV, NJRSC
Radio Tie-Line Services	• Radio tower rental fees • Radio tie line communication charges • Radio maintenance – time and materials • Radio equipment communication charges	NJRSC
Inserter Room Services	• Labor and expenses for operation of the inserter room	NJRHS, NJR, NJRSC
Application Development	• Analyze computer system needs • System prototype, development, testing and training of users and implementation of new and modified computer systems • Troubleshoot and correct software problems • Maintain a help desk for user support • Periodic training of users for all systems • Research and development of new systems	NJRHS, NJRSC, NJRCEV

[78] DR 12

Service	Description	Provided to:
Hardware/ Software Maintenance	• Maintain operation and control of centralized main network computer hardware and software • Maintain security and licensing for users • Arrange and maintain periodic leasing controls for hardware and software • Maintain hardware and software, licensing, and leasing for all PC users and commercial equipment • Maintain hardware and software, licensing, and maintenance for field order dispatch system computes in field vehicles	CR&R, NJRHS, NJRES, NJRSC
Computer Network Communication Equipment	• Date communications line fees, both local and long distance • Maintenance and support for PC and network, and related communications equipment	CR&R, NJRHS, NJRES, NJR, NJRCEV
Energy Services	• Senior Vice President executive leadership, control, tactical and strategic planning • Nomination and scheduling • Volumetric accounting • Invoice preparation and customer payment processing • Review interstate pipeline tariffs and associated filings • Track deal confirmations and provide administrative support	NJRES
Billing	• Render monthly bills and maintain accounts of NJRHS Customers, including the posting of charges and adjustments and other activities required to maintain accurate billing records	NJRHS, NJRCEV
Customer Inquiry	• Provide call center services	NJRHS
Remittance Processing	• Receive payments from NJRHS customers, and maintain accounts of NJRHS customers, including the posting of charges	NJRHS, NJRCEV
Credit and Collections	• Purchase NJRHS accounts receivable resulting from the NJRHS sale of products and services. • Specifically, NJNG shall assume responsibility for collecting charges from delinquent NJRHS Customers, including forwarding collection notices and any other actions necessary to collect such accounts	NJRHS
Performance Measurement / Support	• Provide monthly reports to NJRHS relating to services provided by NJNG to NJRHS's customers. Such services will include but not be limited to customer billings, collections, bankruptcy activity and accounts receivables	NJRHS
Payroll Processing	• Clerical labor for the input of payroll time sheets for union employees	NJRHS
Marketing Clerical Services	• Clerical labor for the setup of new NJRCEV accounts in JDE	NJRCEV

Source: CAM (DR 12).

Services and/or costs received by NJNG from the parent and its affiliates are summarized in **Exhibit VI-4**.

Exhibit VI-4
Affiliate Charges to NJNG

Entity	Services/Costs
NJR	NJR Corporate includes the salaries, fringe benefits, and payroll taxes for the following officers: Chairman and CEO, Executive Vice President and CFO, Senior Vice President and General Counsel, and Corporate Secretary, and their administrative support personnel. It also includes costs allocated to NJR Corporate from NJNG for general services such as building maintenance and IT, as well as director's fees, insurance, and interest fees.
NJRSC	NJRSC provides financial planning and analysis, internal audit, communications, facilities, human resource, IT, legal, office, purchasing, quality, and treasury services to all affiliates.
CR&R	CR&R charges NJNG a fixed fee per month for time spent managing maintenance activities
NJRHS	NJNG and NJRHS have an Emergency Services Agreement under which NJRHS provides NJNG with employees and equipment to assist in restoration of natural gas service or in repair of natural gas equipment in the event of an emergency. These costs are billed to NJNG on a fully loaded basis when services are provided; however, these emergency services are provided infrequently.
NJRES	NJRES shares employees with the NJNG Energy Services department. As a result, on an as needed basis, NJRES provides services to the NJNG Energy Services department and the NJNG Energy Services department provides services to NJRES. NJRES charges allocated to NJNG are based on a budgeted amount for each relevant NJRES employee. These charges are subsequently trued-up with actual time sheet data at fiscal year-end.

Source: CAM (DR 12).

Table 7-3 of the CAM provides a summary of cost allocation methods used by NJNG. These follow the principles described previously and wherever possible, use actual measures such as numbers of computers, numbers of bills issued, or actual time sheet data. Table 7-8 of the CAM provides similar measures for costs incurred then allocated by NJRSC.

Costs are determined to be in one of four categories as described in **Exhibit VI-5**.

Exhibit VI-5
Cost Apportionment Categories

Cost Category	Method of Allocation
Directly Assignable	Expenses incurred exclusively for the benefit of one entity
Directly Attributable	Expenses incurred for the benefit of more than one affiliate which can be allocated based on direct measures of cost causation.
Indirectly Attributable	Expenses incurred for the benefit of more than one affiliate which can be allocated based on general measures of cost causation.
Unattributable [Note 1]	Expenses incurred for activities that are not appropriate for apportionment. These costs are charged directly to NJR.

Note 1: During the audit period 100 percent of all costs charged to NJR were subsequently allocated to the affiliates, including the utility.
Source: CAM (DR 12).

Costs that are to be allocated are initially charged to pool accounts. Each month the costs accumulated in these pools are allocated to the appropriate affiliate based on the budgeted amounts in each of the measures described in the CAM. Each quarter, the allocations are trued-up using actual measures from activity. The differences that result for each pool and affiliate are charged during the first month of the following quarter. Due to end-of-year processing constraints, the fourth quarter true-up is based on July and August actuals.

Testing Methodology

To validate the cost allocation process, NorthStar tested a number of transactions between NJNG and its affiliate using the following approach. NorthStar:

- Reviewed the transactions in each of the cells shown in **Exhibits VI-1** and **VI-2**.

- Selected a sample of charges between NJNG and its affiliates including:

  - **Charges from NJRSC**. NJRSC invoices NJNG approximately $1.7 million per month for support services in the form of a single transaction in JDE. Each transaction is an aggregate amount representing hundreds of individual time, material and overhead charges.
  - **Charges from NJR**. NJR invoices NJNG approximately $500,000 per month for executive compensation in the form of a single transaction in JDE. Each transaction is an aggregate amount representing the employees of NJR.
  - **Charges to and from NJRHS**. NJNG invoices NJRHS for customer service-related functions. NJRHS invoices NJNG for payments received from customers for their services.
  - **Direct time charges**. Direct labor charges from affiliates to NJNG that were not part of a shared service or oversight function.
  - **Materials charges**. Charges for products and services from external vendors that are shared between NJNG and its affiliates.

- Reviewed the calculation methodology and support for the selected transactions.

- Verified the following:

  - The charge/activity is permitted by the Affiliate Rules.
  - The methodology used to develop the charges is consistent with the CAM.
  - Allocation factors are calculated as described in the CAM and are coded correctly in the accounting system.
  - Labor charges accurately reflect the employee's hourly rate.
  - Direct time charges are for specific activities and are pre-approved.
  - Shared external products and services are allocated based on causal factors.
  - Accounting true-ups are performed correctly and in the appropriate cycles.

Results from this sample testing are described in the Findings and Conclusions section of this Chapter.

B. Evaluative Criteria

- Do adequate policies and procedures exist for allocating allowed common costs and are costs allocated in accordance with the policies and procedures? (Conclusions 1 through 8)

- Do accounting functions, processes and control procedures promote corporate objectives and accurate assignment of costs? (Conclusions 1 and 3)
- Is there adequate separation of duties and control functions? (Conclusion 2)
- Are allocated costs based on causal factors? (Conclusions 3 and 4)
- Are costs appropriately assigned or allocated? (Conclusions 4)
- Is the cost allocation methodology in compliance with applicable regulatory, legal, and contractual requirements? (Conclusions 4 and 7)
- Are time sheet charges accurately charged to the appropriate company? Are allocated employee charges based on causal factors? (Conclusion 6)
- Are lease arrangements between the utility and its affiliates market-based? (Conclusion 8)
- Do pricing policies between affiliate interests adversely affect NJNG's ratepayers? (Conclusion 9)
- Does the cost allocation process create a market advantage for affiliates or create subsidies? (Conclusion 9)

C. Findings and Conclusions

1. The NJNG accounting system is administered by NJRSC. Its functions, processes and control procedures provide information on operations expenses and capital projects that meets the needs of the utility's management. JDE reports contain accurate assignment of costs and are produced with adequate controls.

- The JDE accounting system is used by many utilities. NJR has used this system for over 20 years and adapted it to meet its needs and structure. Where needed, for example in capital project accounting, NJR has augmented JDE with specialized systems such as Power Plant.
- The reports produced provide management with the information needed to control costs and to meet corporate objectives.
- NJRSC's process of closing the books monthly with quarterly true-ups promotes accurate assignment of costs. All pools are swept to a zero balance so that costs do not accumulate and require subsequent allocation and analysis.[79]

[79] DR 12

- As discussed later in this Chapter, NorthStar identified some inappropriate time charges between NJNG and its affiliates. Only one of these was subsequently identified and corrected by management.[80]

2. **NorthStar did not find any instances where the separation of duties and control functions were inadequate.**

   - The Accounting function within NJRSC is smaller than in larger utilities. This means there are fewer staff available to assign separate duties or control functions. This is an area of focus in Sarbanes-Oxley (SOX) reviews and Internal Audits. To date there have not been issues in this area.

   - Management of the Accounting function is aware of the importance of separation and evaluates the effect on separation as staffing and management changes are considered.[81]

3. **NJNG has an extensive and well-written CAM that has been updated twice during the audit period. The CAM contains a great deal of detail and explanation on how NJNG performs cost allocations.**

4. **NorthStar evaluated a number of transactions between NJNG and its affiliates to assess the validity of accounting information. In the great majority of cases, costs are appropriately assigned or allocated to the correct affiliate. Costs are allocated in accordance with the procedures specified in the CAM and these allocation methods are reasonably causally-related.**[82]

   - In addition to its CAM, NJRSC has a number of procedures that describe how accounting allocations, reconciliations and true-ups are performed to insure accuracy of accounting records.[83]

   - NorthStar reviewed a number of transactions between NJNG and its affiliates to determine the validity of the accounting information and found:[84]

     - Supporting documentation for transactions was readily available and included invoices, timesheets, payroll records, allocation spreadsheets, and overhead calculations.
     - NJRSC staff demonstrated knowledge and competence in operating the JDE accounting system.
     - Quarterly adjustments to accounts of NJNG and its affiliates to recognize actual rather than budgeted labor amounts charged each month are labor intensive and there is significant risk of error.

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[80] See Chapter 3.1.5 for additional discussion
[81] IR 12
[82] DR 12 and NorthStar transaction testing
[83] DR 102
[84] NorthStar transaction testing

- NorthStar found the invoices for labor charges from NJR to be developed in accordance with the CAM and calculated correctly based on actual annual salaries:

  - Labor costs are calculated based on pro-forma hourly usage. Actual time charges by NJR executives for the previous year are used to develop percentages for the labor costs allocated to each affiliate.
  - True-ups for executive labor are calculated at the end of each year.

- Shared external contracts are appropriately split between users based on causal factors.[85] In reviewing invoices between NJNG and its affiliates, NorthStar found a number of charges for external vendors and professional services that are shared with affiliates. NorthStar reviewed the original invoices and the methodology for sharing the cost and found the invoices to be authentic and the sharing mechanism to be based on causal factors.

  - NorthStar reviewed charges for a risk management software system shared between NJNG and NJRES. The charges were split 50-50 based on the logic that each would have to buy the system separately.
  - NorthStar reviewed the charges shared with NJRHS for a fleet vehicle time management system. The cost was split based on the number of assigned vehicles to NJNG and NJRHS.
  - NorthStar reviewed the sharing of the costs of customer satisfaction surveys with NJRHS. The monthly costs were split based on the share of the surveys performed for NJRHS.

5. The CAM does not accurately address the provision of certain IT costs.

- Table 7-1 of the CAM (see Exhibit VI-3) states that NJNG provides its affiliates “application development” and “hardware/software maintenance” services. Similarly, Table 7-3 of the CAM describes the cost allocation methodology to be used to allocate application development and hardware/software maintenance performed by NJNG for the benefit of other affiliates.

- There is no NJNG department or staff that provides such services.[86] Application development and hardware/software maintenance services are actually provided by NJRSC.[87]

- NorthStar’s analysis of intercompany charges confirms there were no charges by NJNG for the services identified above during the audit period. There are charges for such services from NJRSC.[88]

- The detailed descriptions of the application development and hardware/software maintenance processes are correct when adjusted for the correct affiliate.

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[85] DRs 639 and 644
[86] DR 4
[87] DR 4
[88] NorthStar review of intercompany charges

6. **Labor costs are not always assigned based on causal factors or accurately charged to the appropriate affiliate. Additionally, a lack of controls has resulted in erroneous time charges.**

- Payroll costs are allocated to NJNG and its affiliates based on preset percentages.[89] At the end of each quarter, actual time charges are compared to the preset percentages and differences are charged to the NJNG or the affiliates in the first month of the next quarter.

- All NJNG employees submit time sheets. These time sheets are designed for payroll purposes (i.e., classifying time as productive, sick, vacation, etc.). The time sheets do not specify the nature of work performed.

- Employees who frequently charge time to affiliates use a secondary time sheet entered through a screen in JDE called “Work with Time Sheets”. Employees record the time actually worked for affiliates and for NJNG in this screen. Each month, the preset hours are charged to the affiliates, with actuals reconciled at the end of the period.

- This process is subject to several types of errors.

  - First, because this is not the record used for pay, an employee may be lax in providing accurate, detailed time records. For example, an employee may decide that the amount of time is too small to justify charging it to an affiliate. Or, if the detailed time sheet is not filled out timely, the employee may forget to enter some charges.
  - Second, employees have not been given instruction on when it is appropriate to charge an affiliate. The guidance they have been given deals with how to input information in the system, not the circumstances under which they should input such information.[90] One employee noted that he/she recently worked on a project that benefitted both the utility and an affiliate. Because the employee would have had to do the work for the utility even if there were no affiliate, the employee chose to charge all her time for that project to the utility. This is clearly not the correct treatment of common costs.[91]

- NorthStar found three irregularities in the JDE time reporting system, resulting in non-permitted time charges between the utility and its covered affiliates.[92] The accounting system does not restrict employees as to where they may charge their time.

  - NJNG’s accounting system includes a class of charges identified as “T2” charges, representing line item direct time charges between NJNG and its affiliates. They are a small class of charges representing less than 50 transactions in a fiscal year.

[89] IR 40
[90] DR 388
[91] DRs 392, 393
[92] DR 333 and 639

These charges are the result of an employee entering a job code on his/her time sheet that is separate and different from the charges seen in the rolled-up invoices between NJNG and its affiliates.

- During the audit period the charges were typically for employee rewards and invoices from NJRHS to NJNG related to Superstorm Sandy.
- NorthStar found several T2 labor charges between NJNG and its affiliates that were subsequently reversed. Two T2 charges were not reversed: one for $199.36 from NJNG to CR&R and another for $199.36 to NJNG from NJRHS.[93] While these dollar amounts are not significant, it is important to note that NorthStar did not evaluate all transactions but only a sample so that the existence of such an error raises the concern that there may be additional, possibly larger errors in the non-sampled transactions.
- When asked why such errors might occur, NJNG responded: "…we enabled a feature in our Payroll system that allows automated Intercompany transactions. We did this to gain some efficiencies for the processing of deductions only. We programmed some AAI's (Automatic Accounting Instructions) to send certain deductions and taxes over to the Company that actually cuts the check to pay those liabilities, which is NJNG. However, using this automated process has, inadvertently, allowed some minor errors in timesheets reporting to occur, which will allow one company to charge another company for labor. The policy is that no one should intentionally cross charge their time to another company; however someone might, as an example, use the wrong job code and that labor charge would go to the wrong company. The payroll department looks for these stray transactions and reverses them as they occur. Occasionally, some do slip though and have to be reversed at a later date, as was noted in one of the requests above."[94]

7. The method used to allocate lease costs is not consistent with the associated legal agreements (i.e., leases).

- The approximately 157,000 square foot headquarters building located at 1415 Wycoff Road, Wall, NJ is leased by NJNG and sub-leased to CR&R which then arranges to lease any of the space CR&R sub-leases to sub-sub-lessees which include NJRES and CEV.[95] CR&R sub-leased 31,596 gross square feet of the headquarters building from NJNG for the period December 21, 1995 to June 2021.[96]

- During the audit period, NJNG and its affiliates did not follow a number of the terms of the leases covering the Headquarters building:

  - The rent paid by CR&R and other affiliates was incorrect and inconsistent with the terms of the lease.
  - The share of occupancy costs paid by CR&R and other affiliates was incorrect.
  - Sub-sub-lease payments are made to NJNG, not CR&R.

[93] DR 333 and 639
[94] DR 664
[95] DR 10
[96] DR 11

- The lease between CR&R and NJNG specifies the amount of the required payment. In actuality, CR&R and the other affiliates pay a proportional share of the costs NJNG pays for the lease, based on the square footage they actually occupy.[97] As the square footage occupied by CR&R and the sub-sub-lessees has dropped, they pay a lower portion of the costs regardless of the lease terms. While an algorithm based on net space occupied could be a fair way to allocate costs, it is not consistent with the legal documents entered into by NJNG and its affiliates and it is also not computed correctly as noted in **Exhibit VI-6**.

- The amount of space occupied by CR&R and the sub-sub-lessees has dropped; however, the terms of the lease have not been modified to reflect the lower square footage.[98]

- A comparison of the required rent payments based on the lease terms and the actual allocated costs as of October 2012 is provided in **Exhibit VI-6**. This represents a difference of about $200k per year.

Exhibit VI-6
Allocation of Lease to CR&R

	Square Feet	Percent Occupied by CR&R and sub-sub-lessees	Semi Annual Payment
Per Lease [Note 1]	31,956	20.288%	$336,017
Square footage adjustment - email dated October 2012 [Note 2]	22,580	14%	$231,872
Email corrected for rounding error [Note 3]	22,580	14.336%	$237,429

Note 1: If the terms of the lease were used the payment would be $336,017.
Note 3: In October 2012, CR&R's allocated costs were reduced to $231,872 based on a reduction in the amount of space occupied by CR&R (and the sub-sub-lessees) from 24,867 to 22,580 sq. ft.[99] The email transmitting this change allocated 14 percent (22,850/157,511 total square feet) of the lease payment and other expenses. The resulting semi-annual lease payment was $231,872 (1,656,228 x 14%).
Note 3: The percentage calculated in the email, 14 percent, is inappropriately rounded. The actual calculation should be 14.336 percent (22,580/157,511). If the calculation of the percentage occupied were not rounded off inappropriately, the rent would be $237,429 (14.336% x $1,656,228). Correcting this calculation would increase CR&R's lease payment by over $11K per year, which is still lower than the terms of the lease.
Source: DR 11, 667 and 686.

- Costs allocated to NJRES and CEV are similarly incorrect.

  - NJRES signed a sub-sub-lease with CR&R in 2005 and extended it in 2010. This sub-sub-lease was for 7,521 gross square feet. This space equates to 6,540 net square feet.[100] Net square feet may exclude common spaces such as stairwells,

[97] DR 668. This algorithm is adjusted periodically based on usage of space by different organizational units.
[98] IRs 41, 97 and 164
[99] DR 667
[100] DR 11, 667

bathrooms, and walls. However, the occupancy expense allocation algorithm used by NJNG is based on 5,696 square feet for NJRES.[101]

- NJRCEV signed a sub-sublease with CR&R in 2010 for 4,501 and modified it in 2011. The modified sub-sublease was for 5,622 gross square feet. The additional space leased by NJRCEV from CR&R is not included in the calculation of space occupied by CR&R and its tenants per the October 10, 2012 email modifying the cost allocation.

- Building expenses were paid by NJRES and NJRCEV to NJNG during the audit period, not CR&R as the lease requires.

- Ring-Fencing is a term used to describe structural and legal distinctions that protect a utility from being drawn into the bankruptcy of its parent holding company. Failure to abide by legal agreements with its parent could reduce the strength of NJNG's Ring-Fencing provisions. Bankruptcy courts can disregard the formal legal separateness and declare the assets of two or more entities as merged for purposes of a bankruptcy proceeding thus invalidating the Ring-Fence. One factor the courts may look at is the extent to which the affiliated entities abide by legal agreements between the entities.

8. Lease arrangements between the utility and its affiliates are not market-based.[102]

- Lease arrangements between the utility and its affiliates are cost-based, not market-based.[103]

- There are sub-leases for portions of this space with affiliates NJRCEV and NJRES for portions of the space leased to CR&R.[104] These leases contain terms for paying rent but the terms of the lease are not followed making it very difficult to compare leases to market rates.

9. NJNG's method of allocating some costs creates both market advantages and subsidies for the utility's affiliates.

- Most allocation factors and procedures used by NJNG are reasonably causally-related and therefore, do not create a market advantage or subsidy for its affiliates. However, the methods of handling building expenses and payments to NJRHS for its receivables provide market advantages and subsidies as described in the Finance and Cash Management Chapter and are therefore inappropriate.

- As it is applied, the algorithm based on net space used to allocate costs to NJR is not a fair method to allocate space-related costs. This method omits the open space surrounding the executive offices as well as several offices used as temporary offices or conference rooms from the allocation to NJR. The omission of this open space

[101] DR 686
[102] DR 10
[103] DR 10
[104] DR 12

reduces the amount of building costs charged to NJR by more than 50 percent (7,670 square feet of open space removed from allocation to NJR leaving only 5,375 for specific named offices). [105] This favors NJR because other areas of the building do not have such large open spaces.

- By charging CR&R, NJRCEV and NJRES for the amount of space used rather than the amount contracted for in the sub-lease, NJNG is providing a market advantage to its affiliates in that the affiliate has flexible space availability and cost without commitment.

- By allocating the cost of its master lease rather than charging market-based rates, NJNG may be providing a subsidy to its affiliates.

10. NJNG offers its customers a variety of bill payment options including mail, electronic payment on the website using credit cards or an automated clearing house (ACH), and payment at major retailers. Many of these payments are processed by third party companies that charge the customers for the service. These processes do not result in subsidies when billing NJRHS customers.

- NJNG uses vendors that charge the customer for processing their payments. In some cases, the utility is charged. Typically these charges are either not substantial, $0.06-0.15 per transaction of about $200, and/or not common, occurring on less than 10 percent of payments. Or, when transaction costs were higher, about $0.70, the utility bills customers who use the payment services for the charges incurred.[106]

- NJNG offers a wide range of convenient services with the customers who take advantage of them paying for the service.

D. Recommendations

18. Revise the CAM to reflect the actual organization and procedures used to allocate costs. (Refers to Conclusions 1, 5 and 6)

19. Revise the instructions for using “Work with Time Sheets” to include more information on the circumstances that would lead an employee to enter charges to affiliates. (Refers to Conclusion 6)

20. Implement a validity check for time inputting to verify the appropriateness of work orders. (Refers to Conclusion 6)

21. Modify the leases with NJNG’s affiliates to reflect current market conditions and thereafter follow the terms of the leases. The BPU may want to consider whether the terms of the existing leases should be applied retroactively. (Refers to Conclusions 7 through 9)

[105] DR 639
[106] IR 166

22. Revise the method of charging space-related costs to NJNG's affiliates in accordance with the revised lease contracts. Alternatively, NJNG should modify the leases to reflect current terms. (Refers to Conclusions 7 through 9)

23. If NJNG continues to allocate lease costs based on occupancy square footage, it should use correct round off procedures in calculating allocation factors and amounts. (Refers to Conclusion 7)

CHAPTER VII. MARKET CONDITIONS (RFP 3.1.3)

This Chapter provides the results of NorthStar's review and assessment of NJNG's performance in facilitating a non-discriminatory environment for the competitive supply of natural gas to retail customers.

A. Background

Under EDECA, the BPU opened the natural gas supply market to competitive suppliers and established an operating framework under which utility customers may transfer their natural gas supplier from the regulated utility to any authorized TPS. The Competitive Services Rules seek to encourage market growth through stipulation of a non-discriminatory, open, and competitive market. The development of a competitive gas supply market within a utility's service territory is dependent in part on the actions of the utility regarding TPSs and their customers and potential customers. Possible utility barriers to a competitive market include delays in processing requests to transfer service to a TPS, poor information on the option to use a TPS, and operating procedures that disadvantage TPS customers relative to utility-supplied customers.

The BPU's Competitive Service Rules establish guidelines and requirements for regulated utilities' interactions with TPSs and their customers with a goal of eliminating these barriers. For example, Section 4 of the BPU Rules establishes the requirements for treatment of customer information, sharing of non-public non-customer information, development of supplier lists, and requirements for record keeping.[107]

B. Evaluative Criteria

- Are trends in TPS customers and volumes in NJNG's service territory consistent with movements to competitive suppliers elsewhere? (Conclusion 1)
- Do NJNG's policies, procedures and practices appropriately support development of the TPS market in its service territory? (Conclusions 2 and 3)
- Does NJNG's handling of inquiries, customer information, and records retention conform to the BPU Rules? (Conclusion 4)
- Are NJNG's operating policies, including gas scheduling, capacity release and other dispatch activities, non-discriminatory and compliant with BPU Rules? (Conclusions 5)

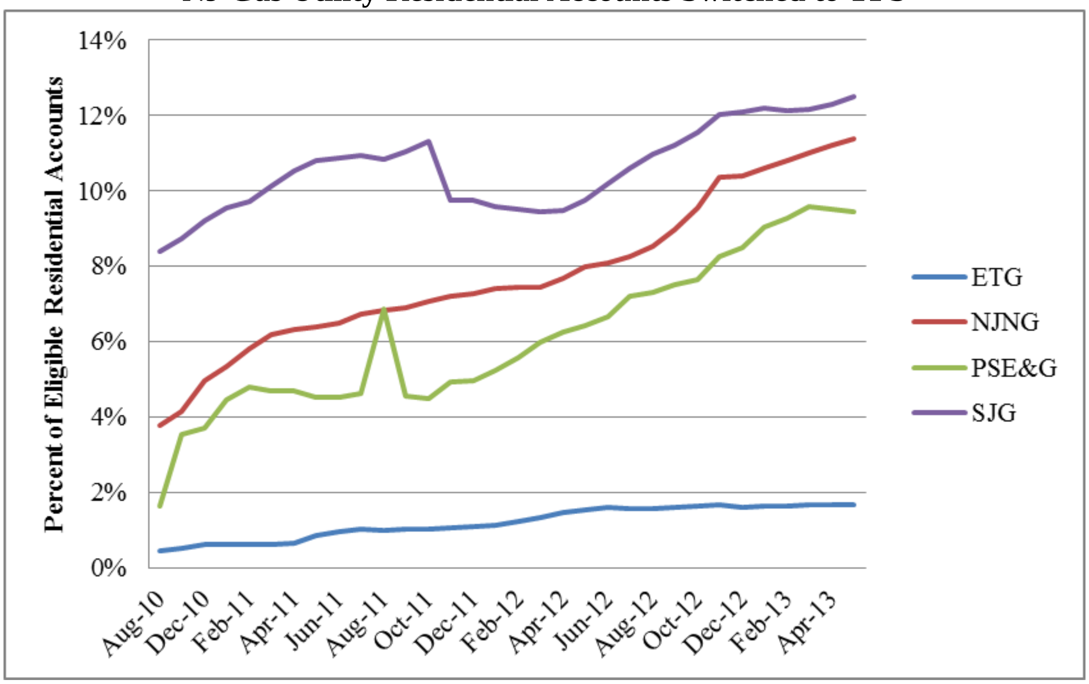
[107] Section 3 of the BPU Rules defines the code of conduct regarding affiliated TPS companies. NJR has elected to not participate in the retail gas supply market, so these standards do not apply to NJNG.

C. Findings and Conclusions

1. The level of participation in the TPS program in NJNG's service territory is comparable to that in other New Jersey gas utility service territories in both the residential and the commercial and industrial markets.

- **Exhibits VII-1, VII-2** and **VII-3** show the percent of residential accounts, commercial and industrial (C&I) accounts and C&I volumes served by TPS entities for the four New Jersey gas utilities from August 2010 to May 2013.[108] Over this period of time, NJNG has experienced trends in TPS service within its service territory similar to that seen by the other gas utilities.
  - In the residential market (Exhibit **VII-2**), the percent of NJNG's customers served by TPS entities is comparable to that of Public Service Electric & Gas (PSE&G) and South Jersey Gas (SJG).

Exhibit VII-2
NJ Gas Utility Residential Accounts Switched to TPS



108 Data obtained from the BPU, see http://www.nj.gov/bpu/pdf/energy/gdc07.pdf; NJNG data verified in DR 457

- NJNG has a much higher percentage of C&I accounts served by TPS entities than the other utilities (**Exhibit VII-2**). However the percent of eligible C&I volumes is comparable (**Exhibit VII-3**). This is indicative of the high concentration of smaller volume C&I customers in NJNG's territory compared to the other utilities.

Exhibit VII-3
NJ Gas Utility C&I Accounts Switched to TPS

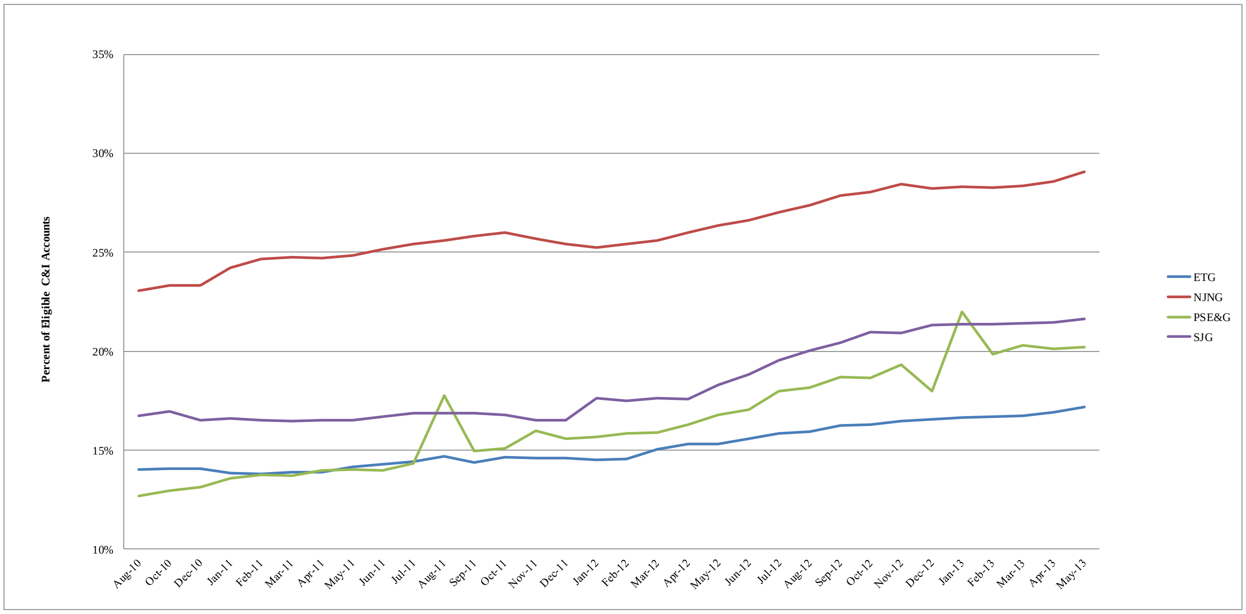
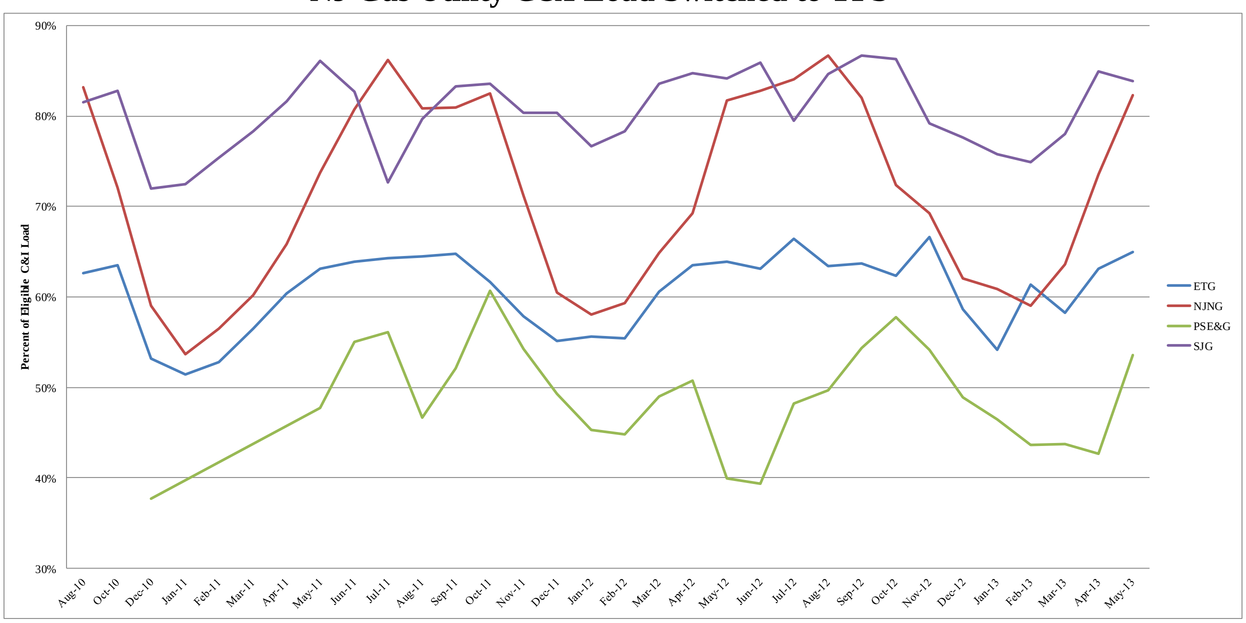


Exhibit VII-4
NJ Gas Utility C&I Load Switched to TPS



- Over the audit period, the number of suppliers eligible to serve NJNG customers has increased from 14 active suppliers in February 2008 to 39 active suppliers in October 2013.[109] The NJNG website lists 52 eligible suppliers as of September 15, 2013.[110]

2. Appropriate information on competitive supply options is available to NJNG customers; however, enhancements to NJNG's website would increase the usefulness of the site to customers seeking to identify and evaluate competitive offers.

- NJNG promotes customer choice for gas suppliers through bill inserts twice a year.[111]

- Information regarding Energy Choice is available on the NJNG website, only as an option which is far down on the list under the "My Home" tab.[112] The most relevant link from the NJNG home page "Energy Suppliers" is the link for marketers interested in becoming a supplier in NJNG's service area. The lack of easy website access to consumer information could discourage some customers interested in competitive suppliers.

- The Energy Choice section of NJNG's website lists natural gas suppliers that are eligible to provide natural gas service to residential and commercial customers within NJNG's service territory. The listing provides an active link to most supplier's websites as well as a phone number and an indication of which markets are served by the supplier. The list is updated two or three times per year, but not on a regular schedule.

- The BPU website also provides information on competitive energy suppliers. There are some inconsistencies between the supplier lists on the two websites, which could be confusing to a customer looking for information on both websites.[113] The inconsistencies may be the result of differences in when the two websites are updated.[114] Otherwise the information provided on the BPU site is similar to that on the NJNG website.

- Not all eligible suppliers are currently active. There is no indication on the website list as to which suppliers are active or accepting new customers. Thus, a customer might have to contact several eligible suppliers to locate one that would serve them.

- NJNG's Energy Choice webpage includes a "Compare Offers" tab. There is only one TPS offer listed and no information on the current NJNG BGSS "price to compare". Despite indicating there was a "calculator" on the page to compare offers, the

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[109] DR 663
[110] DR 88 and December 2013 review of website list.
[111] DR 42
[112] http://www.njng.com/my-home/energy-choice/index.asp
[113] NorthStar analysis of information from both websites.
[114] DR 725

"submit" button that might go to such a tool brought up an error message that "the page must be viewed over a secure channel".

- NJNG indicated that the page had been used more by suppliers in the past, but supplier interest has declined for several reasons, including increased focus on targeted mail and direct sales.
- Despite the lack of updates from suppliers, NJNG has kept the page active (although with a non-functional link). The utility indicated the usefulness and value of the "Compare Offer" page would be reviewed as part of future website enhancement efforts. [115]

3. The processes used by NJNG to support TPS suppliers are appropriate and do not impose a barrier to the suppliers or customers seeking to switch between NJNG and authorized suppliers.

- Marketers wishing to supply gas within NJNG's service territory must be licensed by the BPU, submit required forms and standard contracts, and meet credit requirements set by NJR. The approval process and relevant links and forms are available on NJNG's website.[116]

- NJNG provides an automated process, from enrollment to bill rendering and customer remittance, in support of the TPS program.[117] Enrollment can be initiated either directly by the customer or indirectly through the TPS, when the customer signs a contract and provides its account information. In the event a TPS registers the customer, the customer is sent a courtesy letter at least thirty days prior to the switch to the new supplier.

- NJNG offers suppliers the option of dual bills (where the customer receives one bill from NJNG for distribution-related charges and another bill from their TPS for consumption), or utility consolidated billing (where NJNG bills customers for all charges).[118] Most suppliers choose the utility consolidated billing option. With utility consolidated billing, NJNG receives a monthly rate file from each TPS which is uploaded into the JDE billing system. When meter reads are input, the bill amount is automatically generated. The integration of the TPS rates into NJNG's system eliminates the need to transmit meter reads to the TPS and obtain the amount to bill from the TPS.[119]

- Consolidated bills for TPS customers include the same elements and are nearly identical to BGSS customer bills. Two differences are:[120]

[115] DR 727
[116] DR 88, 724, 726 and company website
[117] IR 21 and IR 171
[118] DR 88. NJNG also offers suppliers a consolidated billing option, but no supplier has selected that option.
[119] DR 41, IR 66
[120] DR 41

- The unbundled components of the bill identify the rate class and the product (e.g., service charge, delivery). BGSS customers are shown a rate code of BGS and the current rate. TPS customers are shown a rate code of GAS and the TPS' rate.
- The TPS supplier name and telephone number are displayed on the bills for TPS customers.

- NJNG offers the same payment options to TPS customers as it does to BGSS customers.[121]

4. NorthStar's review identified no instances of differing service levels or standards for NJNG versus TPS customers. However, reminder training on the handling of customer inquiries may be warranted. Similarly, NorthStar identified no violations of privacy requirements.

- According to NJNG, it "does not discriminate against third-party suppliers or their customers."[122] NJNG's Fair Competition Guidelines require that all NJR employees be particularly conscious of their conduct so that a level playing field exists for all product and service providers who compete with NJR or its retail affiliates.[123]

- The NJ Affiliate Relations, Fair Competition and Accounting Standards and Related Reporting Requirements require that utilities process all requests for similar services provided by the utility on a non-discriminatory basis for its PUHC or a related competitive business segment and for all other market participants and their respective customers.[124]

- NorthStar requested information on turn-ons, turn-offs and transfers of service for the month of May 2013, to determine whether response times differed for TPS and NJNG customers. The sample contained 345 orders. Only 4 were TPS customers – too small a sample size to draw a conclusion.[125] NJNG expanded the query to cover the two-year period between October 1, 2011 and September 30, 2013. The revised query yielded only 23 TPS customers; again too small to draw a conclusion.[126] NorthStar listened to a sample of TPS and NJNG customer calls coded "general information" (nine calls) and a sample coded as "billing" or "rate" (25 calls: 12 TPS customers and 13 NJNG customers). NorthStar noted no differences in the handling of these calls or the treatment of the customers.[127]

- NJNG's Code of Conduct requires that company representatives "compete honestly and fairly in the marketplace. Company Representatives may not compete through unfair practices, such as inducing customers to terminate or breach contracts with

[121] https://www.njng.com/my-account-services/pay-bill/index.aspx
[122] DR 88
[123] DR 2
[124] Affiliate Relations, Fair Competition and Accounting Standards and Related Reporting Requirements, Section 3.7 Processing Requests for Electric and/or Gas Public Utility Services
[125] DR 456
[126] DR 690
[127] Review of calls, DR 687

competitors…making false statements or disparaging remarks about competitors….”[128] NJR’s Antitrust Compliance Guidelines also instruct employees to not disparage a competitor’s product.[129]

- NorthStar listened to 18 calls coded as TPS information calls. Three of the calls were actually NJRHS calls that were coded incorrectly, resulting in a sample of 15 calls. Although NorthStar believes the intent was to protect the customer, NorthStar believes the CSR could have remained more neutral in the discussion regarding the TPS during four of the calls. This represents between 20 and 27 percent of the sample.[130]

- NJNG does not retain the necessary data for NorthStar to test for potential delays in the switching process. According to NJNG, enrollments, drops, and rate change files are processed when received and are not stored in the system.[131] Customers are informed that it takes two months for the switch.[132]

- Customer authentication is performed as part of the routine call process. NJNG does not provide customer account numbers or other information to anyone but the customer of record.[133] One of the calls sampled by NorthStar was from a third-party requesting billing information on a commercial account. The CSR appropriately would not release the information without an authorization form.[134]

5. The use of NJNG's gas portfolio for balancing deliveries and consumption of general service TPS customers does not adversely impact operations, supply reliability or the cost of gas for NJNG ratepayers. [135]

- Under NJNG’s TPS program, the entities providing TPS gas for general service customers are responsible for obtaining, scheduling and assuring daily delivery of required gas volumes to the NJNG city gate.[136] NJNG does not release any pipeline or storage capacity to any TPS entities and has no responsibility for scheduling TPS gas.

- Each month NJNG’s Gas Supply group provides the TPS entities with a volume of gas that each one is responsible for delivering every day during the month. The

[128] DR 2, p. 55 Unfair Business Practices/Fair Dealings
[129] DR 2, Attachment B
[130] NorthStar analysis, DR 688. Note: during some of the calls customers expressed concerns about deceptive/fraudulent practices and potential TPS slamming.
[131] DR 457
[132] Review of customer calls, DR 688
[133] DRs 2, 448, 452 and review of calls DRs 687-689. The Compliance Plan requires that customer information only be released to an affiliated or unaffiliated entity upon the provision of a customer signature or two pieces of specific information which can only be obtained from the customer directly or through alternative means or regulations adopted by the BPU.
[134] DR 687
[135] Encompassing rate classes RS, GSS, GSL and DGC-balancing. Suppliers for FT, IS Transportation and DGC-FT customers are subject to monthly cash out requirements.
[136] NJNG Tariff, Marketers and Brokers Requirements, sheet 90.

volumes are based on the number and characteristics of the customers the TPS entity is to serve in the upcoming month and assume average weather conditions.

- Operationally, imbalances between the daily delivered TPS volumes and actual consumption by TPS customers are met with NJNG-procured gas or from NJNG storage contracts.

- For total system design day reliability, NJNG relies on the delivery of TPS gas to meet the requirement of TPS customers. For TPS gas to impact system supply, approximately two-thirds of the TPS gas would have to not be delivered under full design day conditions.[137] NorthStar believes this to be of low probability.

- The Gas Supply group tracks TPS supplier volume imbalances monthly, and net imbalances at the end of the winter season are resolved by increasing summer month TPS delivery volumes.[138]

- Ratepayers are compensated for differences in the value of gas supplied to TPS customers in the winter compared to the gas repaid by TPS suppliers in the summer through the BGSS balancing charge paid by all TPS customers. Imbalance volumes (both positive and negative) are valued monthly based on market prices and recorded as an asset or credit to BGSS costs. [139]

D. Recommendations

24. Improve the Energy Choice information on NJNG's website, and develop a process and schedule to review and update these pages at least quarterly. Specifically, the website should include: (Refers to Conclusion 3)

    - A link to the competitive supplier section of the website should be placed in a highly visible location on the home page, and made more visible on both the "My Home" and "My Business" subpages.

    - The list of suppliers should include only active suppliers, or at least an indication of which suppliers are currently accepting new customers.

    - The current BGSS rate for comparison with TPS offers should be readily available and kept up to date, for both residential and C&I customers.

    - There should be a simple, user-friendly explanation of the charges that would continue to come from NJNG and a schedule of the current NJNG distribution, customer, and other fees and charges.

[137] See Chapter VIII. Gas Supply Procurement for additional discussion on this issue.
[138] DR 691 (Confidential)
[139] DR 691 (Confidential)

- NJNG should develop an on-line calculator that allows customers to input TPS offers and estimate the changes in either their bill (using their account number to access historical usage data) or a typical bill (for residential customers). Usage patterns for C&I customers are sufficiently variable that the use of a “typical bill” would not be appropriate.[140]

25. Reinforce TPS neutrality among the call center representatives, ensuring they remain neutral and do not disparage competitors while continuing to provide customers with accurate information and assistance. (Refers to Conclusion 4)

[140] For an example, see the “Apples to Apples Interactive Calculator” at http://www.puco.ohio.gov/puco/

CHAPTER VIII. GAS SUPPLY PROCUREMENT (RFP 3.1.1)

This Chapter provides the results of NorthStar's review and assessment of NJNG's gas supply activities. The review covered NJNG's long-term load forecasting processes, its long- and near-term capacity planning, the planning and procurement of gas supply and the role and execution of the various off-system sales and incentive programs, as well as the organization of the gas procurement function.

A. Background

NJNG supplies approximately 50 million dths of gas annually to its BGSS sales customers at a delivered cost of approximately $400 million in FY 2013. NJNG transports an additional 10 million dths each year for aggregation and large C&I customers who have contracted for their gas supply through independent TPSs. As shown in **Exhibit VIII-1**, total send out has remained relatively steady over the audit period. The NJNG service territory is divided into two divisions, Northern and Central, as shown in **Exhibit VIII-2**. The Central Division is the larger of the two, comprising 83 percent of the send out volumes over the audit period.[141]

Exhibit VIII-1
NJNG System Send Out

Fiscal Year	Send Out Volumes (Dths)
2008	59,184,068
2009	63,305,686
2010	59,041,292
2011	63,234,779
2012	50,550,206

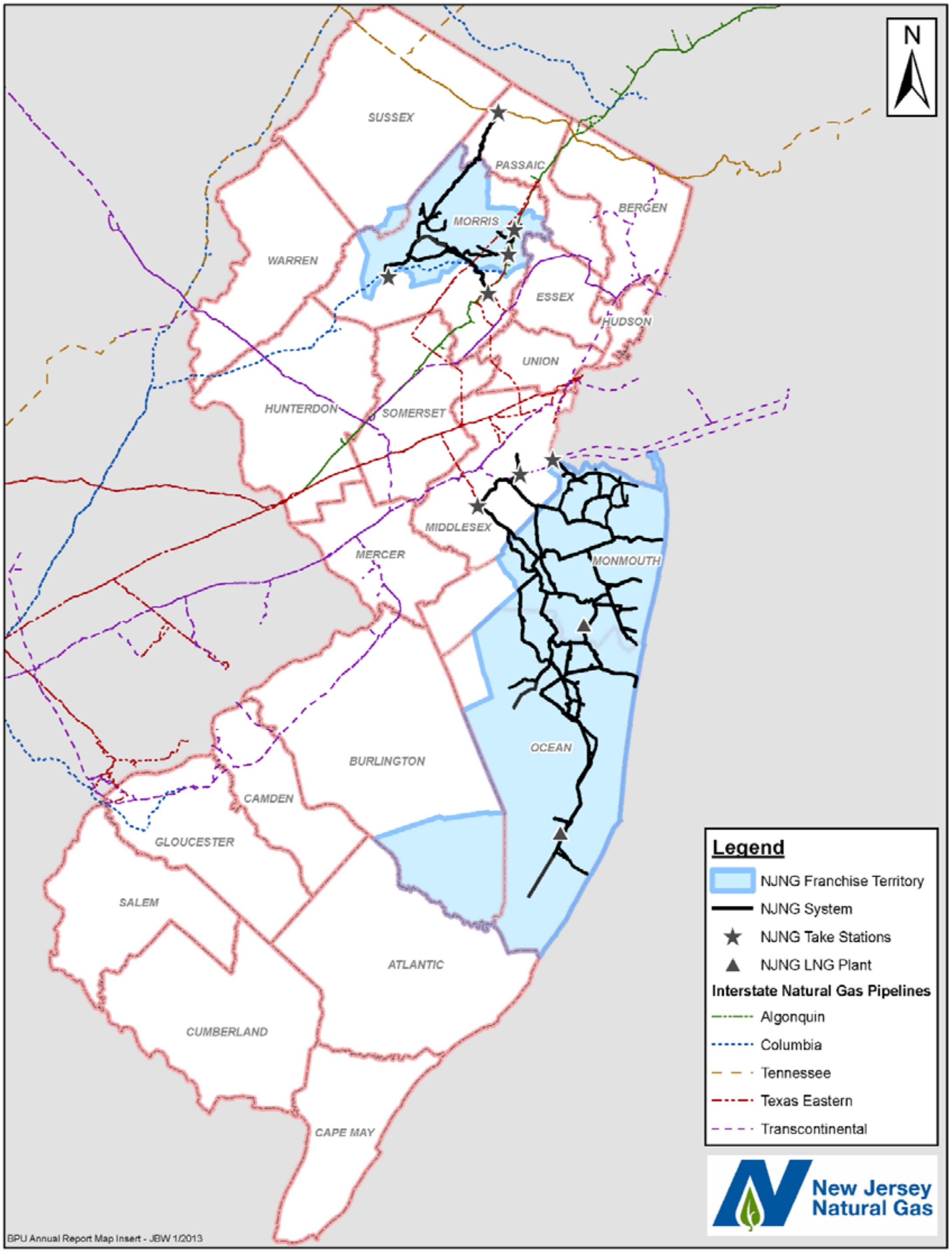
Source: DR 76.

NJNG receives gas deliveries through direct interconnections with five interstate pipelines – Texas Eastern (TETCO), Transco, Tennessee, Algonquin (AGT) and Columbia Gas (Columbia). TETCO is NJNG's principal pipeline and the only pipeline serving the Central portion of the service territory. There is no pipeline connection between the two divisions.

The portfolio of pipeline contracts held by a gas utility is based on the need to meet the "design day" forecast of the maximum volume of gas the system would need to send out under extreme weather conditions. For NJNG, the design day requirements include service for BGSS and TPS customers. **Exhibit VIII-3** provides NJNG's design day forecasts for the audit period and the actual peak day send out volumes for each year.

141 DR 73

Exhibit VIII-2
Map of NJNG Service Territory



Source: DR 77.

Exhibit VIII-3
NJNG System Peak Send Out Volumes (dths)

Fiscal Year	Design Day Forecast	Actual Peak Send Out
2008	799,292	546,298
2009	811,321	648,885
2010	813,652	551,511
2011	829,315	569,766
2012	836,841	513,441
2013	844,792	556,708
2014	847,119	n/a

Source: DRs 69, 73, and 423.

Exhibit VIII-4 lists the city gate delivery contracts held by NJNG for the 2012-2013 gas year. Approximately 100,000 dths/day of NJNG's city gate delivery capability is supported by 2.6 billion cubic feet (bcf) of storage capacity with TETCO and Transco. NJNG owns and operates two LNG facilities located in the Central portion of the service territory with a combined maximum vaporization capability of 170,000 dths/day.[142] The LNG plants are used to meet short-term (one to three day) peak send out requirements.

Exhibit VIII-4
NJNG City Gate Pipeline Contracts
(2012-2013 Gas Year)

Pipeline	Type	MDQ [1] (dths/day)	Term
TETCO	Transportation	100,000	11/01/08 - 10/31/23
TETCO	Transportation	100,000	11/01/02 - 10/31/14
TETCO	Transportation	59,790	11/01/02 - 10/31/14
TETCO	Transportation	40,000	03/01/01 - 10/31/14
TETCO	Transportation	35,487	11/01/96 - 03/31/15
TETCO	Transportation	35,000	07/01/95 - 03/31/15
TETCO	Transportation	27,000	01/01/95 - 05/31/15
TETCO	Transportation	20,000	11/01/04 - 10/31/14
TETCO	Transportation	12,000	05/01/95 - 10/31/14
TETCO	Transportation	10,789	06/01/93 - 03/31/15
TETCO	Transportation	10,559	11/01/06 - 10/31/14
TETCO	Transportation	9,555	11/01/96 - 03/31/15
TETCO	Transportation	9,498	01/01/95 - 10/31/14
TETCO	Transportation	1,060	03/01/01 - 10/31/14
TETCO	Storage to Gate	63,414	07/01/95 - 04/30/15
TETCO	Storage to Gate	31,143	01/01/95 - 04/30/15
	TETCO TOTAL	**565,295**	
TRANSCO	Transportation	10,350	04/01/03 - 12/14/14
TRANSCO	Transportation	5,000	04/01/03 - 12/31/14
TRANSCO	Transportation	3,931	04/01/03 - 12/31/14
TRANSCO	Transportation	3,250	04/01/03 - 12/31/14
TRANSCO	Storage to Gate	8,384	07/25/90 - 03/31/15
	TRANSCO TOTAL	**30,915**	

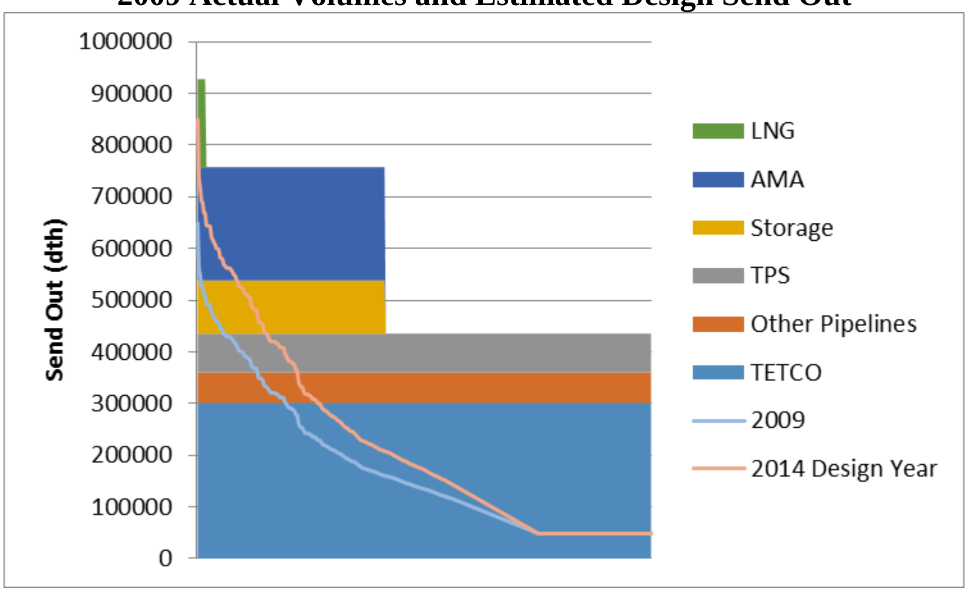
[142] DR 423

Pipeline	Type	MDQ [1] (dths/day)	Term
COLUMBIA	Transportation	10,000	12/01/09 - 08/31/15
COLUMBIA	Transportation	2,545	01/01/95 - 08/31/15
	COLUMBIA TOTAL	**12,545**	
TENN/Stagecoach	Transportation	25,000	01/15/12 - 03/31/15
TENN	Transportation	10,894	04/01/11 - 10/31/14
	TENNESSEE TOTAL	**35,894**	
AGT Total	Transportation	12,000	07/01/09 - 06/30/14
TOTAL CITY GATE DELIVERABILITY		**656,649**	

Note 1: MDQ: Maximum Daily Quantity in dekatherms per day (dths/day); for storage contracts the Maximum Daily Withdrawal Quantity is used.
Source: DR 46 (Confidential).

Exhibit VIII-5 provides NJNG's actual send out volumes in the form of a load duration curve (LDC) for 2009 (the coldest winter during the audit period) and an estimated LDC under design weather conditions.[143] The exhibit also shows the capacity portfolio used to meet system gas supply requirements for the 2012-2013 gas year.

Exhibit VIII-5
Comparison of NJNG LDC and Capacity Commitments
2009 Actual Volumes and Estimated Design Send Out



Note: AMAs refers to Asset Management Agreements.
Source: NorthStar analysis based on DR 76 and DR 423.

Upstream, NJNG has capacity on Dominion Transport, Iroquois Pipeline and Columbia Gulf that feed into the city-gate delivery contracts listed in **Exhibit VIII-4**. Additionally, NJNG holds approximately 15 bcf of storage capacity with Dominion, ANR Pipeline and

[143] Developed by NorthStar using 2009 actuals and the projected 2014 design day as the maximum send out.

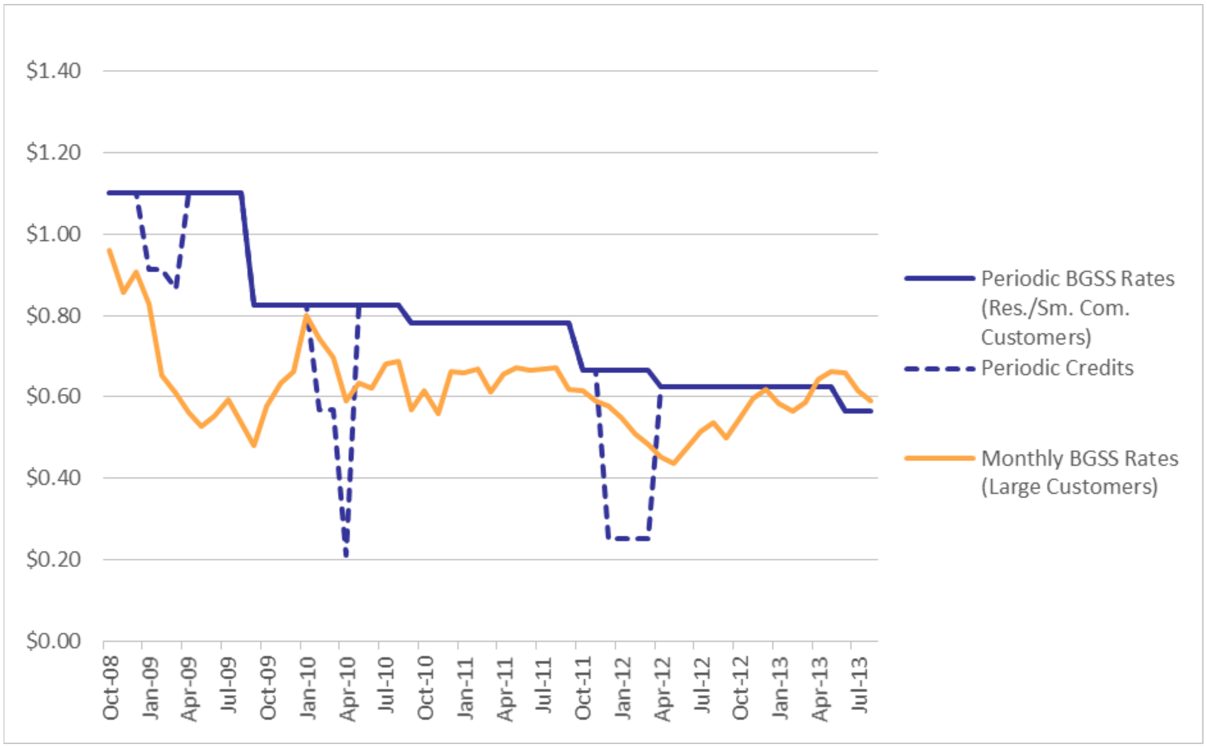
Steckman Ridge storage facilities for delivery into upstream pipelines.[144] NJR is part owner and investor with Iroquois Pipeline and Steckman Ridge storage facility, making them both affiliated entities for NJNG.

NJNG recovers the cost of gas (both demand charges and commodity costs) from its ratepayers through the BGSS process. On an annual basis, NJNG files its projected costs of gas and other fees and credits, and forecasted sales with the BPU. The resulting annual BGSS rate is a levelized cost of gas that is applied to consumption on residential and small commercial customers' bills to recover the cost of gas supply. The levelized BGSS rate is calculated based on seven months of actual data and 17 months of projections, and incorporates true-ups to reconcile actual gas costs and offsetting incentive program revenues to the projections in the prior filing.[145] To protect the utility's cash flow in the event supply prices are significantly higher than projected, there is an allowance for two mid-year increases in the BGSS rate without hearing.[146] In the event natural gas prices decrease such that the utility would over collect from customers, the BGSS rate can be reduced upon five days' notice to the BPU.[147]

As a result of the BGSS process, NJNG ratepayer bills are not directly impacted by variations in the market price of gas. **Exhibit VIII-6** compares the levelized BGSS rates from 2008 to July 2013 (including periodic refunds) with the monthly BGSS rates over the same period. The monthly BGSS rate is the rate charged to large customers who elect to receive their gas from NJNG. It is based on the actual monthly cost of gas delivered to the city gate and thus is representative of the variability and overall trending in the price of gas delivered to New Jersey.

[144] DR 46 (Confidential). In addition, NJNG has 4.8 bcf of storage capacity in the Stagecoach storage facility that has been permanently released to NJRES.
[145] NJNG has several BPU-approved incentive programs that allow the utility to leverage unused capacity and share incremental margins with ratepayers. These programs are discussed in the Findings and Conclusions section of this Chapter.
[146] Any mid-year increase to the BGSS factor is subject to review by the BPU in the next BGSS hearing.
[147] DR 68 and DR 301.

Exhibit VIII-6
BGSS Rates for NJNG Customers



Source: DR 302

NJNG has received BPU-approval of several agreements and incentive programs designed to offset the cost of gas supply recovered through the BGSS. During the audit period, these activities included Asset Management Agreements (AMAs), hedging initiatives and three incentive programs. Each of these initiatives is discussed in the Findings and Conclusions section of this Chapter. Incremental revenues received from these various programs are credited to ratepayers, in whole or in part depending on the program, through the BGSS filings.[148]

During the audit period, NJNG held a number of AMAs with NJRES and two independent counterparties, under which certain transportation and storage agreements were assigned to those parties at negotiated prices. AMAs are subject to terms and conditions established by the FERC, and NJNG's AMAs have been approved by the BPU. FERC-qualified AMAs include rights for the owning utility (i.e., NJNG) to recall the capacity if required for system reliability purposes..[149]

The primary incentive program used by NJNG to manage gas price levels and variability is the Storage Incentive Program (SIP). The SIP, which is integrally tied to NJNG's gas price hedging activities, provides NJNG with an incentive to acquire gas for storage injection at the lowest price possible. NJNG's hedging strategy calls for the utility to hedge a minimum of 75 percent of its projected upcoming winter season volume and at least 25

[148] DR 95, DR 68
[149] AMAs are discussed in Conclusion 7.

percent of the next winter's volume by November 1 of each year. The minimum hedge levels are achieved through 26 bcf of storage gas that is priced and optimized under the SIP.[150]

Under the SIP, NJNG establishes a benchmark price for 26 bcf of storage gas through the purchase of futures contracts and then seeks to achieve lower prices through active trading of those futures contracts. The futures contracts, which are acquired any time during the eighteen months preceding the November 1 cutoff date, serve as the vehicles to achieve the hedging goals. Any savings in the price of injection gas compared to the benchmark is shared 80 percent ratepayers, 20 percent NJNG, with the ratepayer credit flowing through the BGSS rates.[151]

The Off-System Sales and Capacity Release Program (collectively, OSS) allows NJNG to use system capacity that is not needed during the summer and normal/warm winters to generate incremental revenues which are shared 85 percent ratepayers, 15 percent NJNG. Transactions under the OSS program range from summer season capacity releases to single day sales of gas and delivery capacity which may be executed at any time throughout the year.[152]

The Financial Risk Management (FRM) program allows NJNG to use financial options to further hedge gas costs. As with the OSS program, the FRM program shares any net gains 85/15 with ratepayers.[153]

The management of the delivery portfolio and procurement of gas supply for BGSS customers is the responsibility of the Gas Supply group which reports to the Senior Vice President (SVP), Regulatory Affairs, as shown in **Exhibit VIII-7**. Organizational responsibilities of the personnel are described following the exhibit.[154]

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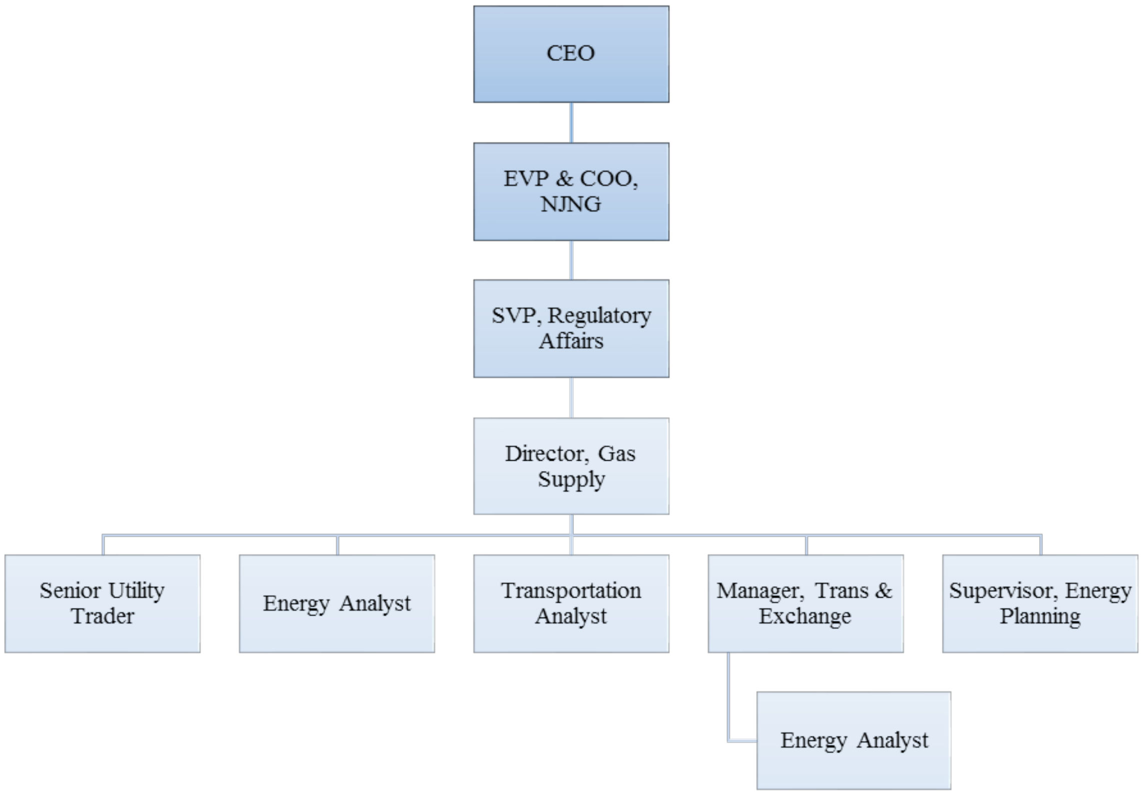
[150] DR 97
[151] DR 95
[152] DR 68
[153] DR 95
[154] DR 61

Exhibit VIII-7
Gas Supply Group Organization



Source: DR 4.

- The Director, Gas Supply is responsible for the daily, monthly and seasonal procurement of gas supply and optimization of the portfolio. The Director coordinates the assessment of whether to extend or terminate pipeline capacity contracts. This position also is responsible for the execution of all hedging transactions, including the purchase of options to establish the SIP benchmark and execution of the trades to achieve lower storage costs. The Director sponsors the gas supply portfolio and cost portions of the annual BGSS filing.

- Senior Utility Trader is the principal individual responsible for executing trades to optimize transportation and storage assets and procure required gas supply. The Senior Energy Trader also reviews the capacity portfolio to make recommendations for contract renewal and restructuring.

- Energy Analyst (Senior) is responsible for nominating and scheduling gas for delivery to the city gate and monitoring capacity utilization. This Energy Analyst also coordinates the month-end close and provides general support for the Gas Supply group.[155]

- Transportation Analyst also has responsibilities for the nomination and scheduling of gas for delivery and monitoring capacity utilization. These responsibilities are assigned by pipeline between the Energy Analyst and the Transportation Analyst, and are rotated between the two individuals periodically (but not on a set schedule).

- Manager Transportation & Exchange (T&E) is responsible for handling operational matters with counterparties, confirming proper recording of transactions and ensuring data integrity for both NJNG and NJRES. The Manager T&E also coordinates all training for the Gas Supply group and supervises the Energy Analyst.

- Energy Analyst reviews and analyzes filings made with FERC by all the pipelines of interest to both NJNG and NJRES and maintains NJNG and NJRES pipeline rate tables in the Gas Management System (GMS), used by both companies to report all transactions. This Energy Analyst also represents both NJNG and NJRES at various industry association and regulatory meetings.

- Supervisor, Energy Planning is responsible for development of long range send out and peak day forecasts, and preparation of the required gas delivery volumes for each TPS. The Supervisor also coordinates reporting of gas costs for financial statements and regulatory filings and provides cost data for off system billing.

NJNG's gas procurement and hedging transactions are subject to review by the RMC. The RMC was established by the BOD through its Audit Committee and charged it with oversight of risks and risk management associated with gas trading, counterparty credit risk and overall hedging activities.[156] The RMC is only responsible for risks associated with energy trading; other business risks are addressed through different processes. The RMC is governed by the "Risk Management Committee Guidelines and Procedures" (RMC Guidelines), which serves as both its charter and the statement of its policies and procedures.[157]

The RMC is comprised of the EVP & CFO of NJR (chair), the SVP and General Counsel of NJR, the Treasurer of NJR, the VP Regulatory Affairs of NJNG and the NJR Assistant General Counsel. In addition to RMC members, the Director Gas Supply for NJNG, the NJRES SVP Wholesale Energy Trading, one or two traders from the NJRES organization, a representative from NJR's Treasury group and an Internal Auditor are regular attendees at RMC meetings.[158]

[155] The official job title is "Energy Analyst – 8". This position has higher seniority than the Energy Analyst that reports to the Manager Transportation & Exchange
[156] DR 95
[157] DR 96
[158] DR 95

B. Evaluative Criteria

- Does NJNG's mix of supply options, deliverability, and peak day supply represent an appropriate portfolio for the company and its ratepayers? (Conclusions 2 through 5)
- Is NJNG's reliability of supply consistent with industry expectations? Has the company taken appropriate steps to maintain or improve its supply reliability? (Conclusions 2 through 4)
- Is NJNG's procurement strategy for supply, deliverability, and peak day requirements appropriate given its location and system constraints? (Conclusions 5 and 8)
- Have NJNG's supply procurement plans and actions, including those related to the incentive programs resulted in best cost gas prices for its customers, given reliability goals and system constraints? (Conclusions 5, 6, 9, 16 and 17)
- Are NJNG's scheduling and gas trading practices, including those related to the incentive programs, in compliance with applicable State and Federal regulations? (Conclusions 5, 7 and 13)
- Does NJNG monitor future deliverability needs within its service territory, and adjust its capacity portfolio in a timely manner, taking advantage of new opportunities? (Conclusions 8 through 12)
- Are NJNG's supply and delivery agreements with its affiliates in compliance with Sections 3, 4, and 5 of the New Jersey Competitive Services Rules and other applicable State and Federal rules? (Conclusions 7, 14, 15 and 18 through 21)
- Has NJNG appropriately monitored, evaluated, and responded to new gas supply and storage options as they arose? (Conclusions 8 and 9)

C. Findings and Conclusions

1. The organizational placement of the Gas Supply function does not provide sufficient visibility and executive attention to this key function and leads to a perception that utility procurement positions are less important than similar NJRES positions.

- The Gas Supply group is responsible for procuring more than \$300 million in gas capacity and supply, more than twice NJNG's total non-fuel operating budget (\$150 million).[159]
- Effective management of utility gas supply planning and procurement activities requires a combination of hands-on experience, understanding of the potential risks associated with procurement actions in a regulated environment, a full appreciation of

[159] Gas costs from 2014 BGSS filing, Schedule 2b (DR 68), Operating Budget from DR 117.

the long-term role of procurement decisions for ratepayers and the company, and the ability to effectively represent procurement-related issues at an executive level.

- The highest position in the NJNG Gas Supply group is a Director, two levels down from the NJNG EVP/COO and three levels down from the NJR CEO (See **Exhibit VIII-7**). Gas supply matters are represented on the NJNG Management Team by the SVP Regulatory Affairs. However, no member of that team has hands-on experience in gas supply planning and procurement.

- The non-regulated NJRES Gas Procurement function is headed by an SVP with extensive energy trading experience who reports directly to the NJR CEO.[160] The NJRES SVP is the only member of the NJR Executive Team with gas supply expertise.

- As currently configured, the advancement opportunities for individuals in NJNG's Gas Supply group end at a considerably lower level than the opportunities on the non-regulated side.

  - The individual initially assigned to head up NJNG's Gas Supply group when it was separated from the NJRES trading function following the prior audit was subsequently moved back to NJRES as a Vice President.[161]
  - While there was only minimal movement of talent from NJNG's Gas Supply group to NJRES during the audit period, the lack of advancement potential on the regulated side likely will influence utility trading personnel over time.[162]

2. NJNG's current capacity portfolio and near-term capacity commitments provide an adequate design day reserve margin through 2019; however, load growth beyond then will require additional peak period capacity to maintain appropriate reserves.

- NJNG's city gate delivery capability of 656,649 dths/day, shown in **Exhibit VIII-8**, is augmented by 170,000 dths from the two LNG plants, and additional peak day capacity available under various peak day agreements, for a total of 852,149 dths of peak day capability under NJNG direct control.

- For peak day planning purposes, NJNG includes the city gate supplies procured by TPSs for their customers (98,346 dths/day for the 2013-14 winter). Inclusion of these volumes results in a total peak day delivery capability of 950,495 dths for the 2013-14 winter. Compared to the 2013-14 design peak day requirements of 847,119 dths, NJNG has a planned reserve margin of 12.2 percent for the 2013-14 winter as shown in **Exhibit VIII-8**.[163]

[160] DR 4
[161] Implementation of Liberty recommendation GS-1 (DR 294) and DR 4
[162] DR 512
[163] DR 423

Exhibit VIII-8
NJNG Reserve Margins - 2014 to 2023
(dths)

	Jan-14	**Jan-15**	**Jan-16**	**Jan-17**	**Jan-18**		**Jan-23**
Total Design Peak Day Requirements	847,119	862,475	873,815	885,082	896,349		952,684
Current Delivery Portfolio Contracts							
NJNG Managed	427,531	626,649	656,649	656,649	656,649		656,649
NJRES AMA & CIP	199,118	-	-	-	-		-
Other AMA	30,000	30,000		-	-		-
New Contract	-	-	37,455	37,455	37,455		37,455
NJNG City Gate Contracts	**656,649**	**656,649**	**694,104**	**694,104**	**694,104**		**694,104**
Additional from AMAs	20,000	-	-	-	-		-
LNG	5,500	5,500	5,500	-	-		-
NJNG LNG Plants	170,000	170,000	170,000	170,000	170,000		170,000
TOTAL NJNG Peak Day Capability	**852,149**	**832,149**	**869,604**	**864,104**	**864,104**		**864,104**
TPS City Gate Deliveries	98,346	98,346	98,346	98,346	98,346		98,346
TOTAL Peak Day Capability	**950,495**	**930,495**	**967,950**	**962,450**	**962,450**		**962,450**
Forecasted Surplus/(Shortage)	103,376	68,020	94,135	77,368	66,101		9,766
Forecasted Reserve	12.2%	7.9%	10.8%	8.7%	7.4%		1.0%

Source: DR 423, NorthStar analysis

- Future adjustments in peak day capability, coupled with growth in peak day requirements, results in NJNG's reserve margin declining to 7.4 percent in the 2017-18 winter, still above the industry practice of reserve margins of three to five percent.
  - The peaking day agreements expire before the 2017-18 winter season.[164]
  - NJNG has signed a precedent agreement that will provide an additional 37,455 dths/day firm delivery capability, with a planned in-service date in advance of the 2015-16 winter.[165]

- As NJNG's peak day requirements continue to increase beyond 2018 and with no additional peak day capacity planned, NJNG's reserve margin will decline to below five percent in 2019-20, and reach an insufficient one percent by the 2022-2023 winter (see the last column in **Exhibit VIII-8**).

- Capacity additions that involve the construction of pipelines or other transmission upgrades generally require five years from concept to in-service. Thus, NJNG will need to begin identifying additional peak day capabilities in the next two years to achieve in-service by 2020.

[164] DR 68, DR 69, DR 423
[165] DR 420 (Confidential)

3. **NJNG's reliance on TPS-delivered gas to maintain appropriate near-term reserve margins is acceptable and does not represent a significant risk.**

- Under the terms of New Jersey's competitive gas supply program, TPSs are responsible for obtaining their own firm delivery capability to meet the estimated daily needs of their customers.

  - Since customers are free to move to and from competitive suppliers with minimal restriction, the actual volume of gas to be delivered by each TPS varies month by month as the number of customers served by each TPS changes.[166]
  - The Gas Supply group prepares a monthly forecast of expected usage for TPS customers for each TPS, based on normal weather that establishes the levelized daily volume of natural gas each supplier is to procure and deliver to the City Gate.[167]

- NJNG remains the supplier of last resort and is obligated to serve all customers within its service territory under the terms of its tariff. Thus, NJNG retains some supply reliability risk, should the TPSs not deliver their required volumes of gas or if large numbers of TPS customers elect to return to system supply. NorthStar believes this risk is small, requiring over half of TPS supply to not be delivered for there to be a significant impact on NJNG's ability to meet peak day requirements. NJNG reports that over the audit period it did not experience any significant non-delivery issues with TPSs.[168]

4. **NJNG's two LNG facilities provide reliability benefits to ratepayers and their role in NJNG's winter supply plans is consistent with industry practice.**

- Peak day and winter season plans call for activation of the LNG facilities when the temperature drops below 35 degrees, and/or if needed for system stability.[169] In the absence of the LNG facilities, NJNG would need to contract for peak day city gate supply at premium prices.

- Actual use of the facilities is determined by the Gas Control group based on projections of temperatures below 35 degrees and other system operating conditions.

- Over the audit period, use of the LNG facilities was consistent with peak day and winter season plans. The facilities were operated between three and ten days each winter mostly at levels well below full capacity. Only once did the use of the facilities approach the full capability of the plants (Feb. 11, 2008 for 140,753 dths).[170]

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[166] DR 691 (Confidential)
[167] DR 71
[168] DR 423 and DR 69. The TPS program and related market conditions are discussed in the Market Conditions Chapter.
[169] DR 650, IR 140
[170] DR 76 and DR 82, volumes in excess of 5,000 dth.

5. **NJNG's day-to-day gas trading and scheduling activities are generally appropriate, consistent with industry practices, and meet system requirements under an appropriate mix of supply sources. The prices paid for near-term gas supplies are consistent with market pricing.**

- NJNG's Gas Supply group is strongly focused on near-term gas procurement, trading activities associated with the various incentive programs and near-term optimization of the existing portfolio.[171] The performance of the group in these areas is good.

- NJNG's winter season system supply requirements are met with a combination of gas delivered from storage contracts and flowing gas purchased under either winter-season contracts, monthly purchases or day-ahead purchases. The existing capacity portfolio provides the flexibility to meet winter season requirements at the lowest cost between storage gas and day-ahead purchases. NJNG's storage contracts are used to balance purchases with actual system send out throughout the year.[172]

- NJNG purchases gas supply from the Gulf area (including Texas and Louisiana on-shore), the Midwest Marsalis Shale areas, and from Canadian sources. Over the audit period the amount of Canadian-sourced gas decreased as the price of that gas and the delivery charges increased. The amount of gas from the Midwest increased with the rapidly declining price of Marsalis Shale gas.[173] This diversity of supply sources and trends in sourcing is consistent with patterns in the industry over this time period.

- NJNG purchases gas supply from a wide variety of producers and marketers. The utility has North American Energy Standards Board (NAESB) agreements with close to 200 counterparties, and purchased gas at some time during the audit period from most of them.[174]

- NJNG purchases its near-term gas supply through standard industry trading exchanges, including the Intercontinental Exchange (ICE), which provides full transparency for prices at a wide range of receipt and delivery points. ICE bids and offers are entered "blind" (no identification of the parties) and the name of the successful counterparty is not known until after the deal is finalized. Some of NJNG's gas purchases are made directly with a counterparty, but pricing is based on information from the trading exchanges. Based on NorthStar's review of NJNG's near term gas purchases, the prices paid were consistent with market prices at the time the transactions occurred.[175]

- NJNG provided NorthStar with numerous documents relating to the processes used for near-term purchases, sales, capacity releases and other gas market trading activities, and associated posting and reconciliation.[176] These materials are somewhat

[171] 2013 BGSS filing, Shah testimony, p. 6-7 (DR 68) and DR 65
[172] DR 299 (Confidential), DR 300
[173] DR 299 (Confidential), DR 300, DR 693 (Confidential)
[174] DR 46 (Confidential), DR 693 (Confidential)
[175] Direct observation, DR 693 (Confidential)
[176] DR 83, DR 86, DR 87, DR 299 (Confidential), DR 300, DR 413

informal and not subject to regular review and updating; however, they appear to provide sufficient structure and controls for recording and tracking gas procurement transactions.

6. **NJNG's reliance on year-round capacity has resulted in significant unused capacity for much of the year. However, during the audit period, NJNG obtained value from the underutilized capacity to the benefit of ratepayers.**

- NJNG has approximately 656,000 dths/day of pipeline deliverability under contract (shown in **Exhibit VIII-4**), all of which are for year-round city gate delivery. BGSS city gate volumes during non-peak winter periods average 300,000 to 400,000 dths/day, and in the summer the volumes fall to less than 100,000 dths/day.[177] Thus, for most of the year, NJNG has approximately 250,000 and 550,000 dths/day of unused pipeline capacity under contract.

- For the 2013-2014 gas year, NJNG has AMA transactions that reduce the unused capacity by 230,000 dths/day, essentially all the unused capacity during the winter period.[178] The capacity portfolio that was shown in **Exhibit VIII-5** reflects the reduction in capacity during non-peak periods resulting from the AMA transactions.

- During the audit period, NJNG regularly executed OSS transactions to obtain revenues from the unused capacity that are credited 85 percent to ratepayers through the OSS incentive program.

- The revenues received from the AMAs and OSS transactions vary depending on the market value of the specific capacity held by NJNG. As shown in **Exhibit VIII-9**, the value received from these transactions has decreased over the audit period, both in total dollars and percent of total gas costs.

Exhibit VIII-9
Gas Costs and Ratepayer Credits
(Dollars in Millions)

	FY 2009	FY 2013
Fixed Capacity & Storage Charges	$ 83.2	$ 92.1
Cost of Gas	420.0	296.0
Total Gas Supply Costs	**$ 503.2**	**$ 388.1**
AMA Revenues	15.0 [1]	15.9
Ratepayer Portion of OSS	40.0	27.7
Total Credit to Ratepayers	**$ 65.0**	**$ 43.6**
Credit as Percent of Total Gas Costs	13%	11%

Note 1: Estimated, data not provided in DR 314.
Source: DR 314, DR 693 (Confidential), DR 694 (Confidential), DR 789.

- In documents related to an August 2012 AMA, NJNG noted how the market value of pipeline capacity has declined over the audit period, partly due to the development of Marsalis Shale deposits which has reduced the need for long haul capacity from more

[177] NorthStar analysis of DR 76
[178] DR 423

traditional production areas, and that this would likely reduce the value of NJNG's capacity for some time in the future.[179]

7. The AMA agreements held by NJNG during the audit period are compliant with FERC requirements.

- In Order 712 issued in 2008, the FERC established criteria for capacity release and asset management agreements.[180] During the audit period, NJNG reported multiple separate AMA contracts with NJRES and other independent counterparties.[181]

- Under the Order, it is the responsibility of the releasing shipper (in this case, NJNG) to include appropriate terms and conditions in the agreements to qualify the release as an AMA.[182] In NJNG's AMA contracts, the parties affirm that the agreement terms are compliant with FERC requirements.[183] NorthStar has no reason to believe the affirmations of the counterparties are incorrect.

- Order 712 requires that the Asset Manager must bear a purchase or delivery obligation to the releasing shipper for at least five months out of each 12-month period, for up to 100 percent of the daily contract demand of the released capacity. NJNG managed the AMA volumes consistent with this requirement.[184]

- Order 712 does not require use of a competitive Request for Proposal (RFP) process for the selection of an Asset Manager or the extension of existing AMAs, allowing for direct negotiations with possible Asset Managers. Direct negotiation can be preferable when:

  - A single marketer has unique knowledge of the region or other special qualifications.
  - The contracts being released have characteristics or roles in the portfolio that make them challenging to place.[185]

- NJNG did not use an RFP process for the selection of NJRES or the other AMA counterparties. Documentation related to approval of the AMAs and AMA extensions did not include information on the negotiation process or contemporaneous market pricing data.[186]

- RMC Meeting minutes provide no indication of any discussion of the AMAs, their pricing relative to market conditions, ratepayer benefits, other stakeholders, or (in the

179 DR 317 (Confidential)
180 Issued June 30, 2008, Clarification issued November 21, 2008. http://www.ferc.gov/whats-new/comm-meet/2008/112008/G-2.pdf
181 DR 314
182 FERC Order 712 and NorthStar research.
183 DR 316 (Confidential) and 317 (Confidential)
184 Review of data in DR 693 (Confidential) and response to DR 793 (Confidential)
185 NorthStar research.
186 DR 316 (Confidential) and DR 317 (Confidential)

case of the affiliate AMAs) whether the affiliate agreements were appropriate.[187] The lack of supporting documentation is address in Conclusion 9.

8. NJNG's current long-term portfolio planning is focused exclusively on peak day reliability, with minimal consideration of ratepayer impacts or seasonal delivery needs. The current planning process is inadequate to support portfolio decisions.

- NJNG prepares its annual Peak Day study for a ten-year planning period, although it generally limits its consideration of future deliverability needs to a five-year horizon.[188] This study is not a system planning or optimization study, as it only matches forecast design day demand with current peak day capacity commitments. The study does not include any consideration of price or ratepayer impact.

- The spreadsheets behind the Peak Day study and the BGSS gas cost projections do not address uncertainty and NJNG does not evaluate alternative scenarios. There is no consideration of year-round system capacity relative to non-peak system requirements, no assessments of alternative delivery options (e.g., winter only or peaking contracts), and no consideration of uncertainties in future demand, market prices or other supply risks.[189]

- Because of the limitations of the Peak Day study and BGSS projection process, NJNG is not able to consider the cost to ratepayers of its continued reliance on year-round contracts compared to other supply delivery options, such as winter season-only contracts or multi-day peak period contracts with firm delivery to a city gate.[190] While the per day cost of these contracts can be higher than the per day cost of a year-round pipeline contract, the total commitment cost can be less because the contract is only covering a portion of the annual capacity fee.

- With the expiration of the AMAs in 2014 and 2015, the addition of the new Columbia capacity, and several transportation contracts eligible for renewal in 2014 and 2015, NJNG has a number of opportunities to assess portfolio options. In the absence of such an evaluation, NJNG will continue to have a large volume of unutilized year-round capacity. With the recent decline in the market value of capacity, the ability to obtain measureable value from the pipeline contracts will become more challenging.

[187] DR 306
[188] DR 69 and DR 423
[189] DR 65, DR 66, DR 68
[190] DR 65, DR 66, DR 68

9. **The documentation supporting procurement decisions made by NJNG during the audit period is insufficient to confirm that the decisions made were the best among available options.**

- Over the audit period, NJNG took a number of actions to reconfigure its delivery portfolio and reduce capacity charges in response to market changes, including the following:[191]

  - Numerous transportation and storage contracts and AMAs were extended or restructured, often on a year-to-year basis.
  - Multiple transportation and storage contracts were allowed to expire or otherwise not extended.
  - An agreement was signed with Columbia Gas Pipeline for NJNG to enter into a contract for new capacity from a pipeline expansion project Columbia was considering that would provide additional deliverability for the Northern part of the service territory.[192]
  - NJNG is evaluating the feasibility of a Southern Loop Reliability project, which would provide additional delivery capacity for the Central part of the service territory.[193]
  - The NJR BOD recently authorized installation of on-site liquefaction capability at the Howell LNG plant.[194]

- NJNG was unable to provide policies, procedures or guidelines addressing the types of analyses required to support capacity-related gas supply decisions.[195]

- According to NJNG, documentation of the evaluation of transportation and storage assets is provided through the use of "Evaluation Forms," combined with "Deal Approval Forms". Spreadsheet models were reported to be "available for valuation when necessary".[196]

- NorthStar reviewed materials provided by NJNG in support of several supply portfolio decisions made during the audit period, and found them to be incomplete and inconsistent. Of particular concern was a lack of discussion or evidence of consideration of alternatives.[197]

- NorthStar noted that the materials provided in support of the Precedent Agreement with Columbia Gas did include a memorandum providing a good overview of the

[191] DR 68 (Exhibit JSS-5), DR 80
[192] DR 420 (Confidential)
[193] DR 323, DR 305 (Confidential). Note the 2014-2015 Peak Day Study does not show any capacity associated with this project through the ten year planning horizon (DR 423).
[194] DR 322 (Confidential)
[195] DR 65 provided a discussion of daily and monthly procurement and a brief mention that seasonal planning is done in meetings.
[196] DR 517
[197] DR 315, DR 318, DR 420 (Confidential), DR 517, DR 518

situation, options, assumptions, analysis results and the recommendation to enter into the agreement.[198]

- NorthStar's review did not identify situations where we believe incorrect decisions were made. However, in the absence of analytic tools (discussed in Conclusion 8), process documentation or standard approach, we could not verify that the decisions made were the best available at that time.[199]

10. NJNG's methodology for forecasting the number of customers is too reliant on "institutional" knowledge and does not appropriately factor in externalities that could affect customer counts.

- Utility load forecasts are based on projections of customer counts multiplied by use per customer to determine total usage. Most utility customer count forecasts are developed using a regression analysis which considers employment, personal income, fuel prices, inflation and other economic factors.

- NJNG forecasts customer growth based on in-house estimates, prepared by the Marketing Department, using the following methodology:[200]

  - New Residential Customers - New residential construction customer counts are based on an assessment of the active and inactive residential subdivisions in the service territory. NJNG actively monitors areas of population growth and active building permits.
  - Residential Conversions - Residential conversions are forecast based on NJNG's work in eight to twelve target communities that use oil, electric and propane for heating. NJNG relies on data captured from its marketing representatives to assist in determining target neighborhoods.
  - Commercial Customers - The commercial forecast is based on Marketing's forecast of growth in small and mid-size retail, office, health care, motel, food service, storage and warehouse facilities.

- The forecast of new customers is then adjusted based on historical customer out-migration and used to forecast incremental load on the design day forecast.[201]

- NJNG's in-house estimate of new customers may be appropriate for marketing plans but is too simplistic for forecasting design day for supply planning purposes. Trends in economics, employment, building development, and usage types are not captured by this type of estimation of future customers.

[198] DR 420 (Confidential)
[199] The lack of analytic support and documentation for gas supply decisions was also found by Liberty.
[200] DR 204
[201] DR 69

11. NJNG's Design Day forecasting methodology is appropriate.

- The Gas Supply group develops a ten-year forecast of system design day, based on Division-level forecasts for firm transportation customer load.[202]

- Regression-based forecasts are developed for each Division using the coldest periods of the previous fiscal year (days with more than 40 heating degree days (HDDs)) and actual firm send out for that period.[203]

  - Northern Division design weather is 69 HDD (approximately -4° F) as measured by NJNG in Dover, NJ.
  - Design weather for the Central Division is 64.367 HDD (approximately 0° F) in the Central Division, based on the average of temperature measurements by the National Oceanic and Atmospheric Administration (NOAA) for Atlantic City, Philadelphia, and Newark.
  - NJNG experienced design weather twice in the past 30 years, in the winters of 1994 and 1982.
  - The design day forecast results are adjusted for the estimated usage of new customers, based on the average usage per customer per degree-day. New customer growth represents approximately one percent of the design day forecast.[204] The effect of the new customer forecast on the total send out volume on design day is relatively small.

- NorthStar compared the regression forecast with actual send out for the two coldest days in each of the last five years. As shown in **Exhibit VIII-10**, the variances were typically below five percent. The model's performance for all observations with greater than 40 HDD demonstrated an average variance of two percent during 2010 and 2011.

  - The January 15, 2012 Central Division variance of 7 percent is attributable to January 15, 2012 occurring on a Saturday. Weekend usage is often lower than weekday usage.
  - The January 3, 2008 Central Division variance of 7 percent occurred on a Thursday. NorthStar reviewed the weather patterns before and after the peak day. The day after the peak day was significantly warmer than the peak day (25 percent fewer HDD), indicating an abrupt change in the weather pattern. NorthStar believes the over-forecast of send out occurred because the evening heating load never occurred on January 3, 2008.[205]
  - It is important to note that the purpose of a peak day and a design day forecast is to determine a worst-case scenario for planning purposes and not to determine the model's ability to predict an unusual day and circumstance.

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[202] DR 69

[203] Heating Degree Days, HDD, is the number of degrees the daily average temperature is below 65° F. If the daily high is 40° F and the daily low is 10° F, the average would be 25°, or 40 HDD (65-25).

[204] DR 423

[205] DR 73

Exhibit VIII-10
Peak Day Forecast Performance

Date	Actual HDD	Actual Firm Send out (dths)	Forecast Send out (dths) at actual HDD	Variance (Percent)
Central Division				
15-Jan-12	45.0	428,063	459,626	7
3-Jan-12	44.0	429,780	446,591	4
22-Jan-11	47.0	471,684	485,001	3
23-Jan-11	47.0	480,109	485,001	1
30-Jan-10	47.0	463,626	479,051	3
3-Jan-10	45.0	466,851	454,664	3
16-Jan-09	53.0	548,272	551,735	1
15-Jan-09	47.0	474,968	479,515	1
3-Jan-08	46.0	459,923	469,629	2
20-Jan-08	45.0	441,388	458,269	4
Northern Division				
15-Jan-12	49.3	83,330	85,905	3
3-Jan-12	48.9	83,162	85,095	2
22-Jan-11	53.8	92,131	95,681	4
23-Jan-11	53.7	91,957	95,495	4
29-Jan-10	49.0	85,446	85,501	0
30-Jan-10	49.0	84,661	85,501	1
16-Jan-09	57.0	100,613	99,065	2
15-Jan-09	52.0	90,746	89,189	2
20-Jan-08	51.0	86,375	88,369	2
3-Jan-08	50.0	80,717	86,555	7

Source: DRs 73 and 542.

12. NJNG's winter supply forecasting methodology is appropriate.

- The Winter Supply Forecast is a critical planning tool for a natural gas utility. It is used to provide an efficient means to plan for the increased needs for natural gas during the winter. In order to forecast heating load, a utility must understand customer usage that is not related to temperature such as cooking and water heating. NJNG's winter supply forecast includes analyses for summer and shoulder seasons.

- The Winter Supply Forecast is based on a set of regression equations similar to those used for the Design Day forecast. NJNG develops normal weather, cold winter, and warm winter scenarios for the Winter Supply Forecast.[206]

- The forecasting methodology results in a set (family) of equations that are applied to a range of HDDs (e.g., 20 to 25 HDD, 25 to 30 HDDs) by time of the year (winter, summer, and shoulder months). NJNG believes this stratification is necessary to more accurately represent the usage patterns during different temperature ranges and the shoulder months. The send out forecast equations are in the form of: $S = k + \alpha * HDD$, where S is the send out volume, k is a constant, and α is the regression coefficient.

[206] DRs 69 and 73

- As a result of the forecast methodology there is a discontinuity at the ends of each HDD range. NorthStar reviewed the forecast results at the points of discontinuity and found the variances to be minimal, ranging from zero to three percent.

- NorthStar compared forecast and actual send out for the past five winter seasons and found the variances to be appropriate as shown in **Exhibit VIII-11**.

Exhibit VIII-11
Comparison of Winter Season Forecast and Actual Send Out

Year	Actual Send Out (dths)	Forecast Send Out (dths)	Variance (Percent)
Northern Division			
2012	4,444,180	4,645,606	4.5
2011	5,576,059	5,764,467	3.4
2010	5,301,094	5,185,611	2.2
2009	6,665,012	6,482,932	2.7
2008	7,660,220	7,861,183	2.6
Central Division			
2012	21,296,096	22,145,407	4.0
2011	28,784,346	28,446,978	1.2
2010	27,625,290	27,500,496	0.5
2009	33,110,409	33,351,664	0.7
2008	36,330,965	36,737,472	1.1

Source: DR 73.

13. NJNG uses appropriate software to develop its day-ahead forecast; however, its version of the software is out of date and does not incorporate the latest enhancements in neural network modeling.

- Daily the Gas Control Group (part of the Energy Delivery Department) prepares a “Day Ahead Forecast” of expected send out for firm transportation customers for the upcoming two days, based on current weather and forecasted weather conditions. This forecast is then used by Gas Supply to determine volumes of gas that need to be purchased and nominated to meet system supply requirements.[207]

- NJNG uses the “Nostradamus” model to prepare the Day Ahead Forecast. Nostradamus is a neural network model that builds the forecast of send out based on actual send out under similar weather conditions, season, weekday versus weekend day, and other factors.[208] It is one of two neural network software packages commonly used in the industry.[209]

- NorthStar analyzed the model’s performance over the audit period and determined a 99 percent accuracy rate for dates when the actual weather matched with predicted weather.[210]

[207] IR 61, IR 128
[208] A neural network model is one that is capable of machine learning and pattern recognition.
[209] DR 84
[210] NorthStar analysis of DR 542

- NJNG's installation of Nostradamus dates back to 2000, and the subscription for maintenance services was cancelled a number of years ago. NJNG indicated there were near-term plans to update the model, however no contract had been signed as of the conclusion of the audit field work.[211]

14. **Transactions between NJNG and NJRES are not covered by the BPU's Affiliate Relations guidelines or by FERC requirements. However, the potential exists for self-dealing between the affiliates, and existing RMC processes are insufficient to assess whether transactions and other interfaces between the two entities are appropriate.**

- Interactions between NJNG and NJRES are not precluded by the BPU affiliate transaction rules, because NJRES is engaged only in wholesale, not retail, transactions.[212] There are no FERC guidelines on transactions between natural gas affiliates.[213]

- NJNG and NJRES regularly execute transactions with the same counterparties and pipelines. NJNG's focus is on gas purchases for physical delivery to New Jersey, while NJRES' trading activities have a national scope. However, since both entities are active in the same gas markets, there is the potential for information to be shared, data to be accessed, and other affiliate interactions to occur, either inadvertently or with intent.

- NJNG and NJRES share a common Trader Code of Conduct that includes prohibitions against and controls over transactions with an affiliate. All NJNG Gas Supply personnel and NJRES traders participate in annual Code of Conduct training.[214]

- The existing RMC Guidelines do not address <u>indirect</u> interactions between NJNG and NJRES, despite numerous situations where NJNG and NJRES personnel share space, staff resources and systems access. These gaps are discussed in Conclusions 19, 20 and 21, respectively.

- The RMC Guidelines state that on a monthly basis, the RMC is provided with reports designed to monitor potential affiliate transactions.[215]

    - These reports were instituted in response to the Liberty Audit's finding that NJNG and NJRES had used a third party to execute inappropriate "linked" buy/sell transactions.

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[211] DR 542, IRs 61 and 128
[212] DR 2, affirmed by NJR's legal department in materials supporting an affiliate AMA transactions (DR 316 Confidential).
[213] DR 414
[214] DR 415
[215] RMC Guidelines, p. 2 (DR 95)

- The Guidelines do not, however, provide any guidance as to what constitutes inappropriate transactions or how transactions between the two entities should be evaluated.[216]

- Three reports of actual affiliate interactions are included in the monthly Internal Control Review Addendum (the Addendum) to the RMC meeting packet.[217] These three reports effectively identify transactions between the two entities, with transactions between NJNG and NJRES reported every month during the audit period.[218] NorthStar did not identify any NJRES/NJNG transactions recorded in GMS that were not listed on the reports.

  - "Storage and Transportation Capacity with Related Company," which always lists the same Iroquois transportation and Steckman Ridge storage agreements.
  - "Releases to Affiliates," which lists all AMA agreements with NJRES that have effective dates from the date of the report forward.
  - "Physical Deals with Affiliates," which lists possible transactions associated with the AMAs, whether or not any physical gas was in fact purchased from NJRES. There were 48 instances during the audit period where NJNG reported physical gas purchases from NJRES under the AMAs.

- A review of a sample of RMC Meeting minutes over the audit period found no record of any significant discussions regarding the identified transactions and no instances where any transaction between the two entities was determined to not be in compliance with the guidelines. The minutes use almost the same language every month: "As part of its monthly review process, the RMC received internal control documentation for the wholesale trading operations. Based on the documentation provided and discussions held with management, the RMC noted that there were no reportable conditions."[219]

- There is no discussion or supporting data in either the Addendum or the RMC Meeting minutes to justify the extension of AMA agreements with NJRES (see Conclusion 7) or the purchase of physical gas from NJRES under the AMAs.[220] The Gas Supply group was able to provide reasonable explanations of the need and pricing for the affiliate purchases when directed to specific situations.[221]

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[216] DR 95
[217] The fourth report, the "Counterparty Deal Compare Report," which identifies possible instances where NJNG and NJRES may have executed a "linked" transaction is discussed in Conclusion 15.
[218] DR 311 (Confidential)
[219] DR 306
[220] DR 306
[221] DR 793 (Confidential)

15. There is no evidence that NJNG and NJRES engaged in linked buy/sell transactions during the audit period, and in practice there are few opportunities for execution of such transactions given the current structure of the near-term gas market.

- The monthly Addendum to the RMC Meeting packet also includes a "Counterparty Deal Compare Report."

  - This report is intended to identify instances where NJNG and NJRES may have executed a linked transaction (trading with each other through a third party).
  - The report lists transactions where NJNG and NJRES entered into transactions of approximately the same volume on opposite sides (buy/sell) with the same counterparty at approximately the same time.
  - The report is signed by representatives of both NJNG and NJRES attesting that the listed transactions are not linked.[222]

- It is not uncommon for there to be transactions during a month that meet the criteria to be included on the Deal Compare Report. Review of a sample of 20 RMC Meeting packet Addenda found transactions flagged in all but two months. Most months had one or two transaction pairs; four of the months had seven or eight flagged transactions. In total, 46 paired transactions were flagged in the 20 sampled packets.[223]

- As currently used, the Counterparty Deal Compare Report is not sufficient to determine whether flagged transactions represent linked transactions. In particular:

  - The RMC Guidelines do not include the criteria used to determine what transactions are flagged for reporting on the Counterparty Deal Compare Report (e.g., how close in time, what relative pricing would be suspect, how close a match of volumes, identical gate stations).[224]
  - There were multiple instances where the NJNG trader who executed a flagged transaction also signed the attestation on behalf of NJNG.[225] The RMC Guidelines do not preclude this occurrence despite the obvious conflict of interest.
  - There is no documentation either in the Report or the Minutes of what review or analysis was conducted by NJNG, NJRES or the RMC.[226]
  - The RMC Meeting minutes use the same language repeatedly regarding review of the Deal Compare Report: "RMC also reviewed and discussed the [report], and concluded that the transactions were conducted independently, and that there was no indication of collusion between the affiliates." This language was used even when there were no flagged transactions for that month.[227]

[222] DR 311 (Confidential)
[223] NorthStar analysis of DR 311 (Confidential)
[224] DR 95
[225] DR 311 (Confidential)
[226] DR 311 (Confidential), DR 306
[227] DR 306

- The current structure of the natural gas markets provides limited opportunity for execution of linked transactions. Most gas procurement transactions now occur through the Intercontinental Exchange (ICE). ICE bids and offers are entered "blind" (no identification of the parties) and the name of the successful counterparty is not known until after the deal is finalized. For a linked transaction to occur, both sides of the transaction would have to be non-ICE transactions.

- NorthStar found no evidence of linked transactions between NJNG and NJRES during the audit period. Specifically, for the sample of "Deal Compare Reports" reviewed:[228]

  - In all but two of the 46 paired transactions, both sides of the transaction pairs were executed through ICE.
  - In the other two instances, only one of the transaction pairs was not executed through ICE, so those transactions could not be linked either.

16. NJNG's hedging strategy was developed arbitrarily and has not changed in at least seven years.

- NJNG's hedging strategy – a minimum hedge of 75 percent of normal winter send out and 25 percent of the next winter's send out – is the same as was reported by the Liberty Audit in 2007 and in the 2008 PACE/Vantage New Jersey Hedging Study.[229]

- Officially, NJNG stated that the hedge targets were "set by the RMC and have been in place for many years."[230] However, despite repeated requests for support for the hedge strategy, NJNG was unable to provide any support for when and how the hedge targets were established.[231]

  - NorthStar was told informally that the 75 percent minimum target was established by a prior gas supply executive as the approximate percent of normal winter system supply that would be needed in a mild winter, and that the 25 percent early hedge target was set arbitrarily.
  - The Vantage/Pace study makes reference to analyses conducted using forward price curves to determine hedge targets; however, NJNG did not provide any analyses related to the hedging program for this audit.[232]

- The NJNG hedge levels are higher than NorthStar has seen with other gas utilities. NJNG is the only utility in NorthStar's recent experience with a minimum level for its hedge strategy, as compared to a maximum percentage cap. Additionally:

[228] NorthStar analysis of DR 311 (Confidential)
[229] "Analysis of the Gas Purchasing Practices and Hedging Strategies of the New Jersey Major Gas Distribution Companies," prepared by Vantage Consulting, Inc. and Pace Global Energy Services, January 15, 2009 (DR 99)
[230] DR 309.
[231] DR 93, DR 94, DR 97, DR 99, DR 309, DR 310, IR 135, IR 43, IR 151
[232] Vantage/Pace report, p. 25, DR 99, DR 309, DR 310

- The American Gas Association (AGA) annual report on gas utility portfolio management for the 2012-2013 winter reports average hedge levels significantly less than 75 percent:[233]
  - For hedging using financial instruments, AGA reported a median volume hedge of 36 percent, with a high end of 91 percent.
  - Only 15 percent of reporting utilities hedged more than 51 percent of their gas volumes using physical storage.

- While NJNG's hedging targets are unusual, it is NorthStar's opinion that the combination of the BGSS cost recovery process and the SIP and OSS programs have protected ratepayers from the risks of price increases while capturing the benefits of price decreases in the recent gas market. However, without analytic support, it is not possible to determine whether other hedging strategies and structures might be more advantageous or provide better protection in the event of rapidly increasing prices. It is also not possible to ascertain whether the same hedge strategy would offer sufficient protection in a market with increasing or more volatile prices.

17. While the SIP has been effective in protecting ratepayers from price swings in the market, NJNG lacks fundamental oversight controls in several key areas.

- The SIP serves as the key vehicle for implementing NJNG's hedging strategy, and together with the FRM transactions, is subject to oversight by the RMC. However, the RMC Guidelines do not address how the transactions under these programs are to be executed.[234]

- NJNG receives a portion of the savings achieved from effective SIP and FRM hedging. The Gas Supply group is charged with achieving a target level of revenue from the incentive programs, which includes both the SIP and FRM revenues. Achieving this goal is part of NJNG's performance targets and therefore is part of establishing incentive payments for all eligible NJNG employees, including Gas Supply personnel.

- The Gas Supply group is free to execute trades to set the SIP benchmark at any time with no restrictions on the timing of the trades, no requirement for independent approval of the transactions, and no requirement to support the trade decisions.

  - In NorthStar's experience, energy hedging risk policies typically include some controls over the execution of trades to preclude the possibly of "gaming" the results of the hedging activities.
  - Possible controls include: a set schedule for executing trades (e.g., once a month), limits on the frequency of trades (e.g., no more than one transaction per week),

[233] American Gas Association, "*LDC Supply Portfolio Management during the 2012-13 Winter Heating Season*," EA 2013-04, December 12, 2013, p. 5. The report presents a snapshot of supply procurement practices based on information provided on a voluntary and self-reporting basis. AGA states that the data are not to be interpreted as standards or best practices.
[234] DR 95

concurrence with trade execution by another trader or manager, and documentation of market pricing and movements in support of a trade decision.

- NJNG's documentation of its trades is a string of emails to the SVP Rates and Regulatory noting the trades had occurred, along with the resulting price. NorthStar reviewed the trades used to set the benchmark prices for gas years 2012, 2013 and 2014 and found no consistency in the timing of the trades.[235] For these three years:

  - Purchases to set the 2012 benchmark price were made through transactions on twelve days in August and September.
  - For the 2013 benchmark price, purchases were made on ten days spread over the period from March to October.
  - The 2014 benchmark price was set through purchases on 13 days from June to October.

- Once the SIP benchmark price is set, the same individual who established the price then executes trades to better the benchmark.[236] This creates at least an appearance of conflict of interest. While it is impossible to know with any certainty how prices in the natural gas market will move in the future, if the benchmark is set higher than it might have been, there is the potential for increased savings against the benchmark, and therefore more margin towards the incentive revenues target.

- Net revenues from the FRM program are less that 15 percent of the margins earned under the SIP.[237] While fewer dollars are involved, the RMC Guidelines are similarly vague with regard to control and documentation of FRM transactions.[238]

- NorthStar did not identify any inappropriate purchases, however due to the lack of documentation regarding futures prices at the times the transactions were made or support for why the purchases were made at these particular times, it is not possible to determine the reasonableness of the benchmark pricing decisions.

18. The concurrent oversight by the RMC of both NJNG and NJRES gas transactions is not in the best interests of NJNG ratepayers.

- The RMC oversees transactions for both NJRES and NJNG, operating through a single bi-weekly meeting with one agenda and reviewing a single consolidated monitoring report covering both entities.[239]

- The RMC Guidelines relate primarily to NJNG and do not address how the RMC is to balance its responsibilities between the two entities or handle any conflicting activities, despite the fact that the two entities have different business goals and that

[235] DR 701 (Confidential)
[236] DR 701 (Confidential)
[237] DR 68
[238] DR 95
[239] DR 96 and DR 306

unregulated energy trading transactions are almost by definition riskier than regulated utility transactions.[240]

- A utility's gas supply transactions should be focused on reliability of supply at best available cost, reducing upside price volatility and taking appropriate actions to reduce overall system supply risks. As such, utility supply transactions should be lower risk, subject to tighter controls, and supported with more careful analysis and documentation of decisions. Decisions and actions must be reviewed with the knowledge that regulators, not the market, are the ultimate arbiters.
- As an unregulated entity, NJRES is not subject to outside review of its transactions (within reasonable bounds) and is able to take advantage of trading opportunities that would be unavailable (and inappropriate) for NJNG. Review of NJRES transactions calls for very different tools than for NJNG transactions.

- Despite the clear need for different types of monitoring and review, the RMC conducts a combined review of "Futures, Fixed Swaps, Basis Swaps, and Option Positions" and of "Internal Controls" for the two entities.[241]

19. In at least two situations, work performed by NJNG Gas Supply employees is provided to NJRES without any costs being charged to NJRES.

- The NJNG Manager T&E provides information and analysis regarding marketers and pipelines to NJRES procurement personnel, but charges the time involved solely to NJNG. This individual also maintains some pipeline data files in the Gas Management System (GMS) used by both entities to record all gas trades. Reportedly, if the files are used only by NJRES, the time is recorded directly to NJRES; if they are used by both entities (e.g., pipelines used by both NJNG and NJRES), then the time is charged solely to NJNG.[242]

- The NJNG Energy Analyst reviews and analyzes FERC filings made by pipelines serving both NJNG and NJRES and represents "the company" at AGA and other energy industry meetings. The results of the analyses and the information obtained at the meetings are provided to both NJNG and NJRES, but the time involved in this work is charged solely to NJNG. This individual also maintains some GMS data files used by both entities. As with the Manager, time working on shared files is charged solely to NJNG.[243]

[240] The only portion of the RMC Guidelines that specifically apply to both entities is Exhibit IV, Contract and Credit Policy for Wholesale Transactions, which is a detailed procedures document for approval and entry of wholesale transactions into GMS. (DR 95)
[241] DR 306
[242] DR 61 and IR 71
[243] DR 61 and IR 72

- Both these individuals explained their time reporting rationale as "since the work had to be done for NJNG" it was appropriate to charge NJNG ratepayers for the full cost of the work.[244]

- NJRES received the benefit of this work without being charged for it. If NJNG did not supply NJRES with this information, NJRES would incur direct costs to obtain the information. In the case of FERC filing analysis, if NJNG was not providing information to NJRES, it is unlikely that the same number of pipelines would need to be monitored or analyzed in depth for NJNG, thereby freeing the Energy Analyst to provide other services for NJNG operations.

- According to NJNG, both these individuals charge their time directly to NJRES when the work is only of benefit to NJRES.[245]

- Time records maintained by these individuals provide little information on what work they did on a daily basis, and there is no process to verify time records. NorthStar reviewed two months of time records. In some instances where time was recorded for NJRES there was a brief listing of work performed, but other times there was no identification of the services provided to NJRES. No information was recorded on other work performed, so it is not possible to quantify the time involved in work that benefited both NJRES and NJNG.[246]

20. Although there is no evidence of inappropriate interactions, the physical proximity of NJNG's Gas Supply group to the more senior and experienced NJRES trading executives could result in NJNG personnel receiving strategic or tactical support from NJRES executives who do not share the utility's gas supply objectives.

- The NJNG Gas Supply group shares a large trading room with the NJRES operations. The utility personnel are located along one side of the space, with only low partitions between them and the NJRES traders. Based on observation, there is little interaction between the two groups of traders during the trading day.[247]

- The NJNG Gas Supply Manager sits on the trading floor and is actively involved in daily trading in addition to her responsibilities for supply planning, analysis and contracting. The NJNG SVP for Regulatory Affairs, to whom the NJNG Gas Supply group reports, is located on a different floor. The NJRES procurement executives (both the SVP and VP) have offices opening onto the trading floor.[248]

- The NJRES VP established the utility's Gas Supply group and was instrumental in the development of much of the utility's current capacity portfolio. Both the NJRES

[244] IR 71, IR 72
[245] IR 71, IR 72
[246] DR 392 and DR 393
[247] Direct observation
[248] Direct observation

VP and SVP have considerable experience in gas markets and trading. The NJNG Director, Gas Supply reported to the NJRES VP before transferring to NJNG.[249]

- Together, these factors create an environment in which the NJNG Director, Gas Supply might discuss utility matters with the NJRES procurement executives. Because NJRES' business objective is maximizing profit rather than minimizing rates, there is the possibility that NJRES suggestions made regarding NJNG matters might not be the best for NJNG ratepayers.

21. NJRES employees have access to data files used by NJNG to track and report gas procurement activities without apparent need for such access.

- NJNG and NJRES both use GMS to record transactions (purchases and sales of commodity and capacity releases) made by their traders. NJNG reported there are separate file structures for the two entities, with only pipeline and basic counterparty data files in common between the two entities.[250]

- The RMS Guidelines recognize the need for information system controls to minimize operational risk and identify certain necessary elements to address this risk area. Included in the Guidelines is a statement that "data access will be controlled … to properly control data access and update capabilities."[251]

  - According to NJNG, access to the separate files is set such that NJRES personnel cannot enter trades or access trade data on NJNG's account, or vice versa.[252]
  - The Guidelines do not identify what job responsibilities would require access to both NJNG and NJRES GMS files, and how the need for this access would be reviewed and authorized.

- NJNG identified 23 individuals with some access to both NJNG and NJRES GMS files (i.e., dual users).[253]

  - Sixteen of the 23 dual users are in accounting, finance and IT, and would have reasonable need to access trade data for both entities.
  - Two of the dual users are the NJNG Gas Supply personnel who maintain common counterparty data as discussed in Conclusion 19.
  - Five dual users are employees of NJRES, two administrative assistants and three analysts. The access to NJNG GMS files by these employees (NJRES dual users) is of concern, as discussed below.

- NorthStar's review of access rights of the NJRES dual users identified several areas where these individuals have access to NJNG files without any apparent need, and in

[249] IR 17, IR 74, IR 75
[250] IR 17, IR 37, IR 71, IR 75
[251] RMC Guidelines, p. 12. (DR 95)
[252] IR 17, IR 37, IR 71, IR 75
[253] DR 416, DR 417

fact have access to NJNG files that is not authorized for NJNG Gas Supply personnel.[254]

- One NJRES dual user has access to Financial Reporting capabilities for NJNG data. With this access, the employee could modify data through 20 screens, including Off System Sales, Storage Transfer, Gas Purchase, and Trading.[255]
- Two NJRES employees have dual user System Administrator access. The only other dual user System Administrator authorizations are held by two IT personnel.
- NJRES dual users can modify contract and counterparty company data that NJNG cannot.
- NJRES dual users can modify Trading Contact data for both NJNG and NJRES, while NJNG can only modify this data in its own files.
- One NJRES employee has "back office" access to NJNG data with no apparent reason or need.

- The form used for authorizing access to GMS files and modules only requires signature by the NJR Controller.[256] There is no requirement that an NJNG officer verify that an NJRES employee has a legitimate need for access to NJNG files.[257]

22. The review and oversight of NJNG's procurement activities by IAD is inadequate, and has not improved in response to prior audit recommendations.

- Over the audit period, IAD conducted 52 audits of gas procurement activities of both NJNG and NJRES, as shown in **Exhibit VIII-12.** While this appears to be a significant number of audits, their value is minimized by the limited scope and depth of the work.[258]

  - All but two of the audits were "recurring audits," where the same issues were reviewed each year. Based on the review of the documenting memos, the scope of the reviews did not change from year to year.
  - One auditor working alone conducted 44 of the audits. An additional four audits were conducted by that same auditor with one or two other auditors.
  - Results of all but one of the gas procurement audits were presented through a memorandum with no negative findings or recommendations. Only one procurement-related audit resulted in a Report with some negative findings and one recommendation.[259]

[254] DR 416
[255] DR 416
[256] NJNG does not have a CFO
[257] DR 417
[258] DR 328
[259] The recommendation was to improve the authorizations for short term purchases. The recommendation was rejected by NJNG on the basis that short-term purchases are made under blanket agreements with NAESB and therefore did not require individual authorizations.

Exhibit VIII-12
Internal Audits of Gas Procurement Activities

Topic	2008	2009	2010	2011	2012	Scope
Counterparty Credit	Both	Both	Both	Both	Both	Controls on counterparty credit
GMS ZaiNet	Both	Both	Both	Both	--	Accurate capture of trade data
Trader Code of Conduct		Both	Both	Both	Both	Training/ signatures
Trade Data Reporting			Both	Both	Both	Compliance with FERC requirements
Dynegy Credit Review [1]				Both		Response to financial troubles
NJNG Gas Purchases	NJNG	NJNG	NJNG	NJNG	NJNG	Accounting controls
NJNG Affiliate Transactions	NJNG	NJNG	NJNG	NJNG	NJNG	Review of recorded trade data
NJNG Tariff Admin/BGSS	NJNG		NJNG		NJNG [2]	Accounting compliance, tariff admin.
Gas Transportation [1]				NJNG		Matching of purchases and scheduled volumes
Asset Optimization	Both	RES	RES	RES	--	Adequacy of documentation
Risk Management	Both	Both	RES	RES	RES	RMC controls
NJRES Gas Procurement Strategy	RES	RES	RES	RES	RES	Documentation, compliance with methodology, strategy
NJRES Cash Forecasting	RES	RES	RES	RES		
NJRES Margin Forecasting	--	RES	--	RES		
NJRES Wholesale Sales & Costs		RES				
Number of Audits	**9**	**11**	**11**	**13**	**8**	

Both: Audit covered both NJNG and NJRES; NJNG: Audit covered only NJNG; RES: Audit covered only NJRES
Note 1: Non-recurring audit
Note 2: Audit findings resulted in a report.
Source: NorthStar review of Internal Audit Memorandum and Reports (DR 18, DR 328 and DR 369)

- The previous management audit identified weaknesses in the internal audit of the gas procurement function and recommended that the scope of IAD's evaluations of NJNG's supply process be expanded. NJNG stated that in response to this recommendation it assigned a full-time internal auditor to audit both NJNG and NJRES gas supply procedures.[260] However, this was not a change in approach, as this internal auditor has had responsibility for auditing gas procurement transactions for twelve years.[261]

- The internal auditor dedicated to gas procurement functions has an extremely high degree of familiarity with the groups he is charged with auditing. Not only has he been conducting audits of the gas procurement activities for twelve years, he is physically located immediately adjacent to the gas trading floor, consults and provides advice to both NJNG and NJRES regarding appropriate procedures for new transactions and attends all RMC meetings.[262]

D. Recommendations

26. Elevate the Gas Supply group to an NJNG officer-level Department, headed by a Vice President reporting to the NJNG COO (Refers to Conclusions 1 and 20). Specifically, The VP Gas Supply should:

[260] DR 294
[261] IR 48, IR 76
[262] IR 48

- Have appropriate experience in the management and procurement of gas capacity and supply for regulated utilities.

- Be physically located adjacent to the Gas Supply personnel to facilitate collaboration on all matters, including daily transactions as well as long term planning, analysis of pipeline and market trends, oversight of transactions and controls, and regular department management.

27. Develop or obtain additional analytic tools and training to support the long-term supply portfolio planning process and include the assessment of risks and ratepayer impacts in planning decisions. These resources can come through a combination of in-house personnel and outside entities. (Refers to Conclusion 8). Specifically, NJNG needs the capability to:

- Examine the impacts on ratepayers of uncertainties and risk factors associated with the current portfolio. (This can be accomplished through the use of Monte Carlo simulation tools with Excel™ spreadsheets.)

- Identify and assess a wider range of contracting alternatives, supply options and pricing considerations.

- More directly monitor trends and opportunities in the market and evaluate the potential roles and impacts on NJNG's portfolio and ratepayers.

28. Improve the documentation of all aspects of gas supply planning and management decisions. All d**o**cumentation should be maintained in files within the Gas Supply Department in an orderly manner. (Refers to Conclusions 9, 8, 7, 17, 18). The minimum required documentation should include:

- Hard copies (scanned or pdf) of all spreadsheets and other analytic tools that were used to support decisions.

- Hard copies (scanned or pdf) of all contemporaneous market pricing and other market intelligence used in the analysis and in support of decisions.

- A written discussion of the decision process including a summary of the options considered, assumptions and sources of data, results of the analyses supporting the recommended option, and an outline of the decision and approval process, noting the individuals and committees involved.

- Any memorandum, letters or presentations associated with the decision.

29. Extend the planning horizon for capacity needs to a minimum of seven years to ensure timely identification of future needs consistent with typical pipeline expansion planning horizons. (Refers to Conclusion 2)

30. Retain an outside firm to conduct a comprehensive analysis of the current hedging strategy, SIP, and FRM program to assess their appropriateness and value to ratepayers in light of current and anticipated natural gas market conditions, the BGSS rate structure and other regulatory considerations, and NJNG's vision and strategy. Based on the results of the study, NJNG's hedging strategy should be adjusted, and appropriate procedures established for the execution of the strategy through the RMC and regulatory processes. The study and recommended adjustments and improved procedures should be presented to the BOD for approval and provided to the BPU for appropriate regulatory action. (Refers to Conclusion 16).

31. Enhance the oversight by the RMC of NJNG's trading and procurement activities to address the gaps identified in this audit. The RMC Guidelines should be reviewed and revised to formalize the necessary policies, guidelines and procedures. (Refers to Conclusions 14 through 18). At a minimum, the enhance oversight and guidelines should provide for:

    - Review of NJNG's procurement and trading transactions separately from those of NJRES.
    - Specification of timing, approval and documentation of all SIP and FRM transactions, including setting of the SIP benchmark as discussed in Conclusion 17 and the results of the hedging study specified in Recommendation 4.
    - Minimum standards for the review and approval of portfolio and major procurement decisions, along with improved documentation requirements specified in Recommendation 3.
    - A comprehensive review of the hedging strategy at least biannually.
    - Specific guidelines as to what constitutes acceptable and unacceptable affiliate transactions and how that will be determined.
    - Reporting and analysis of transactions (both affiliate and non-affiliate) to monitor for potential risks arising from opportunistic trading in general.

32. Address the matter of NJRES users with access to NJNG GMS files and data. (Refers to Conclusion 21) At a minimum:

    - Review all dual user GMS access to NJNG files and remove NJNG access unless there are compelling reasons for such access.
    - Implement appropriate procedures for dual user authorization, including explicit approval by the Gas Supply group of such access and requiring written documentation of all dual access justifications.

33. Either cease sharing analysis results and support activities that have been conducted by NJNG personnel with NJRES, or implement a process and methodology, to be approved

by the BPU, to allocate the fully loaded costs associated with these activities to NJRES. (Refers to Conclusion 19) At a minimum the methodology should:

- Clearly delineate what activities supporting both entities are authorized.
- Ensure that NJNG personnel accurately identify the time spent supporting NJRES alone, and performing tasks that support both entities.
- Base the cost charged to NJRES on the cost NJRES would incur were it to acquire the services independently.

34. Improve IAD's oversight of the Gas Supply group's activities. (Refers to Conclusion 22) At a minimum:

    - Relocate the Internal Auditor from the trading area.
    - Contract for an outside internal auditor with appropriate experience in energy trading and derivatives to conduct a comprehensive audit of NJNG's gas trading policies, procedures, activities, reporting, controls and related matters. The results of this focused audit should be reported to the CEO and the BOD within nine months of completion of this NorthStar Management audit. The final report on the focused audit should be submitted to the BPU within 12 months of the completion of the NorthStar audit.
    - Implement audit work plans for the gas supply area that ensure the audits cover activities in greater detail and with greater depth, and move beyond verifying calculations and data entry to, for example, consideration of areas where existing controls may be insufficient.
    - With the assistance of the outside internal auditor, develop a list of internal audit topics in the gas procurement and trading areas for implementation by IAD, resulting in the audit of key risk areas on a rotating basis over a three-year rotation.
    - Rotate internal auditors for Gas Supply audits such that no auditor conducts the same or significantly similar audit for more than two years in a row. If necessary, contract every third year for an outside internal auditor to conduct the audit and report to the CEO and BOD.
    - Develop specific professional development plans for auditors in the IAD to increase their understanding of energy procurement and trading, so that within four years there can be an internal rotation of IAD staff for the gas procurement function audits. The development plans should be filed with the BPU and update with progress annually.

35. Enhance the customer forecasting process by corroborating NJNG's market intelligence-based forecast with a regression model utilizing econometric variables such as population, personal income, economic activity and inflation. At the same time, expand the customer forecast to a ten-year horizon to be in line with the Design Day and Send

out forecasts. Consider new and different types of construction in the service territory, including a separate forecast of multi-family dwellings. (Refers to Conclusion 10)

36. Continue with plans to obtain the current version of Nostradamus and to reinstate the maintenance service contract to assure timely incorporation of software updates, corrections and enhancements. (Refers to Conclusion 13).

CHAPTER IX. FINANCE AND CASH MANAGEMENT (RFP 3.2.5 AND 3.2.6)

This Chapter presents the results of NorthStar's review of the finance and cash management functions. This Chapter also provides the results of NorthStar's review of NJNG's budgeting processes.

A. Background

The finance function deals with the sources of funding, capital structure and the market risks of a corporation, and with the actions that managers take to increase the value of the corporation to its shareholders. Finance overlaps with accounting, which provides the reporting of historical financial information, but focuses on allocation of the corporation's financial resources. Financial managers allocate financial resources based on analyses of trends and market data.

Increasing shareholder value requires managers to balance capital funding between investments in projects that increase a corporation's long-term profitability and sustainability and paying available cash, in the form of dividends, to shareholders. Investment and capital structure decisions require analysis of the associated risks and efforts to manage the impact of those risks on a corporation. Some risks are associated with the business activity of a corporation. Other risks are related to the capital structure itself, and include interest rate variations and credit availability.

NJR financial goals are delineated in the Superior Return element of its Commitment to Stakeholders: "Supported by a strong financial profile and operational excellence, we will meet the expectations of our investors through consistent earnings and dividend growth, appropriately rewarding their confidence in us."[263] In 2013, NJR met its commitment by achieving its 22nd consecutive year of improved financial performance. On November 25, 2013, NJR reported FY 2013 net financial earnings (NFE) per share increased by nearly one percent over the same period of the previous year.

NJR uses NFE, a non-GAAP financial measure, when evaluating the operating results of its Energy Services segment. NFE is a measure of the earnings based on eliminating timing differences surrounding the recognition of certain gains or losses to more effectively match the earnings effects of the physical sale of gas and, therefore, eliminate the impact of volatility to GAAP earnings associated with derivative instruments. NJR management uses these non-GAAP financial measures as supplemental measures to other GAAP results to provide a more complete understanding of its performance. Management believes these non-GAAP measures are more reflective of the company's business model, provide transparency to investors and enable period-to-period comparability of financial performance. A

[263] DR 50

reconciliation of net reportable income to NFE for each business segment for FY 2012 is provided in **Exhibit IX-1**.

Exhibit IX-1
NFE and Net Income by Business Segment - FY 2012
(Dollars in Thousands)

Business Segment	Net Financial Income	Net Reportable Income
NJNG	$ 73,238	$ 73,238
NJRCEV	19,452	19,452
NJRES	10,791	(8,605)
NJR Midstream	6,749	6,749
NJRHS and Other	2,366	2,366
Subtotal	**$ 112,596**	**$ 93,200**
Eliminations	(179)	(321)
Total	**$ 112,417**	**$ 92,879**

Source: SEC 10K 2012.

The differences between GAAP net income and NFE for FY 2012 shown in **Exhibit IX-1** are a result of the adjustments shown in **Exhibit IX-2**

Exhibit IX-2
Adjustments to Net Income – FY 2012
(Dollars in Thousands)

	Net Income and Adjustments
Net Income-GAAP	$ 92,879
Additions	
Unrealized (gain) loss on derivative instruments and related transactions	22,631
Effects of economic hedging related to natural gas inventory, net of taxes	(3,093)
Net Financial Income-NFE	$ 112,417

Source: SEC 10K 2012.

As management notes, NFE calculates operating results that more effectively time revenues and expenses to actions of the company and its markets. **Exhibit IX-3** compares NFE results to GAAP net income for the four most recent fiscal years.

Exhibit IX-3
NFE Comparison to Net Income
(Dollars in Thousands)

	2010	2011	2012	2013
Net Income	$ 117,457	$ 101,299	$ 92,879	$ 114,809
Percent change from prior year		(14%)	(8%)	24%
Net Financial Earnings	$ 101,764	$ 106,533	$ 112,417	$ 113,681
Percent change from prior year		5%	6%	1%

Source: SEC 10K 2012 and 2013.

The NFE results show steady positive gains from year to year while the net income results show substantial volatility from negative 14 percent to positive 24 percent. These results illustrate that management is using tools such as derivatives and hedging to manage the impact of risks on the company.

Subject to the risks and uncertainties identified in its forward looking statements, on February 6, 2014, NJR reaffirmed previously announced FY 2014 NFE guidance in a range of $2.75 to $2.95 per basic share compared to NFE per share in 2013 of $2.73. As in the past, NJR expects NJNG to be the largest contributor to FY 2014 NFE. **Exhibit IX-4** provides NJR's expected contributions from NJR's business segments for FY 2014 and the actual percentages for previous years:

Exhibit IX-4
FY NFE Contribution by Segment
(Percent)

Segment	2010	2011	2012	2013	2014 (Expected)
NJNG	69%	67%	65%	65%	60 to 70%
NJRCEV	(1)%	6%	17%	9%	5 to 15%
NJRES	25%	18%	10%	17%	10 to 20%
NJR Midstream	6%	6%	6%	6%	5 to 10%
NJRHS & Other	1%	3%	2%	3%	2 to 5%

Source: SEC 10K 2010-2013.

NJR has paid a dividend in every quarter throughout its entire history – since 1952. On November 13, 2013, NJR announced that its BOD unanimously declared a quarterly dividend on its common stock of $.42 per share. The dividend was payable on January 2, 2014 to shareowners of record on December 13, 2013.[264] This dividend produced a payout ratio of 62 percent based on last year's NFE of $2.73. Compared to a panel of similar companies, NJR's dividend payout ratio is a little below average. However, NJR's three year growth rate in dividends paid is substantially above average for the same companies.[265]

Investment Philosophy

Prior to 2010, NJR's philosophy was to increase its investments in non-regulated businesses in order to improve its rate of return. This strategy was successful, leading to dividend growth of over nine percent annually in the years just prior to 2010. However, this approach led to concern from credit rating agencies who noted that during some years NJR was relying on NJNG for over 96 percent of its dividends. This concern led credit rating agencies to temper their rating of NJR.[266]

Since then, NJR has reevaluated its investment philosophy, focusing on investments in related businesses that maximize the benefit of its energy experience. NJR's current philosophy is to avoid investing in new businesses that are not closely related to its core energy experience and to focus on more closely-related businesses including its core utility

264 http://www.njresources.com/news/releases/2013/njr/earnye13.asp
265 DR 655
266 DR 615, 653

business. NJR also decreased its rate of dividend growth from over 9 percent annually to 5-5.5 percent which in turn decreased its reliance on dividends from the utility to the range of 75 percent.

Credit rating agencies and lenders generally praise NJNG's financial management, citing conservative management of financial resources, a diverse service area that has experienced higher than average growth and that contains a lower than average amount of more volatile industrial customers. Evaluators also praise the supportive relationship NJNG has maintained with its state regulators, the BPU.[267] As a result, both Standard and Poor's (S&P) and Moody's Investment Services have rated NJNG as stable investment grade credit as indicated in **Exhibit IX-5**. S&P and Moody's use different symbols, Moody's rating of NJNG's senior secured debt is one step higher than S&P. Moody's short-term debt rating is equal to or a little higher than S&P's rating.

Exhibit IX-5
NJNG Credit Ratings

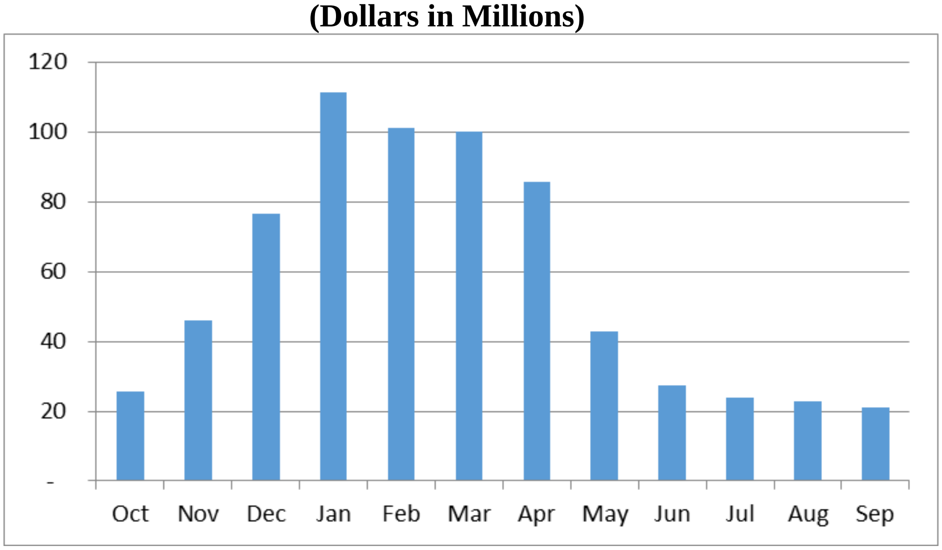
Measure	Standard & Poor's	Moody's
Corporate Rating	A	N/A
Short Term and Commercial Paper	A-1	P-1
Senior Secured	A+	Aa3
Ratings Outlook	Stable	Stable

Source: 2013 10K, p. 57.

Cash Management

As is typical for a gas utility, NJNG's revenues are seasonal as shown in **Exhibit IX-6**.

Exhibit IX-6
2013 NJNG Revenue by Month
(Dollars in Millions)



Source: DR 372.

[267] DR 615 and 653

Cash flow to the utility follows the same pattern with an average lag of 35-40 days.[268] Cash receipts vary by a factor of over 5:1 between peak months and non-peak months. In addition, many gas purchases must be made in advance of the peak revenue months. Some gas purchased in the prior year may be held over in storage for use in the next year. As a result of these seasonal variations, the utility must have access to large amounts of cash through the late summer and fall when its receipts are at their lowest. NJNG bridges the gap between needs and sources with short term borrowing.

NJNG has short-term revolving credit facility of $250 million.[269] Each year NJNG evaluates whether these credit arrangements are sufficient to meet its forecast needs. Typically, if the utility does not pay off all short-term borrowing during the summer months, management will consider adding long-term debt. Long-term needs are not met with short-term borrowing.[270]

Budgeting

NJNG prepares separate budgets for Capital Expenditures (CapEx) and for Operations and Maintenance Expenditures (OpEx). The CapEx budget process is described in Financial Procedure 132, Construction and Capital Budgeting which contains detailed and extensive procedures for preparing the capital budget.[271] There is no written procedure manual for preparing the operating expense budget. The utility provided the following description of the process:[272]

- Finance provides high-level guidance on timing and general assumptions such as inflation rates to be used.
- Human Resources (HR) works with the various departments to determine headcount levels and provide labor guidance (percent increases). Finance then calculates labor budget for non-union employees.
- Relevant departments submit union labor budgets for review.
- Departmental budget owners submit account-level monthly budgets for the first two budget years in the "Infor PM" budgeting system, which is part of JDE.
- Budget owners submit backup for their budget submissions.
- Meetings are held by Finance with the budget holders for review.
- Operations and Maintenance (O&M) budgets are then submitted to management for review.

[268] DR 671
[269] SEC 10K 2013
[270] IR 14
[271] DR 106
[272] DR 106

- Budgets are revised and adjusted as needed, then finalized and submitted to the BOD for approval.

Because these instructions were prepared in response to a request by NorthStar, NJNG was asked to provide examples of the procedures actually used by two or more departments. The response was a set of instructions on how to use the computer to enter and process budget information.

B. Evaluative Criteria

- Do financing and debt structure decisions negatively affect rates, system operations and NJNG's financial performance? (Conclusions 1 and 2)
- Do NJR or affiliate activities or financial performance negatively affect NJNG's creditworthiness? (Conclusion 3)
- Has NJR's business diversification negatively affected NJNG's cost of capital or its ratepayers? (Conclusion 3)
- Does NJNG manage its cash effectively? (Conclusion 5)
- Are affiliate funds comingled at any stage with NJNG funds? (Conclusion 6)
- Are there appropriate processes and controls over the handling of cash from NJNG affiliates? (Conclusion 7)
- Does the method of handling utility-billed affiliate services provide an advantage to affiliates or cause ratepayers to incur additional costs? (Conclusions 8 and 9)
- Are budgets defined, detailed and distributed appropriately to facilitate management's allocation of resources and control of costs? (Conclusion 10)

C. Findings and Conclusions

1. NJR and NJNG employ several processes that support a stronger and more stable financial base.

- Neither company funds its long-term needs through short-term debt. **Exhibit IX-7** summarizes NJNG's long term debt as of the end of FY 2012.

Exhibit IX-7
NJNG Long Term Debt as of September 30, 2012
(Dollars in Millions)

Debt Type	Amount
Fixed interest rate debt	$ 172.8
Variable interest rate debt	97.1
Unsecured senior notes	60.0
Capital lease obligations	53.1
Less current maturities of LT Debt	(7.8)
Total NJNG Long-term Debt	**$ 375.2**

Source: 2013 10K, p 90.

- As discussed in Conclusion 2, NJNG has used a significant portion of variable rate debt in order to reduce its cost of borrowing.

- NJNG manages its operations to minimize its borrowing needs.

  - A key goal of managing gas supply is to stabilize costs. The BGSS program was developed to share the savings achieved through effective management of gas supply between the utility and its customers.
  - The utility has also used operating assets to improve financial resources. One recent example was the sale and lease back of meters that provided over $17 million to the utility in the years 2010-2012.[273] Another operating decision that provides funds to NJR is the use of federal investment tax credits (ITC) realized from its solar investments. In 2011 and 2012, these ITC's provided $9.6 million and $27.1 million respectively.[274]

2. **NJNG's decision to use a relatively high proportion of variable rate debt in its capital structure has saved significant amounts of money for the company and its ratepayers; however, additional reliance on floating rate debt could result in a ratings downgrade.**

- As of September 30, 2012, NJNG had variable rate debt totaling $97.1 million. The interest rate on these bonds is reset every seven to thirty-five days. On September 30, 2012, the interest rate was 0.22 percent. This provides a substantial savings over fixed rate secured long-term debt which for NJNG ranges from 4.6 to 5.6 percent.[275]

- Comparing the cost of the variable rate debt to the midpoint of NJNG's secured long-term debt, the variable rate debt saves 4.88 percent (5.1-0.22). This represents savings of $4.7 million per year.[276]

- A 100 basis point rise in the average interest rate would increase interest expense by only $975,000 for the year.[277]

[273] 10K p 54
[274] 10K p 104
[275] SEC 10K 2013
[276] SEC 10K 2013

- Despite the savings noted above, Moody's cautions that "…greater use of floating rate leverage to fund its CapEx program or its dividend payments" could trigger a downward change in NJNG's credit rating.[278] Such language should lead the company to be cautious in this area.

3. **The activities and financial performance of NJR and its affiliates have most likely negatively affected NJNG's credit rating, which, in turn, may have increased its costs of financing.**

- As shown in **Exhibit IX-4**, in recent years NJNG has contributed about 65 to 70 percent to NJR's NFE. For FY 2014, NJNG is projected to contribute between 60 and 70 percent.

- Moody's and S&P provide credit ratings for NJNG (not NJR); however, in providing these ratings they take into account the consolidated credit profile of NJR and the higher risk represented by NJR's affiliates engaged in non-regulated businesses.

- The credit rating agencies have expressed concern that an increase in NJR's non-regulated affiliate business above the current level could lead to a reduction in NJNG's credit rating.[279] According to S&P's January 25, 2013 rating:

> NJNG has an "excellent" business profile and an "intermediate" financial profile under our criteria. The business risk profile is characterized by a constructive regulatory environment, an economically diverse service area, strong access to gas supply and storage, and lack of competition. However, NJR's higher-risk, unregulated operations, which represent a significant portion of the cash flow at the parent level, partly offset these strengths.
>
> Despite NJNG's strengths, the growth of NJR's unregulated businesses pressures the consolidated business profile. The unregulated operations provide about 25 to 30 percent of consolidated EBITDA, which is in line with our expectations, but any further growth of these businesses could pressure the ratings. NJR's credit quality could deteriorate if the unregulated earnings and cash flow increase materially above this level.[280]

- Based on the rating agency concerns, one must conclude that NJR's affiliates have not had a positive effect on NJNG's credit rating and may cause NJNG's rating to be lower and therefore it's cost of debt to be higher which negatively affects its ratepayers.

- When cautionary language is used by rating agencies, for example that "we also could lower the rating if growth in the unregulated businesses is greater than currently

[277] SEC 10K 2013
[278] DR 615
[279] DR 653
[280] DR 653

anticipated" the prudent reader must always consider whether the boundary has already been breached causing some reduction in credit rating.[281]

- Moody's notes that renewable energy-related income tax credits have offset some of the additional risk associated with the non-regulated subsidiaries.[282]

4. **The panel of gas utilities that the company compares itself to consists mostly of utilities that are weaker performers than NJR, and does not comprise a good measure of relative performance.**[283]

- NJR compares its financial performance against a panel of similar companies and reports on these comparisons to its BOD.

- In recent comparisons to this group, NJR scores a five year total return twice as high as the average. NJR scores a price-earnings ratio 3.6 points higher than the average.

- The panel includes nine gas utilities selected by NJR in addition to NJR. Some characteristics of the panel relative to NJR are summarized in **Exhibit IX-8**. More than half of the panel companies have lower scores than NJR in each measure.

Exhibit IX-8
Panel – NJR Comparison
(Number of Panel Members)

Measure	Higher than NJR	Lower than NJR
Credit Rating	2	5
Percent of non-regulated business	1	7
Price earnings ratio	2	7
Dividend growth	2	7

Source DR 655.

- The panel contains only two utilities that have a higher credit rating than NJNG and five with lower credit ratings.
- The two utilities with higher credit ratings both have a lower proportion of non-regulated business than NJR does.
- The panel also contains only one utility that has a higher proportion of non-regulated business activity than NJNG does. Seven of the panel members have lower proportions of non-regulated activity.
- Only two members of the panel have higher price-earnings ratios than NJR.

- Four of the five companies that have lower credit ratings than NJNG also have lower proportions of non-regulated business activity.

- Goldman Sachs recently provided a comparison of NJR to its panel of utilities. This comparison concluded that, based only on dividend payout ratio and S&P credit

[281] DR 653
[282] DR 615
[283] DR 655

rating, the panel was comparable.[284] However, this comparison leaves out many important factors noted above.

5. NJNG manages its cash effectively.

- NJNG's cash forecasting processes are appropriate. The large variability in cash needs and receipts places a premium on effective cash flow forecasting.

  - NJNG devotes significant management and analytical effort to preparing and frequently updating its cash forecast.
  - Forecasts are updated monthly rather than more frequently because short-term cash has been readily available.[285]

- NJNG has excellent relations with its banks which provide the utility with the flexibility needed to manage its cash effectively.

  - NJNG has short-term credit availability that exceeds anticipated seasonal needs.
  - The utility has maintained a short-term credit rating of A-1/P-1.
  - The utility has successfully augmented its capital structure with additional long-term capital as needed while maintaining a long-term credit rating of A+/Aa3.

6. No funds belonging to any affiliate are comingled with NJNG funds at any time.[286]

- NJNG manages its cash, banking, loans and other debt instruments entirely separately from its affiliates and NJR.

- CR&R and NJRES handle their own billing and remittance processing and maintain separate accounts for the receipt of revenues.

- NJNG bills for NJRCEV using NJRCEV bill stock and opens the return payments. The payments are deposited in a separate bank account belonging to NJRCEV by NJNG personnel.[287]

- NJNG bills customers who use NJRHS services and also purchases the receivables. This process is handled similar to a factoring contract which does not result in any comingling of funds.

  - If NJRHS customers are also NJNG customers, they receive a combined bill (utility and NJRHS charges) on the same daily cycle used for billing all gas utility customers.
  - The factoring arrangement requires NJNG to pay to NJRHS the amount billed during the first 15 days less a percentage retained for expected bad debts. This process is repeated for the second half of the month.

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[284] DR 656
[285] IR 14
[286] IRs 42, 66
[287] DR 375 Supplement

- NJNG pays the amount owed to NJRHS by electronic transfer the day after the 15-day billing period ends.
- NJNG then collects the amounts owed by customers for NJRHS services in the same manner it does for utility customers.

7. NJNG handles cash from affiliates in only limited circumstances; however, the associated processes could be improved.

- NJNG personnel prepare the deposit of NJRCEV receipts and deposit them directly into NJRCEV's bank account.[288]

- NJNG personnel enter information about wire transfers into the Utility Customer Information System (UCIS) for some wire transfer payments to NJRES. This is done because NJNG Customer Service employees are the only ones who have access to UCIS.[289]

8. NJNG bills for and purchases the receivables of NJRHS, resulting in a subsidy by NJNG customers.

- NJRHS receivables are purchased at a discount to adjust for bad debt; however, the discount is lower than actual experience.[290]

- NJNG bills customers of NJRHS whether or not they are customers of NJNG.[291] The amount paid to NJRHS is reduced to reflect expected bad debts; however, the method used to compute expected bad debts is flawed and results in a subsidy to the affiliate.

- NJNG currently pays to NJRHS 99.47 percent (1-0.53 percent) of the amounts billed. Prior to March 2012, NJNG paid 99.58 percent (1-0.42 percent) of the amounts billed. The factor was adjusted to reflect recent higher bad debt experience.[292]

- NJR's Accounting Department analyzes the percent of bad debt write off using a twelve-month rolling average. According to Accounting's analysis, in 2011 the average write off, net of funds received from outside collections was 0.49 percent. [293] However, these calculations overstate the amount collected by outside agencies because the full amount collected is offset against the bad debt while the fee paid to the outside agency to achieve the collection is posted to a separate expense account.[294] In 2011, collection agency fees totaled $262 thousand. This amount is 0.03 percent of revenue for 2011.[295] Adding the collection agency fees changes the 2011 calculated bad debt average from 0.49 to 0.52 percent as shown in **Exhibit IX-9**. In 2012 the bad debt amount adjusted for collection fees was 0.54 percent.

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288 DR 375 Supplement
289 DR 375 Supplement
290 DR 374, 375
291 DR 374
292 DR 376
293 DR 372
294 IR Murray and Seitz 11/13/13
295 DR 670

Exhibit IX-9
2011 Bad Debt Write Off Factor

Year	Write Off Computed by NJNG as a Percentage of Revenue	Amount paid to Collection Agencies as a Percentage of Revenue	Write Off Adjusted for Collection Fees
2011	0.49%	0.03%	0.52%
2012	0.48%	0.06%	0.54%

Source: DRs 372, 376 and 670.

- When adjusted for the amount paid to collection agencies, the amount charged by NJNG is lower than the costs NJNG incurred. During 2011, NJNG charged NJRHS 0.42 percent. The factor should have been 0.52 percent. When applied to the $31.8 million paid to NJRHS in 2011, the higher discount rate would have reduced the amount paid to NJRHS by $32 thousand.[296] In 2012, the higher discount factor would have reduced the amount paid to NJRHS by $33 thousand.

9. NJNG pays NJRHS for its receivables in advance of receipts, without adjustment for the time value of money, resulting in a further subsidy to NJRHS at the expense of NJNG ratepayers.

- NJNG pays a percentage of the amounts billed for NJRHS in the preceding 15 days as soon as the period is complete even though the amounts will generally not be collected for many days after the utility pays NJRHS.[297]
- On average, NJRHS receives its money from NJNG 7.5 days after it is billed (15÷2).
- NJNG receives payments from customers, including amounts billed for NJRHS, 37.2 days after it is billed.[298]
- If NJNG did not provide this service, NJRHS would be required to borrow additional working capital of $2.67 million, (29.7 days of average billings (37.2-7.5) times an average daily revenue of $90,000).[299] At the current utility cost of capital (11.4 percent pre-tax), this is a cost to the utility of $304 thousand per year.

10. NJNG prepares separate CapEx and OpEx budgets. The CapEx budgeting procedure is well documented and detailed. The OpEx procedure is not well documented.

- Both CapEx and OpEx budgets provide comparable detail to cost reports produced by the accounting systems.[300]

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[296] DR 376
[297] DR 376
[298] DR 671
[299] DR 376
[300] DR 117

- Budgets are developed by the responsible departments. Final versions are distributed to appropriate managers to facilitate allocation of resources and control of costs.[301]

- The CapEx budget provides an effective tool for managing capital expenditures. The budget:[302]

    - Provides clear levels for capital project approval.
    - Provides stated procedures for change controls including approval levels.
    - Provides variance reporting including escalation to appropriate management levels.

- Individual operating departments have different approaches to preparing their OpEx budgets. No formal procedures exist to describe the budget process for individual departments. Rather, there is a process for entering the data into JDE.[303]

- OpEx budgets are based on the previous year's budget plus known changes rather than a zero-based budgeting approach.

D. Recommendations

37. Evaluate the benefits of the continued use of variable rate debt. Consider the warnings of the credit rating agencies and avoid increasing the proportion of variable rate debt unless the savings are compelling even if the rating agencies lower their rating of the company's other borrowing. (Refers to Conclusion 2)

38. Observe the limit established by credit rating agencies regarding the proportion of non-regulated business activity NJR engages in. Additionally, consider backing away from the existing level to ensure that borrowing costs are not increased at the expense of ratepayers. (Refers to Conclusion 3)

39. NJR should seek to be rated separately from NJNG in order to clarify the effects of the additional risk carried by NJR and to ensure that the credit rating of NJNG is not adversely affected by actions of NJR or its other affiliates. (Refers to Conclusion 3)

40. Update the comparison panel used by NJNG and NJR. The panel should have more members who are higher performers to give NJNG something to strive for. (Refers to Conclusion 4)

41. Consider having an NJRCEV employee (rather than an NJNG employee) handle NJRCEV checks received in the mail room from the point they are opened to the point they are deposited in NJRCEV's bank account. (Refers to Conclusion 7)

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[301] DR 118
[302] DR 106, 117, 118
[303] DR 368

42. Perform a detailed analysis of the receivables process to ensure that the discount factor applied to NJRHS appropriately reflects the costs and bad debt write offs associated with the service NJNG provides. (Refers to Conclusion 8)

43. Either pay NJRHS for the bills NJNG sends out on NJRHS's behalf on the same average payment cycle under which NJNG receives payments, or analyze the effects of carrying the extra working capital necessitated by the early payments to NJRHS and adjust the discount factor to ensure that NJNG ratepayers do not subsidize NJRHS. (Refers to Conclusion 9)

44. NJNG should enhance its OpEx budget procedure to incorporate a more zero-based approach and document the process to insure that all areas of the utility follow the same procedures. (Refers to Conclusion 10)

Chapter X. Review of Previous Audit Recommendations (RFP 3.1.4)

The last focused Affiliated Transactions and Management Audit of NJNG was conducted by The Liberty Consulting Group (Liberty) in 2007 (Docket No. GA05100909). As part of the current audit, NorthStar assessed NJNG's implementation of Liberty's prior audit recommendations in key areas. This Chapter provides the results of that review. Liberty's recommendations may also be mentioned in other Chapters of this report where applicable.

A. Background

In its November 2007 final audit report, Liberty provided 91 recommendations in the areas of gas supply (GS), cost allocations (CA), management and operations (MO), and affiliates standards (ED). At its regular meeting on December 19, 2007, the BPU accepted, for filing purposes only, Liberty's final audit report and released redacted volumes of the final report to the public and the confidential volumes of the report to appropriate parties for comment. The Board also ordered the implementation of all 91 recommendations and required NJNG to file quarterly reports to the Division of Audits regarding the status of all recommendations. Reports were to be filed by the fifteenth day of the month following the conclusion of each calendar quarter.[304] It was further ordered that, pursuant to Liberty's recommendations ED-1 and ED-18, NJNG should file a request for a waiver to facilitate the completion of the business activities of CR&R within the Real Estate Business Cycle.

On March 27, 2009, NJNG's first quarterly report and letter to the BPU indicated that it would work with Staff to formulate an implementation plan for the 91 recommendations approved by the BPU.[305] Based on discussions, NJNG would maintain tracking sheets for each recommendation.

Exhibit X-1 provides a listing of the Liberty audit report recommendations.

[304] Order: Docket No. GA05100909 dated 1/28/2009.
[305] DR 595

Exhibit X-1
Summary of 2007 Audit Report Recommendations

#	Recommendation
GS-1	Separate utility and affiliate gas supply.
GS-2	Strengthen the staffing of a separated NJNG gas-supply function.
GS-3	Establish specific targets and metrics for each individual.
GS-4	Bring more structure and aggressive scheduling to the preparation of missing process, procedure, and controls documentation.
GS-5	Create a structured program and methods for analyzing supply alternatives.
GS-6	Expand the scope of Internal Audit's evaluations of the utility's supply processes.
GS-7	Include evaluations of performance in peak-day studies.
GS-8	Begin to conduct portfolio optimization analysis.
GS-9	Perform and document structured analyses of significant capacity-commitment decisions.
GS-10	Perform a structured study of the benefits of substituting peaking services or shorter-term storage services for some of the seasonal storage services currently under contract.
GS-11	Separate gas-supply management of NJNG and NJRES.
GS-12	Examine additional commodity-purchase alternatives.
GS-13	Use market data and NJNG's own procurement data to analyze alternatives and seek purchasing improvements.
GS-14	Provide on an interim basis for dual reporting of the new utility manager to be created and require a showing that further separation of the common supply functions should not take place at the end of 12 months.
GS-15	Assure that the new utility manager and staff to be added have experience appropriate to utility needs and comparable to that of the NJRES counterparts.
GS-16	Develop performance plans for utility employees based on their performance for the utility.
GS-17	Conduct a structured, focused review of FY1999 and 2000 transactions, and non-common-delivery-point transactions, in order to identify the full range of potentially linked transactions and perform an objective assessment of their impact.
GS-18	Initiate a dialogue with the BPU regarding the NJNG vision, goals and objectives for competition in the retail residential market.
GS-19	Update Risk Management Guidelines and Procedures document as soon as possible.
GS-20	Evaluate the performance of alternative hedging strategies.
GS-21	Provide for ongoing analysis of insurance options for the Atlantic Highlands site and in the future for the other remaining sites.
CA-1	Include allocations for NJNG general services to NJR Corporate in the Allocation Statements to Affiliates report.
CA-2	Develop a new, expanded CAM.
CA-3	Update Service Agreements and the CAM to reflect current practice.
CA-4	Make a formal filing seeking BPU review and approval of Service Agreements.
CA-5	Develop a written policy concerning the types of costs that the company would retain at the corporate level.
CA-6	Require NJR Corporate executives to prepare actual time sheets at least quarterly.
CA-7	Monitor the cost of fringe benefits to ensure that the company collects an appropriate amount in shared services charges.
CA-8	Include depreciation expense associated with new assets the company uses to provide shared services in the charges to Home Services.
CA-9	Modify the calculation of billing rates to more accurately represent the true cost of this function, as well as the customer inquiry, remittance processing, and credit and collections functions.
CA-10	Include the cost of building rent and maintenance in vehicle maintenance shared service charges.
CA-11	Include depreciation expense associated with new assets used to provide general services.
CA-12	Update the service agreement for general services to remove print shop and postage services.
CA-13	Update the general services agreement to remove applications development, and move this function entirely to the Service Company.

#	Recommendation
CA-14	Revise the CAM to clarify the description of the allocation process for hardware and software maintenance.
CA-15	True up the employee labor charges from NJRES to NJNG to actual time sheets.
CA-16	Maintain the algorithm used to calculate CR&R's share of headquarters expense in order to reflect CR&R's current share of the building.
CA-17	Formalize the agreement between NJNG and NJRHS for payroll employee support.
MO-1	Periodically solicit competitive proposals for providing outside audit services.
MO-2	Add a more traditional articulation of mission, vision, and values statements.
MO-3	Add formal contingency planning to the strategic/business planning process.
MO-4	Provide for periodic reviews of the accuracy of customer consumption data.
MO-5	Prepare a structured, comprehensive, documented analysis of effectiveness and alternatives before making any further extensions of the Alliance contract, and develop through competitive or other measures a sound understanding of likely costs from other potential suppliers.
MO-6	Improve Department of Transportation (DOT) compliance tracking and reporting.
MO-7	Designate a member of top management as the project manager for GIS.
MO-8	Establish a focused source of responsibility for productivity programs and expand the use of cost accounting as a tool for identifying productivity improvement opportunities.
MO-9	Adopt a policy of evaluating existing electricity consumption.
MO-10	Reallocate resources or increase staffing to answer inbound customer calls.
MO-11	Undertake a study to determine the appropriate telephony infrastructure to accommodate customer calls.
MO-12	Reallocate resources or increase staffing to improve the meter reading read rate.
MO-13	Allocate the tax benefits of stock options and all other corporate expenses to subsidiaries using a consistent method.
MO-14	Consider the slightly higher than required equity percentage in the context of earnings reporting and the filing of the next rate case.
MO-15	Require that NJNG maintain a minimum level of equity as a utility credit insulation measure.
MO-16	Develop and utilize daily cash flow forecasts that project at least 90 days of cash positions.
MO-17	Use separate NJR and NJNG solicitation processes and separate lead banks in soliciting lines of credit and private placement debt.
MO-18	Specifically exclude NJNG from restrictions included in the "negative covenants" sections of future NJR revolving-credit and private-placement agreements
MO-19	Implement major changes to the structure and functioning of HR.
MO-20	Start a program of working with other, similar companies on comparing programs in non-technical training.
MO-21	In future analyses of compensation, use companies closer in size.
MO-22	Formalize and centralize the responsibility for managing NJNG facilities.
MO-23	Study the staffing of the Fleet department.
MO-24	Put more focus and resources on the GIS project.
MO-25	Develop and put in place a program for frequent visits to other IT departments.
MO-26	Devote more attention to controls and documentation.
MO-27	Study the operations and staffing of Stores and embark on a program of learning about the materials-management departments of other utilities.
MO-28	Revise Financial Procedure 133 to include language that open work order monitoring reports are sent to senior level management.
MO-29	Implement more frequent focused audits by the NJRSC Internal Audit Division on the Accounting Department's Construction & Capital Costs Area.
MO-30	Direct NJRSC to follow FERC guidelines for timely closing work orders as classified as completed and in-service.
MO-31	Revise the Construction Work in Progress (CWIP) aging report to provide for additional information sufficient enough to assist upper level management in its review and decision making process as it relates to major long outstanding work orders.
ED-1	Treat CR&R as an NJR holding company RCBS for purposes of applying the standards.

#	Recommendation
ED-2	Update the Compliance Plan to include which individuals or departments have responsibility for enforcement of each section of the Standards.
ED-3	Make the disclaimer on the NJRHS pages of the website visible within the range of information and links that viewers can observe without scrolling to a point below the normal range of view and eliminate the visual bar above the disclaimer.
ED-4	Promptly address the question of NJNG's provision of billing, remittance processing, and credit and collections services and accounts receivable purchasing for NJRHS.
ED-5	Provide a more comprehensive description of what constitutes customer-proprietary information subject to protection under Section 14:4-5.4(a).
ED-6	Establish a program for periodic monitoring calls to assure that there is no improper use of utility customer information by or for NJRHS.
ED-7	Provide a more comprehensive description of what constitutes other non-public information subject to protection under Section 14:4-5.4(b).
ED-8	Update Compliance Plan Exhibit Q, "Information Systems Access Guidelines," to provide the proper link to the information required by this section of the Standards.
ED-9	Develop and maintain a current list of databases as well as a master list of which departments and which employees have access to them; institute effective controls for limiting access to authorized persons.
ED-10	Update the Compliance Plan to include guidance on the Utility providing structured joint product or service offerings with an RCBS.
ED-11	Review all NJRHS marketing materials and communications to verify that the required disclaimer is sufficiently prominent and make appropriate changes.
ED-12	Update the Compliance Plan to specifically address the Standards' provision against advertising in utility bill inserts.
ED-13	End NJRHS's display in the lobby that customers use to gain access to NJNG customer representatives.
ED-14	Provide for competitor participation in programs by which NJNG offers financing, payment deferral, or any other concession on or related to a customer's utility account or bill.
ED-15	Route NJRHS calls through a number that does not identify NJNG; or secure a BPU order permitting the practice.
ED-16	Preclude the sharing of utility customer satisfaction results with NJRHS.
ED-17	Ensure that NJNG financial policies and decisions are not overseen by the NJR CFO, or alter the officer structure of NJRHS and CR&R to exclude him.
ED-18	Change the officers of CR&R in order to reach compliance with this section of the Standards.
ED-19	Make the required annual reporting to the BPU of covered employee transfers.
ED-20	Include in job postings, where applicable, a notice of the need for preservation of the confidentiality of protected information.
ED-21	Include in the Compliance Plan a specific reference to the need for preservation of the confidentiality of protected information for transferred employees.
ED-22	Make explicit the Compliance Plan's inclusion of intellectual property in asset transfer provisions and provide a sufficient explanation of what is covered to put all employees on notice of the types of intangible property that is covered.

Source: Liberty Audit Report.

B. Evaluative Criteria

- Do the previous audit recommendations continue to be relevant and meaningful from a regulatory and/or customer perspective? (Conclusion 1)
- Has NJNG taken appropriate steps to implement recommendations from the previous audit, and if not, does it have valid reasons for not doing so? (Conclusions 1 and 2)

C. Findings and Conclusions

1. NJNG has failed to address or has only minimally addressed a number of the prior management audit recommendations. Many of these recommendations continue to be relevant and are reflected in NorthStar's audit report.

- NJNG has failed to implement, or implemented in a manner inconsistent with the audit findings, most of Liberty's prior audit recommendations in the GS area, leading to similar conclusions and recommendations in NorthStar's audit. These findings are highlighted below and addressed in detail in the Gas Supply Procurement Chapter.

  - Many of the previous audit's GS recommendations relate to improving the level of analysis underlying gas supply portfolio decisions and the documentation of those decisions. NJNG has failed to put in place any mechanisms, tools or controls that address the prior audit's concerns in either of these areas.
  - Another group of GS recommendations addressed the organization of the Gas Supply group, the qualifications of personnel, and the establishment of individual performance targets, all to be separate from the Trading functions within NJRES. While NJNG has fulfilled most of the specifics of these recommendations, the underlying issues regarding affiliate transactions, sharing of personnel and information, and access to data remain.
  - Recommendation GS-6 called for NJNG to "expand the scope of Internal Audit's evaluations of the utility's supply processes." NJNG's implementation of this recommendation was not actually a change from prior practice and did not result in improved oversight of gas supply procurement by IAD.

- In CA-3, the prior audit recommended that NJNG update its service agreements and the CAM to reflect current practice. While NJNG updated its CAM in response to the prior audit, NorthStar's review identified ongoing differences between stated and actual practice.

  - The service agreement between NJR and NJNG states that NJR receives hardware and software maintenance services from NJNG.[306] The CAM states that NJNG provides hardware/software maintenance to its affiliates.[307]
  - There is no department or staff within NJNG which provide such services.[308] Computer hardware and software services are provided by NJRSC.
  - An analysis of intercompany charges indicates there are no charges for such services by NJNG, but there are charges for such services from NJRSC.

- In CA-13, the prior audit recommended that NJNG update the general services agreement to remove applications development, and move this function entirely to NJRSC. The current service agreement still includes applications development as a

[306] DR 7, Service Agreement p. 12
[307] DR 12, CAM Table 7.1
[308] DR 4

service provided by NJNG, although it is not selected by NJR on page 12 of the agreement.[309] As noted above, NJNG does not provide these services.

- In CA-16, the prior audit recommended that NJNG maintain the algorithm used to calculate CR&R's share of headquarters expense in order to reflect CR&R's current share of the building.

  - While NJNG does maintain the algorithm for the allocation of space charges to CR&R and other affiliates, it is not clear that the algorithm correctly allocates costs to CR&R or other affiliates.[310]
  - The CR&R lease specifies the amount of space CR&R is responsible for and the amount of the lease payment and maintenance expense CR&R is legally obligated to pay. However, the cost allocation algorithm ignores the terms of the lease and charges CR&R a lesser amount. NorthStar's Accounting and Cost Allocation Chapter provides a more detailed discussion of the allocation of building expense.

- The prior audit recommended that NJNG provide a "written policy concerning the types of costs that the company would retain at the corporate level" and specifically how this was consistent with the NJNG/NJR service level agreement and the CAM, citing specific pages in each and demonstrating compliance with CA-5.

  - NJNG did not develop a written policy per se.
  - NJNG stated that the service agreement with NJNG/NJR and the CAM manual contain language that new business development costs not specifically identified for a particular subsidiary will either be retained by NJR Corporate or charged to a non-utility affiliate.[311]
  - Based on the service agreement, new business may be retained at the corporate level.
  - The CAM states that some insurance costs are held at NJR.

- NJNG has not formally solicited competitive proposals for outside audit services as required by recommendation MO-1.

  - Deloitte & Touche, NJR's external auditor, provides a fee for service presentation annually; however, this is not a competitive proposal and evaluation, and the process has not changed since well before the previous management audit.
  - Since 2007, NJR has engaged an external audit firm to review and report on SEC Form 10-K and file IRS Form 5500. No competitive solicitation or proposals were provided by NJNG to support the firm's selection.
  - NJNG stated that in 2010, NJR solicited proposals from several auditing firms to perform the audit of the NJNG Charity and the Conserve to Preserve Foundation tax exemption. In response to a NorthStar data request, NJNG provided one proposal and no evaluations.[312]

[309] DR 7
[310] CAM manual.
[311] NJNG/NJR service agreement Exhibit 3, item II.1.d and CAM manual table 7-5, updated 6/20/13, page 13.
[312] DR 673

- The agreements with NJNG's Alliance contractors were extended in 2011 (contract effective through August 3, 2021) without the benefit of the formal competitive analysis required by MO-5.[313] The Alliance contracts are addressed in greater detail in NorthStar's Distribution and Operations Management Chapter.

- In MO-22, the prior audit recommended that NJNG place the facilities management function organizationally under Energy Delivery Support which has stores and fleet functions. NJNG did not make this organizational change. Facilities functions remain under CR&R.[314]

- In MO-23, the prior audit recommended that NJNG study the staffing of the Fleet department. NJNG did not perform a fleet staffing study.[315]

- NJNG has not established a program for frequent visits to other IT departments as required by recommendation MO-25, nor is there any record of visits to other IT departments.[316]

- NJNG did not study the operations and staffing of stores or the materials management departments of other utilities as recommended in MO-27. NJNG reviewed the operations, staffing and satisfaction of its own function and decided it was fine.[317]

- During the six-year period since the prior audit, NJNG has conducted only four internal audits of the Accounting Department's Construction & Capital Costs Area in response to recommendation MO-29:[318]

  - Audit #13R-07 Capital Budgeting and Utility Plant Processes
  - Audit #05R-09 Contractor Alliance
  - Audit #04R-10 Capital Budgeting Process
  - Audit #04M-11 NJRSC Utility Plant.

- ED-2 recommended that NJNG update its Affiliate Compliance Plan to indicate which individuals or departments have responsibility for enforcement of each section of the Standards. In response to NorthStar's data requests, NJNG provided a table of responsibilities; however, this information is not included in the Compliance Plan.[319]

- ED-9 recommended that NJNG develop and maintain a list of databases as well as a master list of which departments and which employees have access to systems.

[313] DR 335 (Confidential) Gray Supply – Third Amendment and J.F. Kiely Construction – Second Amendment.
[314] DR 4
[315] DR 674
[316] DR 675
[317] DR 676
[318] DR 677
[319] DR 678

NJNG could only provide a list of individuals with remote access.[320] Information Technology is addressed in greater detail in NorthStar's Support Services Chapter.

2. IAD failed to identify and report incomplete implementation of the Liberty audit recommendations.

- In 2010, IAD conducted an internal audit which included an assessment of the implementation of the Liberty audit recommendations.[321] The scope of IAD's audit included only 22 of Liberty's 91 recommendations. Despite the limited scope, IAD concluded that NJNG complied with all of the audit recommendations.

- IAD broadly found that NJNG was in compliance with the Affiliate Standards as outlined in the NJNG Compliance Plan and required by the BPU Energy Competition Act. In addition, IAD determined NJNG was in compliance with the Service Agreements' accounting treatment and intercompany cost allocations and methodologies. These conclusions are inconsistent with the scope and objectives of IAD's audit and its own findings.

  - The objectives of the NJR Internal Audit were:
    - Review NJR's reporting and management structure to determine that NJRHS is appropriately separated from NJNG.
    - Determine that Customer Service Representatives (CSRs) servicing both NJRHS and NJNG are properly trained and aware of the Fair Competition Guidelines.
    - Determine that all employees have appropriate JDE system access to either NJNG or NJRHS system or data.
    - Determine that service agreements are current, signed by the appropriate corporate officers, agree with the NJNG Cost Allocation Manual, and comply with the BPU Energy Competition Act.
    - Evaluate and ensure costs incurred by NJNG for services agreed to by NJRHS are charged at a fair rate, based upon a logical allocation base.
    - Determine that audit recommendations issued by Liberty have been addressed and implemented where appropriate.

  - IAD audit recommendations included:
    - CSRs attending Affiliate Standards training should be required to sign an attendance sheet/log.
    - Two Liberty recommendations had not been addressed and remain open.
    - Affiliate Service Agreements were not approved by the BPU or signed by affiliate executives and the services requested schedules were not completed.
    - IAD recommended that HR Regulatory and IT Departments jointly develop a process and procedures, including appropriate supporting documentation, to comply with State Regulations in an efficient manner.

[320] DR 620 through 623 (all Confidential) including supplemental responses.
[321] DR 18, 11R-10

- Despite the significance of the Liberty audit, the results of IAD's review were issued as a memorandum (02-M-08) rather than an audit report.[322]

- IAD's audit was completed in 2010. NJNG reported to the BPU Division of Audits on January 28, 2011 that all the recommendations had been implemented with the exception of those addressed in waiver requests.[323]

- As discussed previously, NorthStar found a number of instances where the prior audit recommendations were not implemented. Additionally, NorthStar identified problems with the Service Agreements and cost allocations (discussed in other Chapters).

D. Recommendations

45. Demonstrate the implementation of each recommendation accepted by the BPU in this audit. (Refers to Conclusions 1 and 2) The demonstration and associated documentation should include at a minimum:

    - An initial timeline and designation of an individual accountable for implementation of each recommendation.

    - Delineation of the specific steps to be taken to implement each recommendation.

    - Periodic status reports and/or meetings with the BPU.

    - Written policies, procedures, reports, operational proof or other demonstration of the recommendation's implementation and sustainability.

    Any ambiguity regarding terminology or the scope of audit recommendations should be agreed upon with the BPU and not allowed to delay or hinder implementation.

46. Demonstrate the implementation of each recommendation called for in the Liberty audit and addressed in NorthStar's audit to the satisfaction of the BPU. (Refers to Conclusion 1)

    - Reporting on the status of implementation based on the acceptance and interpretation of NJNG has been shown to be problematic.

    - Demonstration should include written policies, procedures, reports, operational proof of their ongoing implementation, and sustainability.

47. Recommended improvements to the IAD process are discussed in NorthStar's Executive Management, Corporate Governance and Organization Chapter and in its Gas Supply

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[322] 02M-08
[323] DR 294, 595, 596 and 597

Procurement Chapter (as relates specifically to the oversight of the gas supply procurement activities). (Refers to Conclusion 2)

CHAPTER XI. DISTRIBUTION AND OPERATIONS MANAGEMENT (RFP 3.2.10)

This Chapter provides the results of NorthStar's assessment of the effectiveness of NJNG's operation and maintenance of its gas distribution system, including an examination of its storm preparation and response during Hurricane Sandy. Our experience has shown that system reliability is closely tied to the effectiveness of system planning, so we have focused our efforts in the areas of planning, pipeline integrity program management and construction management.

A. Background

NJNG owns approximately 6,860 miles of distribution main, 6,810 miles of service main, 228 miles of transmission main and approximately 519,000 service meters. Additionally, NJNG owns and operates two LNG storage plants in Stafford Township, Ocean County, and Howell Township, Monmouth County. The two LNG plants have an aggregate estimated maximum capacity of approximately 170,000 dths per day, and are used for peaking natural gas supply and emergencies.

NJNG owns four service centers located in Rockaway Township, Morris County; Atlantic Highlands and Wall Township, Monmouth County; and Lakewood, Ocean County. These service centers contain storerooms, garages, gas distribution facilities and administrative offices. NJNG leases its headquarters and customer service facilities in Wall Township, customer service offices in Asbury Park, Monmouth County, and a service center in Manahawkin, Ocean County. These customer service offices support customer contact, marketing, economic development and other functions.

During fiscal year 2009, NJNG implemented an AIP to enhance the reliability of its gas distribution system and to support economic development and job growth in New Jersey. Since inception of the program, the BPU has approved total infrastructure investments of $131 million, including $70.8 million related to the initial phase of construction projects (AIP I) and $60.2 million related to the second phase of construction projects (AIP II).[324]

On March 20, 2012, NJNG filed a petition with the BPU seeking to implement a SAFE program, whereby NJNG would invest up to $204 million over a five-year period to replace portions of NJNG's bare steel and cast iron gas distribution infrastructure. NJNG entered into a stipulation with the BPU Staff and Rate Counsel, which was approved by the BPU on October 23, 2012, to include a four-year incremental investment program of $130 million, exclusive of AFUDC accruals.

In FY 2012, NJNG committed or spent capital expenditures that totaled $120.1 million, including $46.7 million related to AIP II, which ended in October 2012. In fiscal 2013 and 2014, NJNG has estimated capital expenditures of $119.3 million and $119.9 million,

[324] 2012 Annual Report

respectively, including SAFE construction costs of $34.6 million and $43.4 million, respectively.[325]

The vast majority of NJNG's construction work (about 90 percent) is performed by two contractors, under an "Alliance" agreement. J.F. Kiely Construction Co. (Kiely) and Gray Supply Corporation (Gray) perform transmission and distribution main replacement and new business installations, install the associated services with the main, and construct all new regulator stations.[326]

In late October 2012, high winds, heavy rainfall and the related flooding associated with Hurricane Sandy caused significant damage to portions of NJNG's distribution infrastructure. Portions of the system were severely damaged and, as a result, natural gas service to the storm-damaged barrier islands was shut off. Approximately 30,100, or 6.2 percent of NJNG's 500,000 customers were affected by this shut off. Normal operations of the affected portions of the service territory resumed upon completion of restoration efforts. NJNG may seek regulatory relief to provide for recovery of restoration costs and lost revenues resulting from the storm.[327]

Regulations

Gas distribution companies such as NJNG are subject to numerous Federal Regulations. Title 49 Part 192 of the Code of Federal Regulations (CFR) outlines minimum federal safety standards for all transportation of natural and other gas by pipelines. Important standards include the following:

- Section L prescribes minimum requirements for the operation of pipeline facilities.
    - Procedural manuals are the focus of §192.605 which requires that each operator prepare and follow a manual of written procedures for conducting operations and maintenance activities and for emergency response for each pipeline. For transmission lines, the manual must also include procedures for handling abnormal operations. This manual must be reviewed and updated by the operator at intervals not exceeding 15 months, but at least once each calendar year.
    - Damage prevention program guidelines are outlined in §192.614 which requires that a written program be developed to prevent damage to pipelines from excavation activities.
    - Emergency procedure requirements are detailed in §192.614 which requires the preparation of written procedures to minimize the hazard resulting from a gas pipeline emergency.
    - Public awareness requirements are defined in §192.614, which orders the development and implementation of a written, continuing public education program that follows the guidance provided in the American Petroleum Institute's (API) Recommended Practice (RP) 1162.

[325] 2012 Annual Report
[326] DR 136
[327] New Jersey Resources Corporation Form 10-K for the fiscal year ended September 30, 2012

- Section N details the required qualifications of pipeline personnel.

  - Qualification program requirements are listed in §192.805 which states that each operator shall have and follow a written qualification program.
  - Recordkeeping mandates are described in §192.807. Qualification records must be retained for five years and include identification of qualified individual(s) and the covered tasks the individual is qualified to perform, as well as dates and methods of current qualification(s).

- Section O prescribes minimum requirements for an integrity management program on any gas transmission pipeline.

- Section P prescribes minimum requirements for an integrity management program on any gas distribution pipeline.

Transmission Integrity Management Program (IMP)

All operators of gas transmission pipelines must comply with Title 49 Part 192 of the CFR requiring an IMP. The requirements include four primary objectives:

- Accelerate the integrity assessment of pipelines in High Consequence Areas (HCAs). Pipeline safety regulations use the concept of HCAs to identify specific locales and areas where a gas release could have the most significant adverse consequences.
- Improve operator integrity management systems.
- Improve government's role in reviewing the adequacy of integrity programs and plans.
- Provide increased public assurance in pipeline safety.

While periodically assessing the pipe condition and correcting identified anomalies is a key part of the rule, there are other important requirements. Operators must develop improved management and analysis processes that integrate all available integrity-related data and information and assess the risks associated with pipeline segments in HCAs. Furthermore, operators must enhance damage prevention programs and implement additional risk control measures beyond those already required by Part 192. Examples of these additional measures include: installing computerized monitoring and leak detection systems, replacing pipe segments with pipe of heavier wall thickness, providing additional training to personnel on response procedures, conducting drills with local emergency responders, and implementing additional inspection and maintenance programs.[328]

The integrity management rule requires transmission operators to develop and implement an IMP. The IMP Framework lays the foundation for how the operator intends to develop and implement its program. As described in 192.911, the elements of an IMP must include several management, analytical, and operational processes:

- An identification of all HCAs (192.905).
- A baseline assessment plan (192.919 and 192.921).

[328] http://primis.phmsa.dot.gov/gasimp/faqs.htm

- 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 (192.923, and depending on the threat assessed, 192.925, 192.927, or 192.929).
- Provisions for remediating conditions found during an integrity assessment (192.933).
- A process for continual evaluation and assessment (192.937).
- If applicable, a plan for confirmatory direct assessment (192.931).
- Provisions for adding preventive and mitigation measures to protect the HCA (192.935).
- A performance plan as outlined in American Society of Mechanical Engineers (ASME)/American National Standards Institute (ANSI) B31.8S, Section 9 that includes performance measures meeting the requirements of 192.943.
- Record keeping provisions (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 raised by the Office of Pipeline Safety (OPS) and a State or local pipeline safety authority when a covered segment is located in a State where OPS has an interstate agent agreement.
- Procedures for providing (when requested), by electronic or other means, a copy of the operator's risk analysis or integrity management program to OPS and a State or local pipeline safety authority when a covered segment is located in a State where OPS has an interstate agent agreement.
- Procedures for ensuring that each integrity assessment is being conducted in a manner that minimizes environmental and safety risks.
- A process for identification and assessment of newly-identified HCAs (192.905 and 192.921).

A fully-developed program involves complete documentation of how each element noted above will be performed.[329] The IMP is an important document developed with the objective of bringing all of the relevant pipeline policy, operational and organizational aspects together in order to provide an integrated management control plan.[330]

In June 2006, NJNG produced an IMP which was provided to the BPU.[331]

Distribution Integrity Management Program (DIMP)

The Pipeline and Hazardous Materials Safety Administration (PHMSA) published the final rule establishing integrity management requirements for gas distribution pipeline

[329] http://primis.phmsa.dot.gov/gasimp/faqs.htm
[330] DR 602
[331] DR 600

systems on December 4, 2009 (74 FR 63906).[332] The rule specifies how distribution utilities must identify, assess, prioritize, evaluate, repair and validate the integrity of distribution mains. The regulation requires operators, such as natural gas distribution companies, to develop, write, and implement a DIMP with the following elements:[333]

- Knowledge
- Identify threats
- Evaluate and rank risks
- Identify and implement measures to address risks
- Measure performance, monitor results, and evaluate effectiveness
- Periodically evaluate and improve program
- Report results.

Utilities were required to develop their DIMP plans by August 2, 2011.

B. Evaluative Criteria

- Does NJNG achieve and maintain adequate levels of system reliability? (Conclusions 1 and 2)

- Does NJNG operate and maintain its infrastructure systems consistent with preferred practice, and to maximize system reliability? (Conclusions 1 and 2)

- Are there any system planning or operations factors that have caused financial harm to ratepayers? (Conclusion 3 through 6)

- Were NJNG's storm preparation and response plans appropriate, given prior expectations of possible storm damage, and did the company execute its storm plan appropriately? (Conclusions 12 and 13)

- Does NJNG adequately engineer, plan and complete construction projects? (Conclusions 6 through 10 and 14 through 20)

C. Findings & Conclusions

1. NJNG has a higher leak backlog than New York State utilities. The BPU does not require standardized natural gas pipeline leak and repair data collection and reporting by its regulated utilities which might otherwise be used for comparison.

- **Exhibit XI-1** provides leak performance data for NJNG and selected New York State utilities.

[332] The Distribution Integrity Management Program was developed pursuant to the Pipeline Inspection, Protection, Enforcement, and Safety Act of 2006 (PIPES Act)
[333] http://primis.phmsa.dot.gov/dimp/

- As shown in the Exhibit, NJNG's backlog of leaks is on average five times greater than its New York State peers. NJNG has more pending leaks than all of New York State combined.[334]

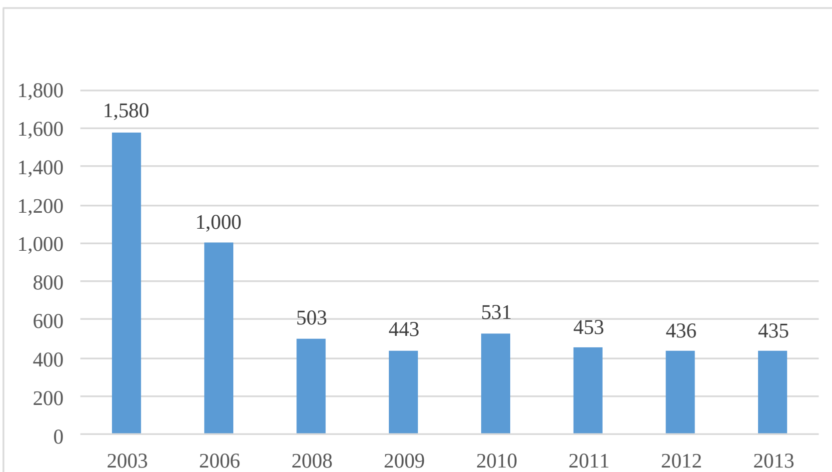
Exhibit XI-1
2012 Leaks per Mile of System Pipe

Utility	Leaks Repaired[335]	Leak Backlog	Pipe Miles	Repairs per mile	Backlog per mile
Central Hudson Gas & Electric			2,000	0.	0.0
Consolidated Edison	5,5		7,200	0.	0.00
National Fuel Gas	1,9		3,000	0.	0.02
Orange & Rockland Utilities			1,800	0.	0.00
New York State	**14,14**	**1**	**n/a**	**n/a**	**n/a**
NJNG FY2012	1,750	4	7,000	0.	0.060
NJNG FY2013	2,2	4	7,0	0.	0.060

Source: DRs 504 and 508 and sources as found in footnotes 8, 9, 10, 11, 12 and 13.

- NJNG has not demonstrated any increased efforts to reduce its leak backlog during the audit period. **Exhibit XI-2** provides NJNG's historical levels of leak backlog.[342]

Exhibit XI-2
NJNG Leak Back Log



Source: DR 504.

[334] DR 508 and State of New York, Department of Public Service, 2012 Gas Safety Performance Measures Report
[335] State of New York, Department of Public Service, 2012 Gas Safety Performance Measures Report
[336] http://www.centralhudson.com/safety_environ/pipeline_safety.html
[337] http://en.wikipedia.org/wiki/Consolidated_Edison
[338] http://www.natfuel.com/PipelineAndStorage.aspx
[339] http://en.wikipedia.org/wiki/National_Fuel_Gas
[340] DR 508
[341] http://www.matcor.com/blog/new-jersey-natural-gas-wants-to-spend-204m-on-new-pipes/?id=67
[342] DR 504 and Final Public Report, Focused Audit of Affiliated Transactions and Management Audit of the New Jersey Natural Gas Company, Volume 3, page 59.

2. **Excavation damages potentially impact system reliability. NJNG has more excavation damages per 1,000 tickets than the average of the New York utilities.**

- Excavation damages is an important metric as it defines the number of times the utility pipes have been compromised resulting in lost gas and potential pressure reductions.

- **Exhibit XI-3** provides a comparison of NJNG to the New York utilities. NJNG's performance is on par with the worst performing utilities in New York.[343]

Exhibit XI-3
Excavation Damages Comparison (Damages per 1000 tickets)

	2008	2009	2010	2011	2012
Central Hudson Gas and Electric	2.49	2.30	1.79	1.92	2.12
Consolidated Edison	2.00	1.56	1.42	1.32	0.96
National Fuel Gas	3.50	3.57	3.28	2.87	2.79
National Grid NY	3.14	2.37	1.90	2.14	1.71
Orange and Rockland	4.25	3.08	3.06	2.51	3.10
New York State Average	**2.80**	**2.46**	**2.29**	**2.14**	**2.01**
NJNG	3.71	3.37	3.40	3.20	2.77

Source: DR 508 and State of New York, Department of Public Service, 2012 Gas Safety Performance Measures Report.

3. **NJNG does not have a system planning organizational unit. Capital project identification is an engineering activity as opposed to an integrated planning effort.**[344]

4. **NJNG does not produce a comprehensive system-plan.**

- NJNG's "system plan" consists of a company-wide memorandum issued by the Engineering Department each summer listing planned system reinforcements for the upcoming fiscal year and the following two fiscal years.[345]

- The memorandum is a list of assumed send outs and a list of projects by distribution system. It does not provide any supporting studies, alternatives analysis, project justification, areas of the system studied, detailed growth forecasts, or forecast need dates.

- The memorandum does not integrate with other planning products – such as work associated with the SAFE, AIP, DIMP and IMP.

- There are no progressive system diagrams showing current system to future system configuration.[346]

[343] DR 508 and State of New York, Department of Public Service, 2012 Gas Safety Performance Measures Report
[344] DR 4
[345] DR 110

5. NJNG's system plan does not provide consistency from year to year.

- Analysis of capital projects in the system planning memorandum revealed that projects shown in the second year of the plan were often removed from the memorandum in the following year. The systematic removal of capital projects from the system plan indicates limited commitment to project justification and needs analysis. **Exhibit XI-4** provides examples.

Exhibit XI-4
System Planning Inconsistencies – Disappearing Projects

System	2009-2011 Projects Year 2	2010-2013 Projects Year 1
Toms River North	New regulator Station in Jackson Replace 4,699 ft. of 2in pipe to 6in pipe on County Line Road	Missing Missing
System	**2010-2012 Projects Year 2**	**2011-2013 Projects Year 1**
Toms River South	Replace 11,550 ft. of main along Hillard Stafford	Missing
Manalapan	Install 3840 ft. of main on Brown Rd	Missing
System	**2011-2013 Projects Year 2**	**2012-2014 Projects Year 1**
Toms River North	Install 2000 ft. of main along E Veteran's Highway	Missing
Toms River South	Install 1255 ft. of 6 in main on Musket	Missing
Manchester	Install 3800 ft. of 6 in main from River Point Development	Missing

Source: DR 110.

- Capital projects needed in future years are frequently not planned and identified in any of the planning memoranda, indicating insufficient consideration for long-term planning needs. **Exhibit XI-5** provides examples of capital projects appearing in the current (Year 1) plan that were not previously considered.

Exhibit XI-5
System Planning Inconsistencies – Projects Identified One Year Later

System	2009-2011 Projects Year 2	2010-2013 Projects Year 1
Northern	Not Considered Not Considered	Increase regulator pressure at Constitution Replace 4 miles of 8 in main with 12 in along Thatcher Rd.
Farmingdale	Not Considered	Install 600 ft. of 4 in main on Railroad
Shoreline	Not Considered	Increase regulator flow at Hurley Pond and Allenwood
System	**2010-2012 Projects Year 2**	**2011-2013 Projects Year 1**
Shoreline	Not Considered	Install 75 ft. of main on Central
Freehold	Not Considered	Install 30 ft. of 4 in plastic main along E Freehold
System	**2012-2014 Projects Year 2**	**2013-2015 Projects Year 1**
Bay	Not Considered	Rebuild Regulator Station at Mill and Sapphire
Shoreline	Not Considered	Install 75 ft. of 4 in main on Neptune Install 430 ft. of 2in main on Ocean

Source: DR 110.

[346] DR 110

6. **NJNG is not effective in completing projects in the current fiscal year as planned.**

- **Exhibit XI-6** provides the number of projects to be completed in the current fiscal year (Year 1 of the memorandum) and the number of projects deferred to the next fiscal year.

- Patterns of projects deferred and schedule slippage is an indication of weak project schedule and cost management.

Exhibit XI-6
Deferred Projects

Fiscal Year	Total Projects to Be Completed	Projects Deferred
2009-2011	8	4
2010-2012	10	5
2011-2013	8	4
2012-2014	4	2

Source: DR 110.

7. **NJNG's pipeline documentation is sufficient in a number of areas.**

- NJNG has developed procedural manuals in the form of its Standards, Operating, Maintenance and Emergency (SOME) Manual containing volumes outlining administration, construction, O&M, and emergency procedures.[347]

- NJNG utilizes a one-call system, satisfying several of the damage prevention program requirements prescribed in §192.614.[348]

- NJNG has developed a Pipeline Safety Public Awareness Communications Plan addressing efforts to improve public awareness of pipeline operations and safety issues through enhanced communications with the affected public, emergency officials, public officials, and excavators.[349]

- NJNG has participated in evaluations of its Pipeline Safety Public Awareness Communications Plan and received an evaluation report prepared by The Center for Research on behalf of the Northeast Gas Association (NGA).[350]

- NJNG has prepared an Operator Qualification Plan (OQP) that prescribes requirements for evaluating the qualifications of persons performing the O&M tasks on a NJNG pipeline facility, with the purpose of minimizing human error by establishing a verifiable, qualified workforce.[351]

[347] DR 122
[348] DR 245
[349] DR 246
[350] DR 247
[351] DR 253

- NJNG possesses an NGA Plan and has stated that this plan is used to validate and proctor NJNG's Operator Qualification testing.[352]

- NJNG has not received any written violations related to 49 CFR 192 or notices from the BPU, other than correspondence regarding potential violations.[353]

8. NJNG's pipeline documentation is deficient in a number of areas.

- Procedural manuals fail to meet all the criteria prescribed in §192.605; manuals appear incomplete, out-of-date and parts are not readily available. For example:

  - There has not been an official evaluation of the NJNG SOME Manual by the BPU or another pipeline regulatory authority, as required by regulation.[354]
  - During the audit NJNG considered Control Room Management Procedures to be too voluminous to be provided electronically. The 76-page document could not be made available until nearly the completion of audit field work.[355]
  - The Pipeline Safety Public Awareness Communications Plan fails to assess the unique attributes and characteristics of NJNG's pipeline and facilities.

- A more detailed listing of apparent deficiencies is provided in **Exhibit XI-7**.

[352] DR 253
[353] DR 256 and 257
[354] DR 257
[355] DR 251

Exhibit XI-7
Summary of Energy Delivery Documentation Deficiencies

Audit Reference	Requirement	Audit Analysis
SOME Vol. 1-4 Procedural Manuals (DR 244)	192.605	Apparent Deficiencies: • Procedures for handling abnormal operations for transmission lines are absent (responding, investigating, and correcting the cause of incidents including, but not limited to, unintended closure of valves or shutdowns, increase or decrease in pressure or flow rate outside normal operating limits, loss of communications, operation of any safety device, any other foreseeable malfunction). • SOME Manual fails to make construction records, maps, and operating history available or process for availability. • Procedures for maintaining compressor stations, including provisions for isolating units or sections of pipe and for purging before returning to service are absent (mentioned on SOME 3.04.02 Pressure Relief & Limiting Stations, but procedures are absent). • Lack of information to confirm this manual has been reviewed and updated by the operator at intervals not exceeding 15 months, but at least once each calendar year. • Instructions for starting, operating and shutting down gas compressor units are absent. • Lack of written procedure for periodically reviewing the work done by operator personnel to determine the effectiveness and adequacy of the procedures used in normal operation and maintenance, and modifying the procedures when deficiencies are found.
SOME Vol. 1 Uprating Plans (DR 243)	192.553	Response appears satisfactory.
SOME Vol. 2 Construction Standards (DR 240)	192.303	Apparent Deficiencies: • Written specifications or standards for transmission lines are not labeled as such or are absent.
SOME Vol. 2 Construction Standards (DR 241)	service line construction standards	Response appears satisfactory.
SOME Vol. 2 Construction Standards (DR 242)	192.305	Response appears satisfactory.
"Policy re. critical valves" SOME Vol. 3 (DR 252)	192.747	Apparent Deficiencies: • There is no mention of "critical valves" in the "policy regarding critical valves". • There is an absence of criteria used by NJNG to identify critical valves or valves of any other classification of valves. (Also absent from SOME Vol. 1.01.06 Valve Classifications.)

Audit Reference	Requirement	Audit Analysis
SOME Vol. 3 Damage Prevention Program (DR 245)	192.614	Apparent Deficiencies: • Damage prevention program fails to meet the following requirements of 49 CFR 192.614 part (c): (1) Include the identity, on a current basis, of persons who normally engage in excavation activities in the area in which the pipeline is located. (2) Provide for notification of the public in the vicinity of the pipeline and actual notification of the persons identified in paragraph (c)(1) of this section of the following as often as needed to make them aware of the damage prevention program: (i) The program's existence and purpose; and (ii) How to learn the location of underground pipelines before excavation activities are begun. (4) 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. (6) Provide as follows for inspection of pipelines that an operator has reason to believe could be damaged by excavation activities: (i) The inspection must be done as frequently as necessary during and after the activities to verify the integrity of the pipeline; and (ii) In the case of blasting, any inspection must include leakage surveys.
SOME Vol. 4 (DR 248)	192.615	Apparent Deficiencies: • Lack of instruction or plan for how operators should establish and maintain liaison. • Lack of information about the responsibility and resources of each government organization that may respond to a gas pipeline emergency. • Lack of instruction on how to acquaint the officials with the operator's ability in responding to a gas pipeline emergency. • Absence of plan for how the operator and officials can engage in mutual assistance to minimize hazards to life or property.
SOME Vol. 4 (DR 250)	192.617	Apparent Deficiencies: • Lack of procedure for administering pressure and odor tests. • Lack of information used to analyze results.
Pipeline Safety Public Awareness Communications Plan dated August 2012 (DR 246)	192.616	Apparent Deficiencies: • Assessment of the unique attributes and characteristics of NJNG's pipeline and facilities is absent.
Reports evaluating the Public Safety Awareness Communication Program (DR 247)		Response appears satisfactory.
Public awareness program evaluation studies (DR 249)	192.615	Apparent Deficiencies: • Procedures and guidelines of a liaison program is absent from both study and evaluation. • Study fails to conduct research or reach conclusions about effectiveness of liaison program.

Audit Reference	Requirement	Audit Analysis
Control Room Management Procedures (DR 251)	192.631	Apparent Deficiencies: • Management procedures not readily available.
NJNG Operator Qualification Plan dated 2008 Northeast Gas Association plan dated March 2013 used to validate and proctor NJNG's OQ testing (DR 253)	192.805	Apparent Deficiencies: • It is unclear whether NJNG has attempted to adopt the NGA Plan as an extension of their OQP, which is problematic in that the NGA Plan's purpose is to validate and proctor NJNG's OQ testing and is not a plan specific to NJNG. ("Company name" is listed several times in NJNG's plan suggesting an incomplete work product and NJNG is listed nowhere). • If NJNG has adopted the plan, the purpose of the NJNG OQP is unclear. • The qualification evaluation process is mentioned in NJNG's plan, but the process is not explained. • NJNG has not updated the OQP in over 5 years.
DIMP dated May 11, 2012 (DR 255)	192.1005	Apparent Deficiencies: • List of the highest 10 percent risk facilities is absent. • Lack of identification of specific risks and of procedures for implementing measures to address risks. • Performance measurements and evaluations of effectiveness are absent.
DIMP dated May 2012 Transmission IMP dated September 2012 Document entitled DIMP Embedded Links (DR 254)	192.907	Apparent Deficiencies: • The documents are plans apparently purchased from a third party and contain hidden text instructions for completing the plan – thereby making evident the minimal and incomplete nature of the NJNG program. • Continual improvements and updates have not been made to the program. Deadlines and schedules are out of date by four or more years. • The entirety of the links from the document entitled DIMP Embedded Links are to documents not included in the response, and apparently found on the company shared drive. This document must be reviewed on-site for those links to be effective. • Information that should be present in the report is referenced to other documents that do not appear to exist (e.g. organizational charts). • Identification and locations of all HCAs are absent. • Lack of criteria for how all transmission lines have been classified as HCA; lack of clarity on non-HCA mileage. • Information on updating HCAs using Method 1 is absent. • Baseline Assessment Plan meeting the requirements of § 192.919 and § 192.921 is absent. • Lack of demonstration that the risk assessment method is proved for seam anomaly detection. • Threat identification procedures and supporting documents are absent (such as risk analysis, critical valve books, threat analysis, pipeline risk analysis guidelines, pressure testing procedure, etc.). • Pipeline Integrity Management Personnel's training and qualification documentation is absent. • Dates that address compliance requirements are marked as "annual" – what are the actual dates? (such as dates for reviewing and updating threat analysis and risk analysis) • Assessment methods are lacking high-level descriptions of the processes for different types of assessment (in-line

Audit Reference	Requirement	Audit Analysis
		inspection, pressure testing, etc.). • Pressure reduction guideline and External Corrosion Direct Assessment (ECDA)/Internal Corrosion Direct Assessment (ICDA) procedures for modified Confirmatory Direct Assessment (CDA) are absent.[356] • Annual performance report and performance metrics are absent. • Lack of internal audit and internal benchmarking procedures. • Decisions, analyses, and developed processes used to implement and evaluate each element of the baseline assessment plan and integrity management program are absent. • Schedule that prioritizes the conditions found during an assessment for evaluation and remediation is absent. • Record of actions taken to comply with direct assessment requirements is absent. • All required submissions and notifications to OPS and/or BPU are absent. • Procedural changes lack specificity as to how Standard Operating Procedures are updated and changed (how are they changed, how often, by whom, etc.). • Specific activities that are included in the quality control program are absent. • Results and effectiveness of the integrity management program and quality control program are absent. • Corrective actions to improve the integrity management program and quality plan are absent. • Communication plan lacks procedures for addressing safety concerns raised by OPS and/or state or local pipeline safety authority. • Environmental procedures to address spills and cleanup in an environmentally safe manner are absent.
Correspondence re. probable violations (DR 256)	listing of all violations in last 3 years	NJNG has not received any written violations related to 49 CFR 192 or BPU Regulations other than correspondence regarding probable violations that has been provided in Response DR #257.
Correspondence re. probable violations (DR 257)	written evaluations of written safety procedures in last 3 years	There has not been an official evaluation of the NJNG SOME Manual by the BPU or other pipeline regulatory authority. NJNG has provided samples of correspondence between NJNG and the BPU concerning suggested modifications to NJNG procedures.

[356] Integrity regulations allow an operator to use CDA to meet the seven-year re-assessment requirement when the suggested re-assessment period for the baseline assessment method is longer than seven years.

9. **NJNG has been complacent with regard to updating internal documents, procedures, and policies. This includes, but is not limited to, the SOME Manual, the IMP, DIMP, OQP, and Damage Prevention.**

- NJNG's plans and documentation do not include specific dates. NJNG believes "annually" is a sufficient date.[357]

- There is no information to confirm NJNG's SOME Manual has been reviewed and updated by the operator at intervals not exceeding 15 months, but at least once each calendar year, as required by §192.605.[358]

- CFR §192.907 requires that the initial IMP evolve into a more detailed and comprehensive program. An operator (NJNG) must make continual improvements to the program. It does not appear that NJNG has continued to make improvements to the IMP program.

10. **NJNG's IMP and DIMP content is incomplete, raising concerns about their accessibility and the potential effectiveness of the program.**

- NJNG believes that the objective of developing an IMP was to bring all of the relevant pipeline policy, operational and organizational aspects together in order to provide an integrated management control plan.[359] NJNG acknowledges that CFR §192.907 calls for a written IMP and, that it must contain all the elements described in §192.911.[360] However, NJNG's IMP and DIMP contain inaccessible references to internal documents and fail to meet the full set of requirements prescribed in §192.901-951 and §192.1001-1015.

  - NJNG's IMP contains numerous embedded links and relies on internal documents and records that are stored on an internal company computer drive and are not part of the general training manual or handbook. In order for these documents to be effective, one must be on-site or have remote computer access to the shared drives. Thus, they are not made easily accessible to personnel, staff and regulators who are not actively using NJNG's shared drive.
  - NJNG states that this approach eliminates the need for printing pages of updates when they occur and avoids the risk that recent modifications may not be readily available. While hard copy may not be required, NJNG has demonstrated that many parts of the IMP, including modifications, are not readily available.

- NJNG believes its IMP addresses all of the risks on each covered transmission pipeline segment.[361]

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[357] DR 254 IMP p.16, 35, 42, 54, 60
[358] DR 244
[359] DR 602
[360] DR 600 and 601
[361] DR 601

- NJNG believes that the objectives of § 192.907 and § 192.911 can be satisfied by printed or electronic references to the SOME manual, references to other NJNG functional area policies, procedures or document records, or statements such as that it adheres to ASME/ANSI B31.8S.[362]

- The IMP is intended to provide an integrated set of policies, procedures and specifications – not an index to another location or set of documents to be hunted down when needed. This requirement cannot be satisfied by countless references to policies/procedures/documents/records that are contained somewhere else in the company.

11. IAD has been ineffective in bringing IMP issues to management's attention.

- IAD completed an audit of NJNG's IMP noting that the IMP is applicable to all gas transmission lines operated by NJNG as defined by the Department of Transportation.[363]

- IAD's audit objectives included evaluating internal controls over the IMP process, evaluating compliance with the CFR and ensuring that the operating procedures being performed are in compliance with the IMP.

- IAD interviewed personnel and reviewed flow documentation, identified key control points and compared the IMP to the CFR to ensure compliance. Based on this review, IAD noted that the control processes are in place and working effectively. No exceptions were noted. In IAD's opinion, the IMP is in compliance with the CFR and the procedures being performed are operating effectively and are in compliance with the IMP.

- IAD's audit results are in stark contrast to the deficiencies identified above.

12. NJNG responded well to the unprecedented magnitude of Hurricane Sandy; however, there are gaps in NJNG's emergency response plans. Emergency preparedness could be adversely affected if NJNG does not modify its storm response plan to incorporate "Sandy lessons learned".

- NJNG's SOME Manual Volumes 3 and 4 provide its emergency procedures. As discussed previously, NorthStar believes there are deficiencies in the following areas:

  - Procedures for handling abnormal operations for transmission lines are absent (responding, investigating, and correcting the cause of incidents including, but not limited to, unintended closure of valves or shutdowns, increase or decrease in pressure or flow rate outside normal operating limits, loss of communications, operation of any safety device, and any other foreseeable malfunction).
  - The SOME Manual fails to make construction records, maps, and operating history available to appropriate operating personnel.

[362] DR 603
[363] DR 18, 03M-09 October 27, 2009

- Lack of information to confirm this manual has been reviewed and updated as required.

- NJNG held post-Sandy debriefings with management and supervisory personnel in February, and bargaining unit personnel in April. In May 2013, NJNG produced its Superstorm Sandy Lessons Learned Report highlighting best practices and opportunities for improvement.[364] The report suggests items for investigation and remediation and reflects a number of areas in which change of policy, additional planning, and modification of existing plans are necessary.

- According to NJNG, it is in the process of implementing action plans as a result of the lessons learned session conducted by management as a result of Sandy.[365] However, at the completion of the audit field work, over a year since Sandy, NJNG had yet to complete revisions and modifications to existing manuals and emergency storm response plans.[366]

13. NJNG lacks an organized liaison program critical to successful response during emergencies.

- §192.615 requires NJNG to establish liaisons with appropriate fire, police, and other public officials with the purpose of engaging in mutual assistance to minimize hazards to life or property.

- SOME emergency section fails to meet the requirements prescribed in §192.615.[367]

14. NJNG's pipeline construction is predominantly performed by two contractors, under a long-term relationship without the benefit of competitive bidding or internal competition. Such an arrangement fails to account for changes in the business environment and effectively eliminates market forces and contractor competition.

- The relationship between NJNG and the Alliance contractors goes back many years. Kiely and Gray have provided pipeline construction services to NJNG since 1952.[368]

- The current Alliance contracts were initially established on August 3, 2001 without the benefit of competitive bidding. They have been amended a number of times and currently span 20 years, terminating August 3, 2021.[369] The most recent amendments extending the contract end dates were the result of a negotiated rather than competitive bid process.

- Kiely and Gray generally do not compete against each other for construction work.

[364] DR 125
[365] DR 124
[366] DR 124
[367] DR 248
[368] BPU Division of Audits Memorandum Szymanski/Gallin dated June 20, 1994
[369] DR 335 (Confidential)

- Kiely works mostly in Morris and Monmouth counties; Gray does most of the work in Ocean and Atlantic counties.
- Kiely also does virtually all the construction of larger mains, especially those over 12 inches in diameter.

• Kiely and Gray do not compete against NJNG's internal resources, as NJNG does not currently have the equipment and facilities necessary to perform large construction work. At the time of the prior audit, internal resources performed about 10 percent of the construction work.[370]

• The lack of competitive bidding in NJNG's construction program and the practice of sole sourcing contract work have been an issue for decades and have been highlighted in prior BPU-ordered audits. In its explanation and justification for the use of only two construction contractors, NJNG stated that it utilized a competitive bidding process between 1992 and 1997 to obtain a number of different contractors used for construction work. In response to the perceived high costs, inefficiencies in dealing with different contractors, and frequent instances of poor workmanship encountered during that time period, NJNG initiated a process to assess activities related to construction.[371] The firms of Kiely and Gray were willing to work with NJNG in an alliance relationship and had the necessary skills and experience.

15. NJNG's reasoning for why it does not perform pipeline construction is self-fulfilling.

• NJNG has not performed a specific economic or service level analysis on the decision making process for selecting in-house crews versus outside contractors.[372]

• NJNG stated that it does not perform the majority of major construction projects and related activities since it does not have the necessary large construction equipment, sufficient facility yards for material storage or the other required resources to perform that work. It also does not maintain the necessary heavy equipment for installing and replacing large distribution and transmissions mains. [373] According to NJNG:

- The capital investment required is prohibitive and not cost effective for a company the size of NJNG.
- NJNG can manage its workforce to maintain its system throughout the entire year without the need of lay-offs during the winter season when construction work is limited.
- The use of outside contractors for major construction projects provides a cost effective approach.

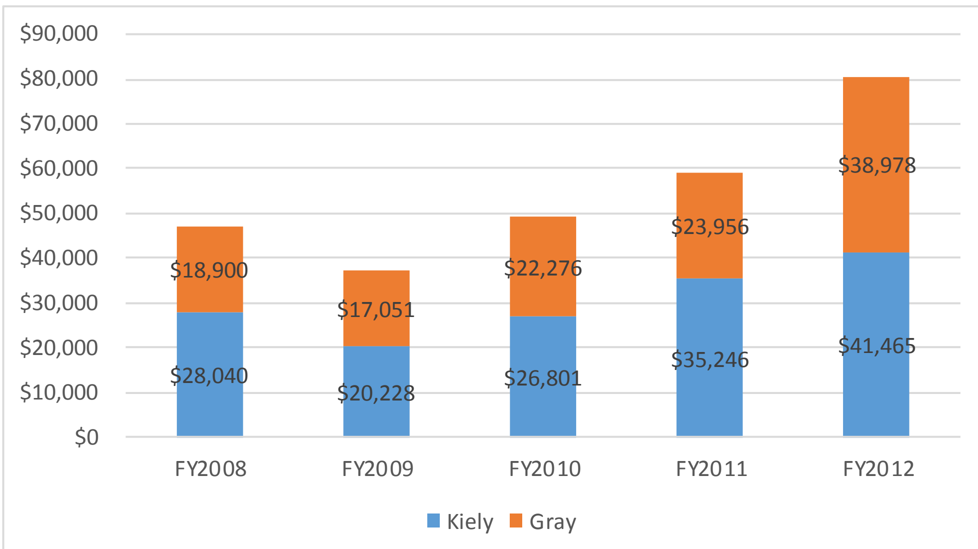
• NJNG was unable to provide any analyses for these positions and pays the Alliance contractors for all the items identified above.

[370] Liberty Audit Report
[371] DR 272 and 335 (Confidential)
[372] DR 293
[373] DR 136 and 273

16. **The Alliance contract expenditures have increased substantially over time. A competitive construction contracting program may represent significant cost savings potential.**

- Alliance contractor construction expenditures have increased from nearly $47 million in FY2008 to over $80 million in FY2012, as a result of the SAFE and AIP programs. These expenditures are summarized in **Exhibit XI-8** below.[374]

Exhibit XI-8
Alliance Contract Construction Expenditures
(Dollars in Thousands)



			Payments		
Supplier Name	**FY2008**	**FY2009**	**FY2010**	**FY2011**	**FY2012**
Kiely	$ 28,040	$ 20,228	$ 26,801	$ 35,246	$ 41,465
Gray	$ 18,900	$ 17,051	$ 22,276	$ 23,956	$ 38,978
Total	**$ 46,941**	**$ 37,279**	**$ 49,077**	**$ 59,202**	**$ 80,443**

Source: DR 298.

17. **The Alliance program is failing to meet the objectives set by NJNG at the program's inception.**

- NJNG states their intention of an Alliance program is to partner with contractors in order to help NJNG grow in a cost effective manner while helping the contractors maintain an acceptable profit level and produce a quality product. **Exhibit XI-9** provides the program goals and NorthStar's assessment:

[374] DR 298

Exhibit XI-9
Achievement of Alliance Goals – NorthStar Assessment

Goal/Objective	NorthStar Assessment
Reduce costs in all aspects of the construction process	NJNG cannot demonstrate a cost reduction in many aspects of the construction process
Align the contractor's goals with NJNG's goals and vice versa	Contractors are a separate entity with unique objectives and goals
Provide a quality product and measure quality	The program value and quality has not been effectively evaluated on an ongoing basis
Eliminate redundancies in the construction process	Redundancies exist
Develop a compensation process where risks are shared and incentives and performance measures are used to calculate payment	Contractors incur little risk and do not share the risks of NJNG
Include the contractor in the planning process to improve efficiencies in productivity and resource management	The planning process has numerous deficiencies and produces inaccurate project work estimates

- NorthStar's assessment is explained in greater detail below.

18. Under the terms of the agreements, the Alliance contractors have limited financial exposure.

- According to the Liberty audit, the Alliance contractors were involved in developing the contract structure.[375]

- The Alliance contractors are reimbursed for all reasonable actual direct and indirect project costs (i.e., direct labor and labor-related expenses, materials, equipment, general and administrative overheads, and annual wage adjustments) plus an initial profit margin currently set at 13 percent for Gray and 12.75 percent for Kiely.[376] Per the contracts, the minimum amount of profit obtained in accordance with the profit formula is seven percent.[377]

- The contractors are also eligible to share in any savings resulting from lower than expected unit costs.[378]

- The profit and savings sharing are adjusted downward or upward based on achievement of certain performance targets. The amount is calculated quarterly and set by the variance between the actual and planned unit cost targets:

  - If there is no major variance (i.e., one percent) between actual and planned unit costs, the profit percentages remain at 13 percent and 12.75 percent.

[375] Liberty Audit Report
[376] DR 335 (Confidential) – First Amendment. Actual Cost plus 13 percent and Direct Material and Direct Equipment profit of 8.5 percent
[377] DR 335 (Confidential)
[378] DR 683

- If actual costs are higher than the planned target, the contractors' profit percentage is adjusted downward until the minimum profit percentage threshold is reached.
- If actual costs are lower than planned, then an additional sharing "pool" of dollars is amassed to be split between NJNG and the contractor(s) based on their performance on five performance categories (i.e., productivity, customer satisfaction, documentation, stores and inventory, and quality).[379]

19. NJNG exercises limited direct oversight or controls over the Alliance contractors or their costs.

- Although NJNG's engineering department prepares capital project estimates, these estimates support high level project scheduling, not project management. They are also not a good gauge of final cost, or a direct factor in determining the profit pool paid to the Alliance contractors.[380] **Exhibit XI-10** provides project cost estimates and actual completion costs for the three most recently completed capital projects performed by Kiely and Gray. While this sample is small, nearly all the estimates deviated more than 10 percent from the actual costs recorded.

Exhibit XI-10
Actual versus Estimated Cost Comparison

Project	Estimated Cost	Actual Cost	Percent Difference (of Estimate)
#6110-5391	$ 46,237.57	$ 35,124.48	-24%
#6130-8314 install	$ 67,652.70	$ 25,517.62	-62%
#6130-8314 retire	$ 3,115.78	$ 3,714.73	19%
#6140-6457 install	$ 274,372.42	$ 173,006.07	-37%
#6140-6457 retire	$ 20,195.27	$ 20,672.49	2%

- A cost containment measure (variance between the actual and planned unit cost targets) is the primary measure used to set the contractors' profit percentages. The unit cost targets are the same unit costs used to develop NJNG's annual budget. In essence, this performance measure provides the contractors with a minimum profit of seven percent regardless of their budget performance, and increased profits if their costs meet NJNG budgets.

- As discussed further in the Contractor Performance Chapter, NJNG does not have an effective process to perform independent inspections of the Alliance Contractor construction activities.

  - Although Construction Coordinators routinely visit contactor sites, their main function is to coordinate activities, rather than to provide independent quality inspections.
  - Further, contractors are notified of the inspection and areas to be reviewed in advance of the inspection.

[379] DR 335 (Confidential)
[380] DR 280

- NJNG audits the Alliance contract cost data necessary for applying contract provisions; however, improvements are possible to this process, as discussed in the Contractor Performance Chapter. Such verification is fundamental for a cost plus fee-based program and for long-term maintenance of the cost control provisions of the agreement.

- NJNG does not have a system for comparison and evaluation of capital project estimates and actual costs.[381] On a monthly basis, information on projects that are 10 percent or more over budget is provided to senior management.

- NJNG does not have capital project benchmark data, evaluations, or information on capital project management best practices.[382]

- Management tools, methods and control techniques used by Kiely and Gray to support performance, and the methods and responsibilities regarding workload management and control techniques are minimal.[383]

20. NJNG has not adequately responded to criticism of the Alliance program and seems disinclined to modify the program.

- The previous audit recommended that NJNG prepare a structured, comprehensive, documented analysis of effectiveness and alternatives before making any further extensions of the Alliance contract, and develop through competitive or other measures a sound understanding of likely costs from other potential suppliers. The Alliance contracts were extended in 2011 to expire August 3, 2021, without the benefit of any such analysis.

    - Specifically, the audit required that further extension of the Alliance contract should be accompanied by a detailed cost-benefit analysis documenting not only the reasons for any extension but also the alternatives available. Such a cost benefit study would require as much cost and performance data from regional construction contractors as NJNG can obtain. For that reason, cost data from contractors outside the Alliance should be solicited.
    - The audit recommended that NJNG use measures that demonstrate to other potential suppliers and to the Alliance contractors that contractor decisions are not a foregone conclusion and that providing cost and price information to NJNG is more than a hypothetical exercise.
    - The audit also recommended that NJNG should actively solicit additional construction firms to participate in the Alliance approach, if it is to continue past the end of the current agreement. NJNG did not contact additional firms to determine their interest in joining the Alliance contract when the existing contracts were extended.

[381] DR 274
[382] DR 275
[383] DR 276

- Performance by other contractors is important in assuring that NJNG continues to remain capable of evaluating the performance and costs of the Alliance against competitors. Benchmarking and other industry-wide studies have value, but sole or primary reliance on them to keep current about market alternatives becomes increasingly risky as the duration of an Alliance-type relationship lengthens. As discussed previously, the value of the work assigned to the Alliance contractors has increased over time.

D. Recommendations

48. Develop a comprehensive program to address the leak backlog and mitigate excavation damages. (Refers to Conclusions 1 and 2)

49. Develop a system planning function within NJNG. This function would be responsible for integrating all infrastructure planning and developing an effective and comprehensive long-term system plan. (Refers to Conclusions 3 through 6)

50. Remediate each of the pipeline documentation deficiencies noted in Conclusions 8 through 10 contained in NJNG's SOME Manual Volumes 3 and 4, the IMP and the DIMP, and report on their individual completion to BPU Staff.

    - Procedures for handling abnormal operations for transmission lines (responding, investigating, and correcting the cause of incidents including, but not limited to, unintended closure of valves or shutdowns, increase or decrease in pressure or flow rate outside normal operating limits, loss of communications, operation of any safety device, and any other foreseeable malfunction).

    - Make SOME Manual construction records, maps, and operating history available to appropriate operating personnel.

    - Demonstrate that the manual has been reviewed and updated by the operator at intervals not exceeding 15 months, and at least once each calendar year.

51. Complete all "Sandy lessons learned" action plans and activities prior to the next storm season. (Refers to Conclusion 12)

52. Develop and formally document an organized storm response liaison program. (Refers to Conclusion 13)

53. Conduct pipeline construction in a competitive manner. (Refers to Conclusions 14 through 20)

    - Limit the Alliance program to half of NJNG's construction work (or other proportion as agreed to with the BPU) until the Alliance program costs and benefits can be independently verified by the BPU.

- NJNG resources could be used to perform comparable pipeline construction as a benchmark against Alliance contractors.

- Use contractors other than Alliance contractors to competitively bid and perform pipeline construction work as a benchmark for comparison.

- Annually document, through relevant benchmarking comparisons, the installed cost of mains and services for various types of work and service territory geography of work performed by the Alliance contractors and other contractors. The analysis should be performed by an external third-party that is not one of the Alliance contractors, with the results provided directly to the BPU.

54. Improve oversight of the cost and quality of the work performed by the Alliance contractors. See the Contractor Performance Chapter for additional discussion. (Refers to Conclusion 19)

Chapter XII: Contractor Performance (RFP 3.2.13)

This chapter examines NJNG's oversight of its contractors in two areas: 1) the work performed by UtiliQuest to locate and mark NJNG's transmission and distribution facilities in accordance with the requirements of the NJ One Call Law; and 2) the work performed by the Alliance contractors to install new and replacement lines and services. Further discussion of the Alliance contractors is provided in the Distribution and Operations Management Chapter.

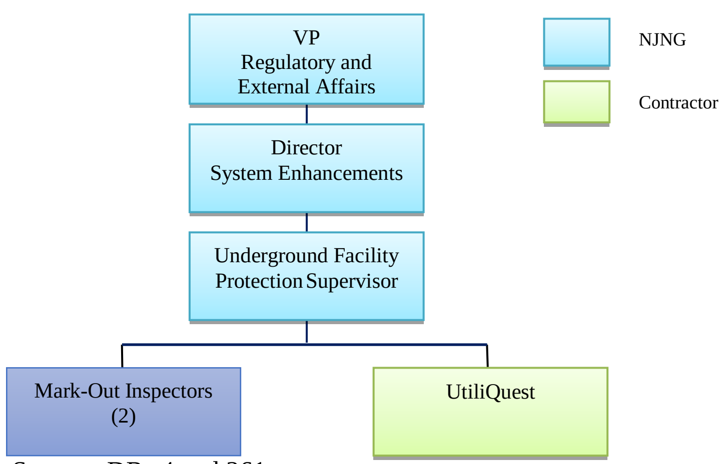
A. Background

Underground Facilities Protection (Mark-Out Program)

New Jersey's Underground Facility Protection Act, or One Call Law, requires excavators to call the NJ One Call Center three days prior to excavation. The NJ One Call Center collects information about upcoming excavation projects and notifies NJNG and other facility operators. NJNG is then responsible for marking the location of its underground facilities.

NJNG uses a mark-out contractor, UtiliQuest, to locate and mark the transmission and distribution facilities within its franchise area. NJNG's Underground Facility Protection group, comprised of a supervisor and two mark-out inspectors, oversees the mark-out work. The Underground Facility Protection group reports to the Director of System Enhancements in NJNG's Regulatory and External Affairs department, as shown in **Exhibit XII-1**.

Exhibit XII-1
NJNG Mark-Out Organization



Source: DRs 4 and 261.

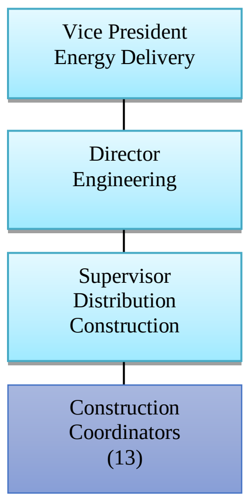
The Underground Facility Protection group was established in 2007 and the first mark-out inspector was hired in 2008. Prior to this, NJNG did not have dedicated mark-out inspectors.

The UtiliQuest mark-out technician locates gas lines using NJNG's on-line Geographic Information System (GIS) and service record systems, as well as detection equipment. Once the line is located, the technician marks-out the area using flags, stakes and/or paint, in accordance with N.J.A.C. and NJNG standards. Following the mark-out, the technician completes an e-sketch documenting the mark-out in accordance with NJNG standards.

Oversight of Alliance Contractors

NJNG's Engineering Department's Construction Coordinator personnel are responsible for the direct oversight of the work of NJNG's two Alliance contractors, Kiely and Gray. There are 14 Construction Coordinators, including the Supervisor, as shown in **Exhibit XII-2**.

Exhibit XII-2
NJNG Construction Coordinator Organization



Source: DR 4.

According to the SOME manual, the purpose of the Construction Coordinator Department is to ensure the gas facilities are installed safely and in accordance with all appropriate NJNG construction standards and specifications, and that the Alliance contractors perform their work in an appropriate manner.[384] The Construction Coordinators prepare service orders, meet with Alliance contractor site supervisors to coordinate schedules, and review the contractors' daily performance. Four of the coordinators also coordinate the installation of new facilities and meet with developers while at the construction sites. Except for the coordinators responsible for new development work, the coordinators rotate sites on a weekly basis.[385]

NJNG also has administrative oversight of the Alliance contractors' performance. NJNG's contracts with the two Alliance contractors have six performance measurement categories linked to the contractors' profit percentages:

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[384] DR 242
[385] IR 53

- Cost Containment
- Customer Satisfaction
- Documentation
- Stores and Inventory
- Productivity
- Quality.[386]

NJNG also performs semi-annual audits of the Alliance contractors' overhead expenses and indirect costs which are charged to NJNG.

The cost containment measure is the primary measure used to set contractors' profit percentages. The profit percentage is calculated quarterly and set by the variance between the actual and planned unit cost targets. The planned unit cost targets also serve as the basis for NJNG's capital budget.[387]

B. Evaluative Criteria

- Does NJNG exercise adequate oversight of its contracted service to meet the obligation to locate and temporarily mark its underground gas lines in accordance with the requirements of the NJ One Call Law? (Conclusions 1 and 2)
- Does NJNG have appropriate procedures to inspect the work of contractors it has engaged to install new and replacement lines and services? (Conclusions 3 – 10)

C. Findings and Conclusions

1. NJNG has a sound process for inspecting the mark-outs performed by UtiliQuest.

- NJNG's two mark-out inspectors perform a minimum of four inspections of each mark-out technician per quarter, including one face-to-face audit during which the inspector observes mark-out activities.
- The mark-out inspectors complete a formal checklist for each inspection.
- The mark-out technician fails an inspection when he/she does did not locate the gas facility using equipment, did not complete an e-sketch according to NJNG requirements, did not perform the mark-out in accordance with NJAC regulations and NJNG standards, or the mark-out was not completed.

386 DR 335 (Confidential)
387 IR 98

- NJNG takes appropriate corrective action when an UtiliQuest technician fails an inspection, including meeting with the technician to observe the mark-out process and provide training as needed.[388]

- If an UtiliQuest technician has two failed inspections, the NJNG Underground Protection Supervisor issues a notice to UtiliQuest to remove the technician from NJNG work until the technician is retrained.[389] In accordance with the contract, an UtiliQuest technician may not work in NJNG service territory after three failed inspections.[390]

- NJNG has an adequate process to confirm that UtiliQuest has performed necessary mark-outs on a daily basis.

  - NJNG receives daily reports each morning from UtiliQuest listing the work performed the previous day.
  - The Mark-out Inspectors compare work listed on the UtiliQuest report to a tally compiled by NJ One Call of all tickets related to NJNG that were called in during the previous 24-hour period.[391]

2. NJNG's reported mark-out inspection results are inaccurate.

- NJNG reports mark-out inspection results to the BPU on a quarterly basis. The reports provide the detailed checklist results and summarize the results to show the number of audits that are accurately marked, the number of facilities not marked, and the number that meet NJNG Specifications.[392]

- NorthStar analyzed the detailed checklist data but could not replicate the summary counts. During the audit period, the identified deficiencies were sometimes included in the summary counts, and at other times they were not included in the totals.[393]

- NJNG is aware that there have been differences in the items included in the summary results, and is in the process of revising the reports to summarize the inspection results in a consistent manner.[394]

[388] DR 261
[389] DR 261
[390] DR 662
[391] DR 258
[392] DR 346
[393] DR 661
[394] DR 661

3. **Although NJNG's excavation damage rates are higher than neighboring utilities, there was a general decrease in the damages rates between 2008, when NJNG established the formal inspection program, and 2012. The damage rate increased in 2013. According to NJNG, the increase is associated with restoration and construction efforts in the aftermath of Superstorm Sandy.**

- A comparison of NJNG excavation damage rates to those of other utilities is provided in **Chapter XI**.

- As shown in **Exhibit XII-3**, NJNG's excavation damage rate has generally improved since the establishment of the mark-out inspection program; however, the damage rate was significantly higher in 2013.

Exhibit XII-3
Excavation Damages per 1,000 Tickets

CY	Number of Tickets	Number of Damages	Damages per Thousand Tickets	Cause of Excavation Damage					
				No Notice	Per-cent	Con-tractor Failures	Per-cent	Mark Out Errors	Per-cent
2008	137,785	511	3.71	261	51%	193	38%	57	11%
2009	129,724	437	3.37	198	45%	191	44%	48	11%
2010	123,360	419	3.40	196	47%	177	42%	46	11%
2011	127,006	406	3.20	202	50%	152	37%	52	13%
2012	136,307	378	2.77	172	46%	171	45%	35	9%
2013	165,696	593	3.58	256	43%	272	46%	65	11%

Source: DR 405.

- As shown in **Exhibit XII-3**, there was an increase in the number of excavation contractor damages in 2013 compared to earlier years.[395]
- According to NJNG, 296 of the 593 damages in 2013 (50 percent) were in the Ocean Division and primarily due to restoration and construction in the aftermath of Superstorm Sandy. [396]
- The NJ state-wide target is 3.00 damages per 1,000 tickets.[397]

4. **NJNG does not have effective processes to perform quality inspections of the Alliance contractor construction activities. Although Construction Coordinators routinely visit contactor sites and review site activities, their main function is to coordinate actitivites, rather than to provide independent quality inspections.**

- The Alliance Contract explicitly states that the enforcement of quality standards is the responsibility of the contractors, not NJNG itself.

> "It should be stressed that enforcement of NJNG standards to which quality is measured is … the responsibility of its contractors. Part of

[395] DR 405 Supplement
[396] DR 405 Supplement
[397] http://yourmoney.nj.gov/transparency/performance/bpu/pdf/201302.pdf

> the foundation of the Alliance concept is that "Quality" is the rule, not the exception, while reducing the overall business risk of the contractor. **NJNG's role in the quality control function should be one of observance, not enforcement**, and to ensure that the contractors maintain and contually improve on quality, in all its forms, at all times [emphasis added]." [398]

- It is the responsibility of each Alliance contractor to report its quality deficiencies; however, the Alliance contractors do not provide any reports regarding construction deficiencies. According to NJNG, deficiencies identified by the Alliance contractors are included in the NJNG inspection reports. [399]

- In contrast to the description of the position in the SOME manual, the Construction Coordinator does not provide a true oversight role:

  - According to the SOME manual, the purpose of the Construction Coordinator Department is to ensure the gas facilities are installed safely and in accordance with all appropriate NJNG construction standards and specifications, and that the Alliance contractors perform their work in an appropriate manner.
  - According to the Construction Coordinator position description, the basic function of the coordinators is to coordinate construction activities, act as a liaison between NJNG, its customers, and the Alliance contractors, and to analyze and maintain information related to contractor productivity and timeliness.[400]

- The Construction Coordinators may not have the requisite experience to assess the quality of the Alliance contractor work. There are no NJNG Construction Coordinator training records or qualification requirements. Most training is completed in-house and on-the job, with the area supervisor or more experienced colleagues acting in the trainer mentor role.[401]

5. The Construction Coordinators conduct audits of almost all the Alliance contractors' pipe replacment projects and half of the new business work. The results indicate that less than 1.5 percent of the audits resulted in an unsatisfactory finding. These results may be misleading, as an activity is rated "unsatisfactory" only if it relates to live gas work, or was the subject of previous warnings.

- NJNG's goal is to visit 100 percent of scheduled pipe replacement projects, 50 percent of new business work, and as much other work, such as cathodic protection and regulator station work, as possible on an annual basis.[402]

- As shown in **Exhibit XII-4**, in the first half of 2013, NJNG conducted audits at close to 100 percent of its pipeline replacement sites.

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[398] DR 683
[399] DR 755
[400] DR 235
[401] DR 659
[402] DR 266

Exhibit XII-4
FY 2013 Construction Inspection Activity through July 2013

Type of Work	Total Number of Crews	Total Number Visited	Percent Oversight
Operations (replacements)	5,641	5,629	99.8%
Sandy Retirements	212	162	76.4%
New Business	2,817	1,435	50.9%
Transmission & Regulator	250	159	63.6%
Cathodic Protection	253	72	28.5%

Source: DR 267.

- The Construction Coordinator review of contractor construction is documented in a Contractor Quality Control Review checklist, summarized in **Exhibit XII-5.** Items reviewed include live gas safety, fusion, pressure testing, cathodic protection, pipe handling, main and service installation, as well other general items.[403]

[403] DR 266

Exhibit XII-5
Items Addressed in NJNG's Contractor Quality Control Review

	Critical	
LIVE GAS SAFETY	**CATHODIC PROTECTION**	**PIPE**
Personal Protection Equipment	Holiday Detection	Transport/Storage/Handling
Smoking on Jobsite	Cad Welds	Condition of Pipe/Coating
Ignition Sources	Test Station	Surface Inspection
Static Control/Grounding	CP Read	Pipe Manufacturing Date
Fire Extinguisher	Anode Installation	Date Not Visible
Bonding	Shrinkable Sleeve Install	**Directional Drill/Bore**
FUSION	Qualification Card	Existing Facilities Located
Fusion Qualification Card	Primer/Mastic/Tape	Pipe Support
Procedure	**GENERAL**	Turntable
Heating Iron Condition	Markout #	Rollers
Heating Iron Temperature	Locate Utilities/Verify Gas Markout	Pipe Condition: Window Excavations
Fuse Visual Inspection	Pipe Cover Main	Pipe Condition: Pipe Leading Edge
Fuse	Pipe Cover Service	Transmission Pipeline Crossed?
PRESSURE TEST	SOME Manual Onsite	
PT Procedure	Tracer Wire	
Gauges	Continuity Check	
	Warning Tape	
	Pipeline Clearance/Other Utilities	
	Coat Tar Wrap Removal	
	Trench Safety	
	Non-Critical	
MAIN INSTALL	**SERVICE INSTALL**	**BACKFILL/RESTORATION**
Ball Marker	Rock Shield	Backfill/Compaction Procedure
Gauge Points	Stab Fitting Installation	Paving
Mechanical Protection	System Pressure	Restoration
Weak Link	EFV Installation/ Trip Test	**EQUIPMENT**
Main Procedure	Curb Valve Installation	Fusion Equipment
CGI Use	Ball Marker(service)	Pipe Jeeping
Vent Stack	Riser/Buildup Installation	Cathodic Protection (equipment)
Gauge Points/Sys. Pressure	Curb Marking	Pressure Testing
Purging/Clearing	Curb Valve Removal	
Ends Sealed	Bushings	
	Seal Voids	
	Casing Depth	
	Cut & Cap at Service TEE	

Source: DRs 266, 444 and 746.

- The Construction Coordinators rate each item as "Warning", "Unsatisfactory", "Satisfactory", "Not Applicable" or "Not Witnessed". In NorthStar's opinion the criteria to rate an item "Warning" or "Unsatisfactory" is lenient (see **Exhibit XII-6)**. Under NJNG criteria, initial instances of non-compliance are not rated "Warning" or "Unsatisfactory" ratings if they are not related to live-gas work. An activity is rated "Unsatisfactory" only if it relates to live gas work, or was the subject of previous warnings.

Exhibit XII-6
Rating System Guidelines for Contractor Quality Review

Description	Warning	Unsatisfactory
Incorrect practice continued to occur following previous reviews [emphasis added]	✓	
Unsafe practice associated with non-live gas activities	✓	
Topic which was the subject of previous warnings		✓
Incorrect or inappropriate procedure associated with live-gas activities or personnel safety.		✓

Source: DR 266, NorthStar Analysis.

- As shown in **Exhibit XII-7**, using these rating criteria, the results of NJNG's inspections indicate that the Alliance contractors have superior performance, with less than one percent of the audits conducted since 2009 resulting in an "Unsatisfactory" finding.

Exhibit XII-7
Alliance Contractor Job Visit Review Summary

	Construction Reviews by Type of Work					Review Results		
	O&M	New Business	Trans/ Reg	Cathodic Protection	Total	Warn.	Unsat.	Percent Unsat.
Kiely								
2009	1,706	885	60	0	2,698	19	26	1.0%
2010	1,686	687	165	44	2,582	14	21	0.8%
2011	1,991	1,066	42	59	3,158	33	40	1.3%
2012	3,123	963	82	90	4,258	5	23	0.5%
2013 (thru July)	3,209	909	31	53	4,202	21	14	0.3%
Total	**11,715**	**4,510**	**380**	**246**	**16,898**	**92**	**124**	**0.7%**
Gray								
2009	651	720	59	0	1,439	2	12	0.8%
2010	952	822	56	24	1,854	11	15	0.8%
2011	1,387	814	67	47	2,315	18	11	0.5%
2012	2,511	795	42	37	3,385	24	23	0.7%
2013 (thru June)	2,445	573	22	21	3,061	13	13	0.4%
Total	7,946	3,724	246	129	12,054	68	74	0.6%

Source: DR 268.

6. NJNG's practice of allowing the Alliance contractors to inspect plastic fusion of pipe and fittings prior to its inspections is not an effective quality inspection practice.

- Alliance construction workers are allowed to self-inspect heat fusions used to connect plastic pipe or fittings before the NJNG Construction Coordinators inspect them.[404]

[404] DR 682

- According to NJNG personnel, allowing a fuser to inspect a fusion prior to inspection by the NJNG Construction Coordinator fosters an atmosphere of trust.[405]

- According to NJNG, "because we perform fusion under field conditions, it is possible for even a very skilled worker to make a fuse that is not up to our stringent standards. For this reason, we allow fusers to inspect and accept or reject the fuse before we count a poor appearance as a failure. The second opinion is allowed so that fusers are encouraged to ask for assistance if they are at all unsure."[406]

- The practice of allowing fusers to self-inspect prior to NJNG inspection calls into question the quality of fusions that do not get a second review, in spite of the fact that NJNG requires fusers to visually inspect their fusions and obtain a second opinion if necessary.[407]

7. NJNG appropriately uses a certified outside contractor to inspect the production welds on steel pipe.

- NJNG Construction Coordinators are not trained nor certified to the significant expertise level required by applicable code for the evaluation of pipeline welds.[408]

- Production welds are inspected by a certified outside third-party weld inspection contractor. All inspected welds are given a unique identifier number and documented on an official weld examination report, noting whether the weld passed or failed the visual and/or non-destructive radiographic test. Any defects found in the weld are repaired under the observation of the inspector in accordance with the governing code.[409]

  - For transmission pipelines, 100 percent of welds are expected to be examined, unless a weld cannot be non-destructively tested. The weld inspector is responsible for tracking all welds.[410]
  - On the limited use of steel pipe in distribution, the project engineer and contractor typically predetermine the number of welds that will be examined based on the number of welds expected during that project.[411]

8. There are no formal, written procedures to determine the results of the Alliance contractors cost containment performance measure.

- NJNG's Accounting group is responsible for determining the Alliance contractors cost containment performance.[412]

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[405] IR 53
[406] DR 682
[407] DR 682
[408] DR 747
[409] DR 745
[410] DR 746
[411] DR 746
[412] IR 98

- Other than the basic description provided in the Alliance contract, there are no procedures outlining the process to determine cost containment performance.[413]

- In 2009, IAD recommended that written procedures be developed to address all steps in the determination of the Alliance contractors' profit percentages.[414]

- The cost containment tracking process is quite complex, and involves several spreadsheets.

  - NJNG obtains man hour and unit data from the contractor invoices, and uses a spreadsheet model to compare actual performance to target unit rates on a line-item by line-item basis.
  - NJNG then checks to see if each line item meets the criteria thresholds of 80 percent of previous year's work volume and 70 percent of previous year's average length. Items which do not meet the threshold are not included in the cost containment determination.
  - NJNG then compares the actual costs to the targeted costs for those line items that meet the volume and length thresholds and determines the profit percentage for the quarter.
  - Finally, NJNG applies the profit percentage to the Alliance contractors' actual costs, and compares this amount to what was actually invoiced and paid.[415]

9. NJNG does not have an effective process to identify possible improvements to the construction program productivity.

- NJNG considers Alliance contractor productivity to be addressed in the cost containment measure, as productivity rates directly impact unit costs.[416]

- NJNG calculates productivity rates (man-hours per unit) for certain items as part of its monthly cost containment measure calculations, however, since NJNG has limited project management oversight of the Alliance work, it does not use these results to identify opportunities for productivity improvements.[417]

10. NJNG conducts semi-annual audits of the Alliance contractors' costs; however, not all categories of costs are reviewed, there are no guidelines for allowable cost types, NJNG questions few costs, and it is difficult verify that the costs are related to work performed for NJNG.

- Since 2011, NJNG's Accounting group has performed semi-annual audits of the Alliance contractors' overhead and indirect costs in order to verify the basis for their

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[413] DR 574
[414] DR 756
[415] DR 579
[416] IR 98
[417] DR 579

profit amounts. Prior to this, these audits were performed on a periodic basis by IAD.[418]

- NJNG does not audit direct costs.

- While there are step-by-step procedures on the conduct of the cost audits, there are no guidelines about what types of costs the Alliance contractors are allowed to pass on to NJNG through their overhead rates and indirect costs.[419]

- NorthStar reviewed NJNG's work papers for the 2011 and 2012 Alliance contractors cost audits. The basic results of this review are as follows:

  - NJNG did not audit anything compensation-related, including union expenses and office and yard salaries, the largest components of general and administrative overhead.
  - NJNG used a reasonable approach to select other line items and transactions for detailed testing.
  - NJNG reviewed support documentation for requested transactions, but did not always "drill down" to the level necessary to identify specific employees or specific charges. For example, it did not drill down in an insurance invoice to the point that it was evident that the charges related to NJNG work.
  - While NJNG appropriately questioned and disallowed some costs, the dollar amounts questioned were small, and NJNG did not question other costs that NorthStar discovered and would typically question, including charges shown for clothing, luxury vehicles and donations.
  - In general, NJNG did not typically verify that the costs related to work performed were for NJNG and not for other clients.[420] Overheads and other indirect costs are not charged to jobs or work orders.
  - NorthStar noted that invoiced costs included the purchase of equipment from a subsidiary of one of the Alliance contractors.

11. The Alliance Agreement performance measures related to quality, productivity, customer satisfaction, documentation, and safety are inconsistently tracked but did not have an impact on contractor profits during the audit period.

- In accordance with the Alliance Agreements, at year-end, an Alliance contractor that meets unit cost targets and has resultant savings is entitled to a "performance enhancement." Neither Alliance contractor received a performance enhancement during the audit period of FY 2009 – 2013.[421]

- The determination of the "performance enhancement" is based on the amount of the savings, and the other five performance measures, weighted as shown in **Exhibit XII-8**.

[418] DR 753
[419] DR 577
[420] DR 756
[421] DR 756

Exhibit XII-8
Performance Measures used to Calculate
Alliance Contractors Performance Enhancement

Performance Measure	Weight
Productivity	30
Quality	25
Customer Satisfaction	20
Documentation	15
Stores and Inventory [Note 1]	10

Note 1: In 2011, NJNG and Alliance contractors replaced the inventory measure with a safety measure.
Source: DRs 683 and 684.

- *Productivity* is based on productivity levels for five categories of work. In practice, NJNG considers productivity to be addressed in the cost containment measure.

- *Quality* reflects the results of inspections performed by Construction Coordinators. As shown in **Exhibit XII-9**, the quality score is based on the number of identified exceptions, regardless of the number of audits performed.

Exhibit XII-9
Determination of Quality Score

	Points if No Problems Detected	Points if Problems Identified		
		Number of Failures		
		1	2	3
Quality Control Review				
Critical Issues	10	0	0	0
Non-Critical Issue	8	6	3	0
Weld/Fusion Quality				
Fusion Quality	4	3	2	0
Welding Quality	3	3	2	0
Total Possible Points				
Total	25			

Source: DR 277.

- *Customer Satisfaction* is based on results of the NJNG Marketing Department's monthly customer survey, which addresses the following topics:

  - Overall satisfaction with NJNG
  - Overall experience with crew/technician
  - Crew/technician left work area clean
  - Questions/concerns resolved during first visit
  - Restoration of property
  - Length of time to install the service.[422]

[422] DR 277

NorthStar confirmed that NJNG did track customer satisfaction during the audit period.[423]

- *Documentation* reflects the accuracy and timeliness of work order documentation. This information was not tracked for 2011 through 2013 due to resource issues. NJNG began tracking this measure again in FY 2014.[424]

- *Safety* is tracked using the Occupational Safety and Health Administration Days Away, Restricted and Transferred (DART) incident rate as part of the Alliance performance measures.[425] The DART incident is rate a mathematical calculation that describes the number of recordable incidents per 100 full time employees that resulted in lost or restricted days or job transfer due to work related injuries or illnesses.

D. Recommendations

55. Complete the ongoing effort to standardize the reporting of mark-out inspection results to consistently classify results. (Refers to Conclusion 2)

56. Improve processes and procedures to perform independent quality inspections of the Alliance contractors' work. (Refers to Conclusions 4, 5 and 6)

    - Discontinue the practice of allowing contractors to self-inspect work before it is inspected by NJNG inspector.

    - Improve the rating guidelines for the inspection reports so that all instances of non-compliance are rated "warning" and all unsafe practices are rated "unsatisfactory".

57. Identify potential opportunities for Alliance contractor productivity improvements. (Refers to Conclusion 9)

    - Compare Alliance contractor construction unit rates to AGA data.

    - Perform productivity trend analyses to determine and correct the cause of any declines in productivity.

58. Document the process to determine the results of the contractors cost containment performance measure. (Refers to Conclusion 8)

59. Confirm that NJNG is not paying duplicative overheads, profit or other mark-up on equipment purchased by its Alliance contractors from subsidiaries of the Alliance contractor and then billed to NJNG. (Refers to Conclusion 10 and NorthStar's review of audit work papers.)

[423] DR 277
[424] DR 684
[425] DR 684

60. Expand the current Alliance contractor cost testing procedure to include the following. Audits should continue to be performed by individuals with an understanding of the nature of the construction work performed. (Refers to Conclusion 10)

- Testing of all categories and subcategories of costs including direct costs and compensation-related costs and adders (e.g., union expenses, and office and yard salaries).
- Criteria for selection of transactions for detailed testing.
- Coverage of all subcontractors or professional services providers retained by the Alliance contractors. NJNG can continue to select costs associated with subcontractors whose charges it has questioned in the past, but it should also ensure that all recurring vendors are eventually subject to review and one-time or atypical professional services/subcontractor costs are reviewed.
- Criteria for supporting documentation requirements and the level of documentation support necessary to verify that cost are related to NJNG work. NJNG should drill down to a sufficient level to understand the nature of the charges and whether they were NJNG-related. For example, a summary level invoice from an office supply or hardware store that provides no detail on the items purchased or even the locations of the store is insufficient supporting documentation. Similarly a monthly insurance invoice providing a lump sum amount but no listing of covered employees is insufficient to ensure all costs should be charged to NJNG.
- Criteria for and categories of allowable and disallowable Alliance contractor costs. Allowed categories of costs should be consistent with NJNG policies, laws, IRS, GAAP and other applicable state and federal regulations. Disallowed cost categories should be communicated to the Alliance contractors, who should discontinue charging these costs. Items to be considered include types of allowed vehicles or vehicle allowance amounts, charitable donations, dues and subscriptions, memberships, certain categories of entertainment expenses, meal policies, flowers, and upgrades to facilities that may benefit companies other than just NJNG.

61. Consistently track all Alliance Agreement performance measures. (Refers to Conclusion 11)

CHAPTER XIII. HUMAN RESOURCES (RFP 3.2.3)

This Chapter provides the results of NorthStar's review of the HR function, including compensation, training and development programs, performance evaluation processes, labor relations, and compliance with applicable laws and regulations.

A. Background

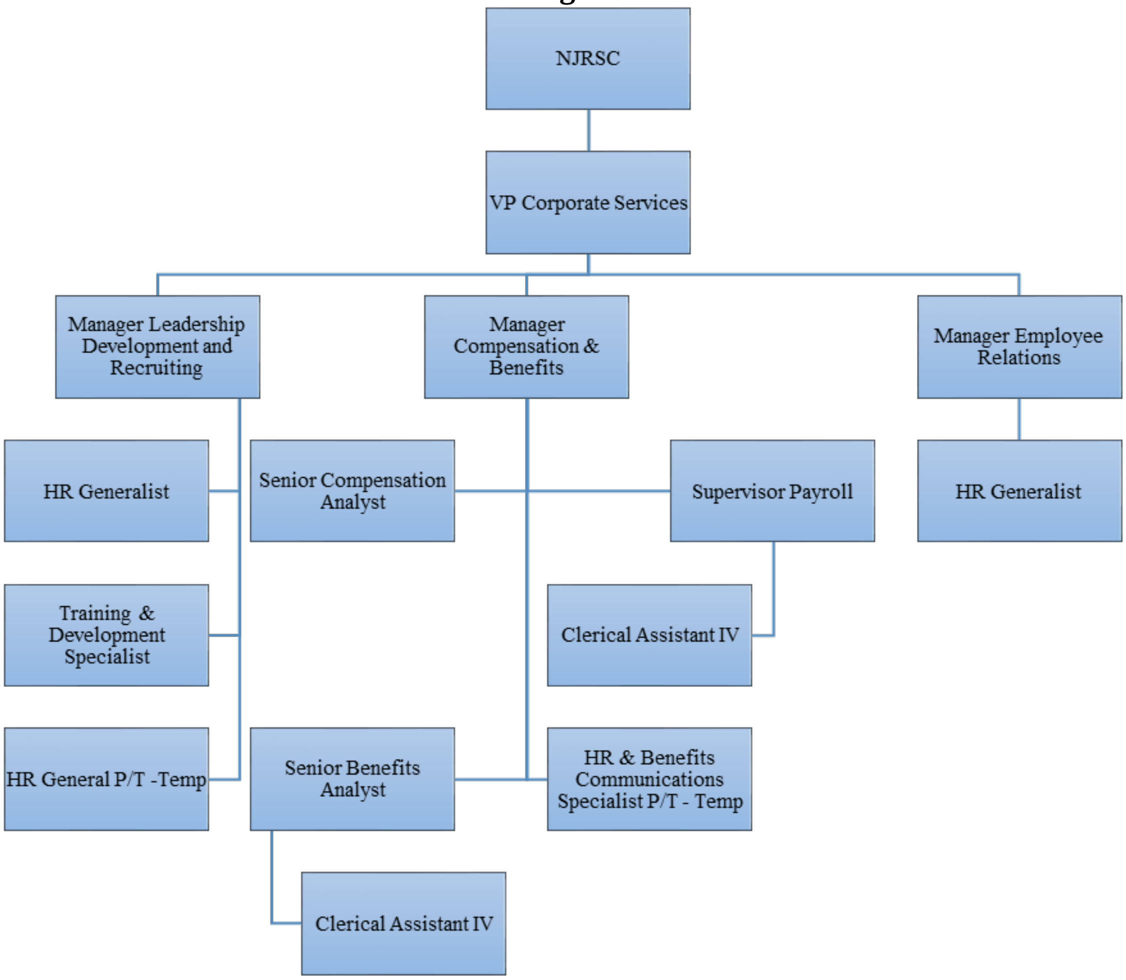
The HR function is responsible for ensuring that management and staffing needs are met in a timely manner with highly qualified, properly trained individuals. This function is charged with retaining good employees through competitive compensation and benefit programs and enhancing employee satisfaction and motivation by providing equitable performance appraisals, challenging training programs, and effective labor relations programs. HR is also responsible for ensuring compliance with applicable laws and regulations.

As of September 30, 2013, NJR and its subsidiaries employed 936 individuals. Of the total number of employees, NJNG had 405 union employees and NJRHS had 111. NJNG and NJRHS have collective bargaining agreements with Local 1820 of the International Brotherhood of Electrical Workers (IBEW), which expire in December 2016 and April 2017, respectively. The labor agreements cover wage increases and other benefits, including the defined benefit pension and post-employment benefit plan, which was closed to all employees hired on or after January 1, 2012, and an enhanced 401(k) retirement savings plan.[426]

Human Resources services are provided by NJRSC to NJNG and the other affiliates. **Exhibit XIII-1** provides the organization.

[426] 2012 and 2013 Annual Reports

Exhibit XIII-1
NJRSC Human Resources Organization – As of October 2013



Source: DR 4 Supplement. Not all positions were filled as of October 2013.

Leadership Development and Recruiting is responsible for recruiting, new employee orientation, professional talent development, succession planning, the employee performance evaluation process, training and leadership development.[427]

Compensation and Benefits is responsible for the administration of NJR's base salary and incentive compensation programs, the benefits enrollment process, payroll, the employee newsletter and the administration and compliance of NJR's benefit programs.[428]

Employee Relations is responsible for employee and labor relations, terminations, administration of disability benefits, and the various Family Medical Leave Act (FMLA) programs. Employee Relations coordinates all labor relations activities including union

[427] DR 207 and IR 47
[428] DR 207 and IR 48

contract negotiations and strategy, the grievance process, work methods, contract issues, and disciplinary actions.[429]

Performance Management and Compensation

In addition to their salaries, NJNG and affiliate employees are eligible for across-the-board wage adjustments, annual merit increases, equity adjustments (used if a position's base pay is determined to be out-of-line with the industry based on salary surveys), promotional adjustments, and participation in the incentive compensation plan (i.e., bonuses based on attaining earnings, business unit and individual performance goals). The short-term incentive plan differs for union and non-union employees. Management employees also participate in the short-term incentive plan and officers are eligible to participate in NJR's long-term incentive plan, involving stock options, stock grants and other awards.[430] **Exhibit XIII-2** provides a summary.

Exhibit XIII-2
Elements of Compensation

	Receive/ Eligible for:			
Position	**Base Salary**	**Merit Increases/ Salary Adjustments**	**Short-term Incentive (i.e., Bonus)**	**Long-term Incentive (e.g., share awards, stock options)**
Officers and Executive Management	√	√	√ Target 50-100 percent Tied to financial goals, CTS and leadership	√
Non-Represented Employees/Managers	√	√	√ Target 0-15 percent Tied to individual performance goals and competencies	
Represented Employees	√	√ Per the Union Agreement	√ Up to 2 percent	

Source: Various.

NJNG's performance management processes center around its CTS. In May of each year, management sets operational and financial goals, performance measures and action plans that will be executed by the Business Units in the following year. These are approved by management in August and presented to the BOD for approval in September. Once approved, these become the compensation measures for the executive officers. The CTS measures are communicated throughout the organizations and also become the foundation for Business Unit and individual performance goals. Results are reported monthly and final results are used in the officers' performance reviews.

A salary budget is submitted to Finance in April of each year. The recommended overall salary budget is determined by analyzing survey data from multiple sources. When

[429] DR 207 and IR 56
[430] DR 56

available, Northeast Region and Utility sector scopes are used. This budget is adhered to when determining the merit ranges at year end. For the FY 2014 budget, NJR used three sources for benchmarking executive and administrative, supervisory and professional, and general office merit increases. The surveys showed a target increase of three percent; NJR used a three percent budget salary increase.[431] A matrix is developed and, based on quartile and performance ratings, recommended merit ranges are set for each eligible employee. Guidelines are provided at the middle of the range in order to not exceed the budget. Adjustments are allowed within the range, but HR works to ensure that a disproportionate amount of recommendations are not above the middle range, so that the budget is not exceeded.[432] Bargaining unit adjustments are based on the terms of the union contracts.

Upon completion of the fiscal year, the Chairman and CEO meets with each officer to review performance against the CTS measures as well as the results of any key initiatives or projects. Other employees are evaluated against their individual performance goals (also tied to the CTS) and competencies. According to the results of recent employee surveys, employees understand their role in achieving the CTS goals and objectives. In the last three surveys, employees have been asked if they understand their personal contribution the CTS. This question has scored consistently high, second only to understanding the Code of Conduct.[433] The average score was 3.59 out of 4.00 in 2012, and 3.53 out of 4.00 in 2013.[434]

The Leadership Development and Compensation Committee

The Leadership Development and Compensation Committee of the NJR BOD (LDCC) oversees the performance and qualifications of senior management and administers the annual compensation and benefits of all NJR and subsidiary elected officers.[435] The LDCC's responsibilities include reviewing or approving financial corporate goals and objectives, evaluating the performance of the CEO and other executive officers, and approving associated compensation levels. The LDCC also oversees leadership development, including review and/or approval of succession planning, officer promotions, and affirmative action and diversity plans.[436] Specifically, the LDCC:

- Reviews the performance and compensation of the CEO with input from both the full BOD and the CEO's self-evaluation.

- Approves the compensation of the other executive officers based upon the evaluation and recommendation of the CEO and its own review of each executive officer's individual performance highlights.[437]

- Reviews NJR's compensation philosophy, compensation risk analysis, market trend results and its comparator group. A marketplace compensation analysis is reviewed

[431] DR 217. The FY 2013 increase was also 3 percent.
[432] DR 217 and 498 (Confidential)
[433] DR 351 (Confidential)
[434] DR 351 (Confidential)
[435] DR 217 and 498 (Confidential)
[436] January 23, 2103 Annual Proxy Statement
[437] January 23, 2013 Annual Proxy Statement

at the September meeting and actual compensation levels (e.g., salary increase and incentive payouts) are reviewed and approved at the November meetings.[438]

Employee Benefits

NJNG offers the following employee benefits:

- Medical - Comprehensive Indemnity Plan or Point-of-Service (POS)
- Dental
- Flexible Spending Plan
- Life and Accident Insurance
- Pension (union and non-union) and Retirement Savings Plans
- Education Tuition Assistance and a Tuition Loan Plan
- Hurricane Sandy Rebuilding Assistance
- PC Purchase Plan
- Miscellaneous Benefits.[439]

NJR offers both an indemnity medical plan and a POS medical plan. An indemnity plan is a traditional fee for service plan in which the plan pays all or a portion of the cost of services. POS plans resemble Health Maintenance Organization (HMOs) for in-network services. Services received outside of the network are usually reimbursed in a manner similar to conventional indemnity plans (e.g., provider reimbursement based on a fee schedule or usual, customary and reasonable charges). To minimize costs, NJR does not offer a Preferred Provider Option (PPO) plan.

Medical, dental and insurance plans are generally the same for all employees. There are some minor differences in the life, accident, accidental death and dismemberment, and long-term disability insurance benefits.[440] The primary reasons NJR offers the same medical plans to all classes and levels of employees are cost and ease of administration. According to NJRSC, increasing the number of sub-groups and types of plans would increase the administrative burden and costs, as there would be additional documentation and accounting requirements, as well as more plans to explain to employees.[441] In addition, it is NJR's philosophy to ensure that the benefit levels of union and non-union employees are similar, if not the same, in order to provide a level playing field.[442]

B. Evaluative Criteria

- Are employee and executive compensation programs reasonable and consistent with industry standards? (Conclusions 1 through 5)

- Are allocated executive compensation costs appropriate? (Conclusion 2 and 6)

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[438] LDCC planner, November 12, 2013 LDCC Meeting packet
[439] DR 213
[440] DR 211
[441] DR 439
[442] DR 439

- Do NJNG's development, training, and evaluation techniques foster a qualified work force? (Conclusions 7 and 8)

- Does NJNG have a sufficiently robust succession planning process? (Conclusion 9)

- Does NJNG have adequate labor relations policies and procedures? (Conclusion 10)

- Does NJNG monitor and assess the productivity and utilization of its work force? (Conclusion 11)

- Does NJNG have an adequate system of controls, processes and procedures to ensure compliance with affirmative action and equal employment opportunity (AA/EEO) requirements? (Conclusion 12)

C. Findings and Conclusions

1. NJR's compensation policies are in-line with industry standards.

- Employees receive a base salary and routine annual salary adjustments and are eligible for a short-term incentive (i.e., bonus).[443] According to a 2013 industry compensation survey, short-term incentives were used by 87 percent of the organizations surveyed.[444] Union employees are eligible for a 2 percent incentive. Marketing and sales personnel earn a base salary plus commissions.[445] Executives and officers also receive long-term incentives as discussed in Conclusion 2.

- In 2012, NJR engaged a human resources consulting firm to assess and help refine its compensation and performance management programs. Overall, the study found NJR to be competitive both in terms of base salary and total cash compensation, and made a number of recommendations to improve NJR's performance management program and practices (discussed later in this Chapter). The assessment included a benchmark job analysis for 51 positions in Energy Delivery, NJRHS, NJRCEV, Customer Service, Marketing, Human Resources, Payroll, IT and Regulatory/External Affairs.

- NJR participates in a number of other compensation surveys, benchmarking "families" of jobs and specific job positions against other companies.[446] It typically benchmarks itself against Northeast region companies in the energy/utility sector with fewer than 1,000 employees.[447]

  - Annually, NJR participates in an AGA on-line salary survey.[448] This is a position-specific survey that provides NJR with salary ranges for over 100

[443] IR 7
[444] Review of salary surveys in DR 219 (IR 101 and 111)
[445] DR 56
[446] Job families refers to similar classifications of jobs.
[447] DR 56
[448] IR 48

benchmarked positions.[449] This survey is generally used on an annual basis to validate salary ranges.[450]

- As needed, NJR will purchase or participate in individual surveys for positions that may not be covered by the AGA survey. These surveys are typically used when considering promotions, new positions or significant changes in job responsibilities.[451] During the audit period, these surveys included reviews of positions in general counsel, investor relations, IT, accounting and finance, corporate management and office support professionals, and HR.[452]
- NJR uses an external consultant to benchmark its executive compensation levels and practices. Executive compensation surveys are conducted on an annual basis.[453]

- NJR targets the 50th percentile for both its employee and executive compensation.

- Annual merit increases are in-line with the industry.

  - NJR participated in a 2012-13 Compensation Planning Study performed by William H. Mercer that projected a 2.9 to 3.2 percent increase in executive and management salaries for 2013. NJR's plan called for a 3.5 percent increase for both executives and management. Industry averages for 2012 were in the same range, as compared to an NJR increase (actual) of 4.2 and 3.2 percent for executives and management, respectively.[454]
  - NJR participated in a 2013 compensation survey which compared annual salary increases for other positions. The results were consistent with NJNG at about 3 percent.[455]

2. Executive compensation is in-line with industry standards.

- NJR's compensation philosophy is guided by the principle of pay-for-performance, linking compensation of its executive officers with the value created for its shareholders.[456] Short-term incentives are tied to achievement of earnings and CTS goals and leadership performance. Long-term incentives encourage employee retention and on-going performance.

- Annually, NJR compares its executive compensation to a panel of nine companies in the same general business, whose revenues are between one and a half to two times NJR's revenues.[457] The LDCC engages an independent executive compensation consultant (Steven Hall & Partners) to provide an annual market analysis of each

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[449] DR 553, review of salary surveys in DR 219, and review/demo of AGA CompQuest system (IR 117)
[450] Review/demo of AGA CompQuest system (IR 117)
[451] DR 553 and review of salary surveys in DR 219 (IR 101 and 111)
[452] Review of salary surveys in DR 219 (IR 101 and 111)
[453] DR 498 (Confidential)
[454] November 13, 2012 LDCC Meeting packet
[455] Review of salary surveys in DR 219 (IR 101 and 111)
[456] January 23, 2013 Annual Proxy Statement
[457] Consideration is also given to other salary surveys in the determination of compensation levels.

officer's compensation. The consultant also advises the LDCC on compensation standards and trends and assists in the implementation of policies and programs during the fiscal year.[458] The types of reviews performed by Steven Hall & Partners includes:

- An annual review of the appropriateness of the comparator group.
- An annual compensation risk assessment.
- An annual comparison of executive compensation levels (salary and total cash compensation) relative to the comparator group (i.e., marketplace compensation review).[459]
- An annual review of incentive program design and industry trends.
- A peer group share ownership comparison. In 2013, Steven Hall recommended an increase in the share ownership guidelines (as a multiplier of base salary) that would place NJR at the high end of the peer group range for the CEO, EVPs and SVPs.[460]

- In 2013, NJR participated in an executive compensation survey of 73 utilities performed by Steven Hall & Partners. NJR's compensation practices were found to be generally in-line with the other survey participants.[461]

- NJR's executive compensation includes the following components, which NorthStar finds are typical of the industry. **Exhibit XIII-3** provides a description of the elements.

  - Base salary
  - Annual short-term incentive awards that are paid in cash based upon achievement of corporate and individual goals and leadership performance
  - Long-term performance-based awards
  - Deferred retention stock awards
  - Restricted stock awards.

Exhibit XIII-3
Elements of Executive Compensation

Element of Compensation	Description
Annual Compensation	
Base Salary	Fixed annual compensation that is certain in payment and provides continuous income.
Annual Cash Incentive Awards	Performance-based compensation for achieving established annual goals based on NFE, individual leadership and the CTS.
Long-Term Compensation	
Performance Unit/Share Awards	Grants of shares or units that are payable in Common Stock and based on relative total shareholder return (TSR) performance relative to a peer group and/or NFE growth, each over a long-term period.
Deferred Retention Stock Awards	Grants of shares or units that are payable in Common Stock and based

[458] DR 218
[459] September 10, 2013 LDCC Meeting Packet (DR 498 Confidential)
[460] July 9, 2013 LDCC Meeting Packet
[461] September 10, 2013 LDCC Meeting Packet (DR 498 Confidential)

Element of Compensation	Description
	on relative TSR performance relative to a peer group and/or NFE growth, each over a long-term period.
Restricted Stock Awards	Grants of Common Stock that are part of NJR's long-term incentive program and may also be used for special recognition of superior performance; time-based vesting over a specified period.
Performance-Based Restricted Stock Awards	Grants of Restricted Stock with time-based vesting if NJR achieves NFE per share goals over a specified period.
Other Compensation	
Deferred Compensation	Opportunity to defer receipt of specified portions of compensation and to have such deferred amounts treated as if invested in specified investment vehicles.
Post-Termination Payment and Benefits	Payments and benefits upon termination of an executive's employment in specified circumstances, such as retirement, death, disability, or a change-in-control.
Other Benefits	Executives participate in employee benefit plans generally available to our employees, including the Employees' Retirement Savings Plan, qualified defined benefit plan for retirement allowances, medical, dental, life, accidental death and dismemberment, travel and accident and long-term disability insurance; other certain perquisites.

Source: 2014 Annual Proxy Statements.

- NJR has an appropriate balance of fixed and incentive compensation.

  - NJR targets between 32 to 45 percent fixed compensation for its named executive officers (NEO) as shown in **Exhibit XIII-4**.

Exhibit XIII-4
Target Compensation NEO

		FY 2012			FY 2013	
NEO	**Salary**	**Annual Incentive**	**Long-Term Incentive**	**Salary**	**Annual Incentive**	**Long-Term Incentive**
L. Downes	32%	32%	35%	33%	33%	34%
G. Lockwood	44%	24%	31%	41%	25%	34%
K. Ellis	44%	24%	31%	42%	25%	32%
M. Dugan	49%	22%	28%	46%	28%	26%
S. Westhoven[1]	35%	34%	31%	31%	41%	28%

[1] Based on actual awards for FY 2012 and 2013.
Source: 2013 and 2014 Annual Proxy Statements.

  - The 2013 Steven Hall & Partners survey of 73 utilities evaluated short-term and long-term incentives and the relative proportion of fixed and variable pay. NJR was generally in-line with the other survey participants. **Exhibit XIII-5** provides a comparison of NJR to the study sample.

Exhibit XIII-5
Utility Compensation Comparison – 2012 Data for Utility Panel

Position	Fixed	Short-term Variable	Long-term Variable
CEO			
NJR (2013 Target)	31%	31%	38%
Utility Panel Revenues less than $1 billion	39%	23%	38%
Utility Panel Revenues $1-3 billion	29%	25%	46%
Utility Panel Revenues $3-5 billion	23%	21%	56%
Utility Panel Revenues $5-10 billion	20%	21%	59%
Utility Panel Revenues > $10 billion	16%	18%	66%
Total Sample	**26%**	**22%**	**52%**
Other NEO			
Other NJR NEOs	42%	23%	35%
Utility Panel Revenues less than $1 billion	55%	20%	25%
Utility Panel Revenues $1-3 billion	40%	23%	37%
Utility Panel Revenues $3-5 billion	35%	22%	43%
Utility Panel Revenues $5-10 billion	31%	20%	49%
Utility Panel Revenues > $10 billion	26%	19%	55%
Total Sample	**38%**	**21%**	**41%**

Source: *Powering Incentive Compensation, How Utilities Pay for Performance*, Steven Hall Partners, April 2013 (DR 498 Confidential)

- The annual bonus target for NJR's CEO's is 100 percent of base salary, the same as the median annual bonus target for the 73 utilities. The median annual bonus target range for other NEOs was 50 percent of base salary; NJR's target was 45 percent. Long-term incentives for the utility panel were more heavily weighted to performance-based awards (69 percent) rather than time-vested restricted stock (21 percent) or stock options (10 percent). For FY 2013, NJR granted no stock options, 46-47 percent performance-based awards and the balance in time-vested restricted stock.[462] NJR subsequently recommended a shift to be more in-line with the industry.

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- NJR's executive compensation program has changed over time in response to changes in industry trends and the results of the compensation analyses.[463]

3. NJR has taken appropriate efforts to compare its benefits practices to other companies and industry trends.

- NJR participated in nine benefits surveys during the audit period. These surveys ranged from NJ utility-specific analyses to broad reviews of various industries nationwide.[464]

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[462] *Powering Incentive Compensation, How Utilities Pay for Performance*, Steven Hall & Partners, April 2013 (DR 498 Confidential)
[463] January 23, 2012 Annual Proxy Statement, November 12, 2013 LDCC Meeting packet (DR 498 Confidential)
[464] DR 219

- In 2009, NJR hired Buck Consultants to perform a review of employee health and retirement benefits.[465] This was a follow-up to a detailed benchmarking study of medical, dental and prescription plans performed by Aon Consulting in 2005.[466] The 2009 Buck study looked at current trends and competitive analyses in retirement programs, medical programs, and dental programs. The study recommended several changes, which NJR has implemented or is in the process of implementing, including:[467]

  - Elimination of defined benefit plans for new hires.
  - Eliminate post-retirement medical for new hires.
  - Changes to the medical plan and prescription plan.

4. NJR has recently taken steps to bring its employee medical benefits more in-line with other companies and to reduce its benefits costs; however, its medical benefits are still among the most generous of the NJ utilities.

- Prior to changes implemented in 2013 and 2014, NJNG medical benefits exceeded NJ utility industry standards. A 2011 New Jersey Utilities Association (NJUA) survey compared benefits offered by 11 NJ utilities, including NJNG. The survey results showed that NJR generally had a more generous medical plan compared to other NJ utilities:

  - NJNG employees' contributions to their insurance premiums were generally lower than other utilities.
  - NJR paid a greater percentage of insurance costs.
  - NJNG plans had lower deductibles and out-of-pocket limits.
  - Prescription co-pays were the lowest among NJ utilities.
  - Office visit co-pays were generally in-line with other utilities.[468]

- Based on market studies, survey results, an analysis of trend data, and anticipated health care reform initiatives, NJR made changes to its medical plans effective 2013 and 2014, including increased insurance deductibles and co-pays, as summarized in **Exhibit XIII-6**.

Exhibit XIII-6
Changes to NJR Medical Plans in 2012 and 2013
Comparison to 2011 NJUA Survey Results

NJR Medical Benefits				NJUA 2011 Survey Results (Excluding NJNG)
	2012	2013	2014	
Point of Service (POS) Plan				
Employee POS Contribution	10%	11%	13%	13% to 25%
POS In-Network Deductible	$0 Individual $0 Family	$100 Individual $200 Family		$0 to $1,000 Individual $0 to $2,000 Family

[465] DR 437 (Confidential)
[466] DR 460
[467] DR 437 (Confidential)
[468] DR 219

POS Out-of-Network Deductible	$500 Individual $1,000 Family	$700 Individual $1,400 Family		$500 to $3,000 Individual $1,000 to $4,000 Family
POS In-Network Out-of Pocket Max	$1,000	$1,500	$2,000	$1,500 to $6,000
POS Co-Pay – Specialist	$15	$30	$30	Generally in line with NJR
Indemnity Plan				
Employee Indemnity Contribution	17%	18%	20%	20% to 100%
Indemnity Deductible	$300 Individual $600 Family	$400 Individual $800 Family	$500 Individual $1,000 Family	$180 to $2,000 Individual $360 to $4,000 Family
Indemnity Out-of Pocket Max	$1,000	$2,000		

Source: DRs 219 and 436.

- NJR also moved to a new three-tier prescription plan with higher costs to the employees.[469]

5. NJNG took steps to reduce long-term retirement benefit costs by eliminating the defined benefit pension plan for new hires.

- The 2009 Buck study looked at current trends and competitive analyses in retirement programs and recommended the elimination of defined benefit plans and post-retirement medical for new hires.[470]

- NJNG's pension plan was closed to new non-union employees as of October 1, 2009 and to new union employees as of January 1, 2012. Participants already in the plan continue to accrue benefits (commonly called a soft freeze). NJR's timing for the soft freeze was driven by union negotiations.[471]

- The 2009 Buck study estimates the savings from the elimination of the non-union pension plan to be only $67,000 in Year 2, but increases to $1.6 million in Year 10. The study notes that savings estimates are very sensitive to changes in demographic assumptions.

- The savings from the elimination of defined benefit plans are offset by annual contribution to defined contribution (401k) plan for new hires on or after October 1, 2009 (non-union) and January 1, 2012 (union).[472] The defined contributions to the 401k plan were a result of union negotiations, and summarized in **Exhibit XIII-7**.[473]

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[469] DR 436
[470] DR 437 (Confidential)
[471] IR 48
[472] DR 437 (Confidential)
[473] IR48

Exhibit XIII-7
Special Contributions to 401(k) Savings Plan for Union and Non-Union Employees Hired After the Soft Freeze of the Defined Benefit Pension Plan

Years of Service	Special Contribution
Current Contributions	
More than 1 and less than 5	2% of Plan Compensation
5 or more	3% of Plan Compensation
Effective January 1, 2014	
More than 1 and less than 5	3% of Plan Compensation
5 or more	4% of Plan Compensation

DR 213.

- Of the eleven NJ utilities surveyed in the 2011 NJUA survey, nine utilities, including NJNG, had defined benefit pension plans. Two of the utilities closed their plans in 2005 and 2007, prior to NJNG's decision to close its plan to new enrollment.[474]

6. Allocated executive compensation costs are appropriate.

- NJR Corporate costs include the salaries, fringe benefits and payroll taxes for the following officers and their administrative support personnel: the Chairman and CEO, Executive Vice President and CFO, Senior Vice President and General Counsel, and Corporate Secretary. They also include costs allocated to NJR Corporate from NJNG for general services such as building maintenance and IT, as well as director's fees, insurance, and interest fees.[475]

- NJR Corporate distributes all of its costs to subsidiaries except certain development costs. According to the CAM, new business development costs that are not specifically identified for a particular subsidiary will either be retained by NJR Corporate or charged to a non-utility affiliate.[476]

- Executive leadership, corporate planning and corporate governance costs are allocated based on officer estimates of the amount of time historically spent on each affiliate's business. These are then trued-up at year end based on actual time tracking. Director's fees are allocated as overhead components in the same manner as other services provided within NJR Corporate.[477]

- As part of its cost allocation testing, NorthStar reviewed the costs allocated by NJR to NJNG and found the allocation process to be consistent with the CAM. Costs allocated to NJNG average between 60 and 62 percent per year.[478] Cost allocations are discussed in further detail in the Accounting and Cost Allocation chapter.

[474] Review of Benefit Survey Information (IR 101)
[475] CAM (DR 12)
[476] CAM (DR 12)
[477] CAM (DR 12)
[478] DR 333 and cost allocation testing

7. **NJNG's development, training, and evaluation techniques foster a qualified work force.**

- NJR uses the SuccessFactors performance management system. SuccessFactors is a human capital management software solution NJR uses for performance management, compensation management, recruiting and applicant tracking.[479]

- All non-union employees are part of NJR's performance management program which ties employee performance to achievement of goals.

  - The annual process begins with the CTS goal setting process which establishes Business Unit goals and individual goals.
  - Individual goals are drafted in September and October and then reviewed with the employee in November.
  - In addition to achievement of performance goals, employees are also evaluated based on job competencies.
    - Competencies address how an employee does his/her job (i.e., job excellence, communication, teamwork, and custom competencies geared to the specifics of the position).[480]
    - Goals are appropriately tied to the broader corporate goals outlined in the CTS.[481] SuccessFactors allows managers to "cascade" goals from their goal plan to their direct reports.

- At a minimum, employees receive feedback twice per year. Mid-year (May) and end-of-year (November) reviews are conducted to evaluate employees based on performance against the previously defined goals and competencies.[482] Performance is ranked on a scale from one to five, with three representing target performance. In addition to the review process, managers are instructed to conduct one-on-one meetings throughout the year.[483]

- The SuccessFactors process requires the involvement of both the manager and the employee in order to complete the evaluation process.[484]

  - Using SuccessFactors, supervisors and employees both comment and provide feedback on the employee's performance.[485]
  - Employees initiate the process by providing accomplishments towards goals and ways in which they have demonstrated competencies.
  - Managers then review the information and provide feedback.
  - Managers meet with the employees to discuss the review and the employee must acknowledge the discussion in SuccessFactors.[486]

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[479] DR 222
[480] DR 216
[481] Review of performance goals/measures for selected positions and part of SuccessFactors demo (IR 122)
[482] DR 216
[483] DR 216
[484] SuccessFactors demo (IR 122)
[485] DR 216 and SuccessFactors demo (IR 122)

- Union employees are evaluated based on the terms of the union Agreement and the specifics of the job function. As examples:

  - Supervisors meet with CSRs monthly and review a "Monthly Report Card" evaluating the employee's performance in handling calls.[487]
  - Meter readers are subject to a field evaluation by their supervisors which addresses the appearance of the employee (uniform) and the vehicle, materials used by the meter reader, his/her productivity, and customer service performance.[488]
  - Evaluators review the performance of employees inspecting exposed pipe.[489]

- In 2012, NJR engaged Mercer to assess its compensation and performance management programs. Mercer found that NJR demonstrated a clear link between performance ratings and actual annual incentives, with high performers receiving higher payouts. Mercer also found that the overall design of NJR's performance management program was robust and reflected solid market practice.[490] As a result of Mercer's recommendations, NJR made the following modifications to its performance evaluation process:

  - The relative weighting of goals and competencies was changed for FY 2013 from 60 percent goals and 40 percent competencies to 70 percent and 30 percent, respectively.[491]
  - NJR reduced the number of competencies from nine to four.[492]

- As part of the succession planning process (discussed in Conclusion 9), NJR is developing targeted, more-specific development plans for key executive and management employees.[493]

- NJR offers a variety of professional and technical training classes, and employees are eligible to participate in a tuition assistance program.[494] In addition to the leadership and development training provided by HR (discussed in Conclusion 8), job-specific training is provided by other organizational units.

  - A Training and Support Manager in the Energy Delivery Organization is responsible for technical training and NJNG's operator qualification training program. For existing employees, operator qualification training and testing are

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[486] Direction for completing reviews (DR 216) and SuccessFactors demo (IR 122)
[487] Customer Services Report Card (DR 216)
[488] Meter Reader Field Evaluation (DR 216)
[489] Operator Qualification Task Field Evaluation (DR 216)
[490] DR 221 (Confidential)
[491] IR 47 and DR 489
[492] IR 47 and DR 489
[493] IR 47
[494] IR 47, DR 208 and review of "Employee Handbook" (DR 211)

performed on a three-year cycle (approximately one-third of the applicable workforce each year).[495]

- Environmental Health and Safety, within NJNG's Regulatory Affairs organization, provides required environmental health and safety training (e.g., hazardous materials, defensive driving, Department of Transportation (DOT) training).[496]
- The Customer Service call center provides its own training.[497]

- NJR offers an employee recognition program (Recognition Plus) to encourage and recognize employees for individual and team contributions that add value to the organization (e.g., exceptional productivity, improving service or business processes, taking initiative).[498]

  - The Great Award provides employees with a $25 gift check.
  - The Greater Award provides a $100 gift check.
  - The President's Award (used to recognize individual or team ideas to achieve financial savings) provides an award of up to $5,000 if the idea is approved, implemented, and cost savings are identified.

8. NJR takes adequate steps to ensure and track participation in Code of Conduct training, its only mandatory training class for all employees.

- Annual Code of Conduct training is mandatory for all employees.[499] It is offered throughout the summer for existing employees and in orientation on a quarterly basis for new employees.

- HR tracks each employee's training date in a spreadsheet. The spreadsheet is updated whenever there is a new hire. The spreadsheet data is supported by the training class sign-in sheets and acknowledgement forms signed by each employee upon completion of the class.

- Code of Conduct training records are audited by both the Treasurer's Office and IAD.[500]

- NJR also has a Director/Manager/Supervisor Curriculum that has required classes and electives to enhance leadership abilities and develop potential for future management opportunities. In addition to the 18-month curriculum, directors, managers and supervisors are requested to attend a class entitled "Doing the Right Thing…The Right Way" Part I and Part II every other year.[501] After eighteen months, the

[495] IR 121 and DR 210
[496] DR 210
[497] Interview and review of training materials (IR 113)
[498] DR 465
[499] DR 210
[500] IR 102
[501] DR 210

training is re-assessed and another curriculum is offered. The 2011-2012 training curriculum for directors, managers and supervisors is shown in **Exhibit XIII-8**.

Exhibit XIII-8
2011-2012 Director/Manager/Supervisor Curriculum

Required Courses	**SuccessFactors Competency**
Labor and Employee Relations	Job Knowledge/Leadership
Professionalism in the Work Environment	Diversity/Teamwork/Communication
The Professional Supervisor (New Supervisors Only)	Communication/Leadership/People Development
Elective Courses	**SuccessFactors Competency**
Critical Thinking	Creativity and Innovation/Results Focus
The Professional Supervisor	Communication, Leadership, People Development
DiSC	People Development/Communication
Good Management Skills	Communication, Leadership, People Development
Time Management	Results Focus/Leadership/Communication
Performance Management & Goal Setting	Communication, Leadership, People Development
Finance for Non-Financial Employees	Results Focus/Job Knowledge /Leadership

Source: DR 210

- Employees can also attend courses from outside vendors such as the American Management Association, Career Track or National Seminars to improve their skills and competencies.[502]

9. NJNG has recently adopted a more formal approach to succession planning; however greater coverage of management personnel is possible.

- The BOD is actively involved in the succession planning process.[503]
- In August 2011, as part of the normal course of business, NJR initiated discussions with the BOD regarding the succession planning process for the CEO. It began with a discussion of lessons learned from the selection of the current CEO and an initial assessment of internal candidates.[504] In 2012, an interim CEO succession plan and profiles of the leadership team were presented to the BOD. The plan was updated in January 2014.
- Annually, the NJR Chairman and CEO and the VP Corporate Services prepare an executive level succession planning document. Initially it was presented to the LDCC, but is now presented to the full BOD due to interest expressed by the BOD.

[502] DR 210
[503] IR 158 and 172, DR 498 (Confidential)
[504] DR 498 (Confidential)

Discussions consider potential job changes/promotions to increase capabilities and additional training and developmental requirements.[505]

- In 2012, NJR conducted 360-degree evaluations of its officers.[506] The evaluations identify potential training and development needs as well as the perception of the employee's peers, supervisors and direct reports. This information was presented to the full BOD at its January 2013 meeting.[507] About 25 executive and management employees were reviewed in 2013, with an additional approximate 20 positions planned for 2014. The last prior 360-degree evaluations were conducted in 2007.[508]

- For non-executive management, HR meets with each officer of NJNG to discuss succession planning and employee development. HR provides information on potential retirements, the prior year's discussion, and the results of the employee's annual performance evaluation. Topics addressed include critical positions, required competencies, key personnel and developmental needs.[509]

- NJR has identified "high potential individuals" and is working to increase their visibility to executive management and members of the BOD through assignment of key projects and initiatives and increased presentations to and interaction with the BOD.[510]

- NorthStar reviewed the 2011-2014 succession planning documents and identified some gaps in the process.[511]

  - Most, but not all executive management positions were addressed.
  - Some mandatory retirement dates were not adequately considered.
  - Training and development plans are not thoroughly, formally documented.[512]
  - Succession planning for certain lower-level positions (potential executive candidates) would be beneficial. If an individual is considered a potential candidate for an executive-level position, there should be a plan to backfill his/her position.

10. NJNG has adequate labor relations policies and procedures and an excellent relationship with its union.

- NJNG management and the President of the IBEW Local 1820 report an enviable working relationship.[513] Executive management considers all employees to be

[505] IR 172, DR 212 and DR 498 (Confidential)
[506] 360-degree evaluations typically include direct feedback from an employee's subordinates, peers, and supervisor, as well as a self-evaluation.
[507] DR 498 (Confidential)
[508] IR 47
[509] DR 212 and 498 (Confidential)
[510] IR 172
[511] August 2011 included CEO only. November 7, 2013, January 22, 2013 and January 21, 2014 presentations to the BOD addressed key executive and leadership
[512] DR 498 (Confidential)
[513] IR 7, 106 and various interviews with NJNG personnel

stakeholders and works to promote a positive, open working relationship.[514] There have been no strikes since 1973.[515]

- At the end of 2011, NJR successfully renegotiated the Articles of Agreement between NJNG and the union, resulting in changes in the pension plan and medical benefits (employee premium contribution, co-payments, and post-retirement health benefits).[516]

- NJR has the ability to negotiate specific work rules and methods without having to reopen contract negotiations.[517]

- NJNG has an established grievance process. All grievances are to be dealt with within 30 days of the occurrence.

  - The grievance process and timelines are specified in Article 24 of the Articles of Agreement between NJNG and the Local Union 1820, IBEW, December 8, 2011-December 7, 2016.[518]
  - Grievance forms are received in Human Resources and logged into the JDE system by the number assigned to each grievance by the Union. These numbers that are used to track the grievances in JDE. NJNG also periodically meets with Union representatives (usually the local president and/or the local secretary) to review grievances which are open and need to be heard and which grievances may still need to be answered.[519] JDE does not track the outcome of the grievance.[520]
  - **Exhibit XIII-9** provides the number of grievance filed during each year of the audit period.[521] According to NJR, most of the grievances are overtime or disciplinary.[522]

Exhibit XIII-9
Annual Grievances Filed

Year	Number of Field Grievances
2009	68
2010	34
2011	60
2012	34
2013 thru 8/15/13	36

Source: DR 487 and Supplement.

  - Arbitration has been limited to a handful of cases in the last ten years.[523]

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514 IR 56 and other interviews. Review of Sandy response.
515 Liberty Report Volume III and IR 56
516 IR 56 and DR 555
517 IR 56
518 DR 555
519 DR 556
520 IR 56
521 JDE extracts (DR 487)
522 IR 56

11. NJNG does not have a centralized or structured program for monitoring and assessing the productivity and utilization of its work force.

- NJNG benefits from a desirable work location and limited competition with other corporate employers. Turnover is low at about 5 percent per year.[524]

- In most areas, manpower planning is based on historic staffing levels and projected trends rather than a bottom-up assessment of workforce requirements. HR works with the Business Unit heads to conduct periodic workforce analyses to determine turnover trends and manpower requirements. Formal studies determining the appropriate number of personnel for selected functions have not been performed.[525]

  - HR meets annually with the Business Unit heads to evaluate their workforce needs for the next three fiscal years, considering positions, number of employees, vacancies and plans to address vacancies, requested position additions and potential turnover due to retirements, and employee performance issues.
  - NJR conducts periodic analysis to determine workforce turnover trends (NJR and market) and actions, if any, NJR may need to take in order to mitigate the effect. NJR's most recent analysis was in 2012, and indicated that turnover from retirement will continue to be manageable and NJR will have time to train and replace retiring workers as the need arises.[526]

- NJNG makes limited use of formal work management systems to assess productivity and utilization; however, nearly all of its construction work is performed by outside contractors.

  - As of September 30, 2013 about 55 percent of NJNG's 936 employees were represented employees and 45 percent were non-represented.[527] Most work management systems are geared towards technical/operational functions and not professional staff.
  - NJNG monitors the productivity and utilization of its call center customer service representatives. Staffing requirements and schedules are determined using spreadsheets and historic call volumes.
  - NJNG utilizes a Ventyx field order dispatching system for project management. Work shifts are managed in Ventyx and work is scheduled against the time associated with these shifts. Priority orders are scheduled as a same-day orders and are highlighted in the Dispatch application "pending order" viewport. The utility Dispatcher uses a GPS tool, SageQuest, in order to identify the closest available utility technician who is able to respond to the priority order.[528]

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[523] IR 56
[524] IR 7
[525] DR 223
[526] DR 223
[527] FY 2013 Annual Report, www.njresources.com
[528] DR 132

- Energy Delivery, Pressure Measurement & Transmission and Construction & Replacement work order assignments are predominantly handled by front-line utility supervisors.[529]

- NJNG offers some incentives to improve efficiency and productivity. Union employees participate in an incentive plan tied to the CTS. Employees are eligible for a 2 percent incentive based on achievement of NJR and NJNG earnings growth targets, Business Unit ratings and Department/Unit productivity targets.[530]

- NJNG monitors absenteeism and leave; however, tracking processes are generally manual-intensive. NJNG has been working to address absenteeism; however, this has resulted in an increase in the use of FMLA and temporary disability benefits, particularly in the call center.[531]

  - NJNG uses paper files and a spreadsheet-based system to track leave dates, reasons for leave, expected return dates, expiration dates, and associated paperwork requirements under the FMLA.[532] Monitoring and follow-up are performed by one employee in Employee Relations. Although manually intensive, this system is adequate (but not optimal) given the size of NJNG's workforce. NJNG is currently exploring options for automating the process.
  - Union employees receive between six and nine sick days per year (48 to 72 hours) depending on years of service.[533] Sick days do not expire, resulting in some significant accrual in sick banks. As of August 30, 2013 accrued sick time totaled 56,000 hours for 384 employees, an average of 18 days per employee. Available sick time ranged from less than 1 hour to over 1,400 hours for an employee with over 30 years of service. NJNG calculates the value of the remaining time at over $1.8 million.[534]

12. NJR has effective processes to ensure compliance with affirmative action and equal employment opportunity requirements.

- NJR complies with State and Federal AA/EEO reporting requirements:

  - It submits Federal EEO-1 and Vets 100A reports annually.[535] These reports are completed on-line using data from the Berkshire system.[536]
  - It submits the State of New Jersey Division of Contract Compliance and EEO Employee Information Reports every three years.[537]

- NJR prepares an AA Plan annually, and presents it to the BOD in September.

[529] DR 4 and 132
[530] IR 56 and DR 555
[531] IR 56
[532] DR 554, IR 123
[533] DR 555, NJNG Articles of Agreement, Appendix A
[534] DR 461
[535] DR 435
[536] IR 103
[537] DR 215

- Since 2009, NJR has used Berkshire Associates' system, Balance AAP to prepare its AA Plan. The software uses employee data from the JDE system and as well as U.S. census data. In 2013, new census data from the 2010 census was added to the software package.[538]

- The AA Plan is developed in accordance with the Guidelines on Affirmative Action issued by the EEO Commission. Key components of the plan are as follows:

  - **Job group analysis.** Jobs are grouped based on similarities of duties, compensation, and opportunities for advancement. The percentages of women and minorities are provided for each job group. There are 16 job groups. The HR Department records the EEO category and job groups when a job number is created in the JDE system and updates codes for existing jobs when necessary due to new information from training or government sources.[539]
  - **Availability Analysis.** The plan examines internal and external availability to establish a benchmark to compare demographic composition of the workforce. External availability is determined using the census data for geographical areas where NJR would reasonably seek workers to fill positions in the job group. Internal availability is determined based on the percentages of minorities and women in feeder jobs to each job group.
  - **Comparison of Incumbency and Availability.** NJR compares the actual representation of minorities and women in each job group with their representation determined in the availability analysis.
  - **Placement Goals.** As required by applicable regulations, when the actual representation of women or minorities in a job group is less than would be reasonably expected based on calculated availability, NJR establishes placement goals.[540]

- NJR's most recent AA Plan analyzed the workforce by job group and by department and identified three areas where the difference between actual employment and availability of women was statistically significant, and one area in which the difference between minority employment and the availability of minorities was statistically significant. In response to this finding, NJNR established placement goals in these areas. [541]

- When a placement goal is set, NJR takes steps to increase the recruitment and training of women and/or minorities. NJR actions to recruit women and minorities include the following outreach efforts:

  - Using the internet to identify targeted recruitment sites for qualified minority and female applicants.

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[538] DR 215
[539] DR 215
[540] DR 565
[541] DR 215

- Contacting universities and local colleges, vocational technical schools, high schools, local business schools, and state and community organizations which attract qualified minority and female students.
- Conducting special recruitment activities at colleges and universities. During the period July 2011 to June 2012, recruitment activities were conducted at Rutgers University, Penn State University, University of Delaware, College of Mount S. Vincent, Brookdale Community College, Ocean County Vocational Technical School, and Ocean County College.[542]

- HR employees who are involved with the EEO requirements receive periodic training to keep up-to-date on government requirements in order to be compliant in this area. Training includes off-site training sponsored by Berkshire Associates and Duane Morris Institute, webinars, Society for Human Resources Management (SHRM) articles, and other outside articles.[543]

13. NJNG has proper controls to ensure that only appropriate personnel have access to personnel files and systems.

- Hard-copy benefit and personnel files for active employees are kept in a separate locked room in the HR department workspace. Files for vested and terminated personnel are kept in a locked filing cabinet.[544]

  - Only HR employees have a password access to the employee file room.
  - Security badge access to the HR department is only available to non-HR personnel between 7:30 a.m. and 5:00 p.m. when a receptionist is available to monitor access to the area.
  - HR employees' offices are locked each night.[545]

- There is controlled access to HR and payroll data maintained in the Human Resources Information System (HRIS) in JDE.

  - Each user has a unique ID and password to access JDE, and is given access only to information necessary to perform his/her job. Only a limited number of users have access to HRIS information, and most have read-only access.
  - Requests for access to HRIS must be approved by the Payroll Supervisor and the VP Corporate Services before IT will grant access. Access to HRIS for non-HR personnel is rarely granted. In most cases IT will run a special report to provide the required information on a one-time only basis.
  - Payroll clerks enter data into a front-end system, not directly into JDE.[546]

[542] DR 565
[543] DR 215
[544] IR 163
[545] IR 163
[546] IR 163

- In compliance with Sarbanes-Oxley, NJNG performs an annual self-audit of its compliance with security requirements for confidential information. The audit includes:

  - Reviewing IT reports regarding which users accessed confidential data on the HRIS system, and determining whether the access was appropriate.
  - Assessing whether each employee who currently has access to personnel data still needs this access to perform his/her job.[547]

D. Recommendations

62. Continue to examine benefit costs and take steps as appropriate to bring benefits in line with other utilities. (Refers to Conclusion 4)

63. Develop a more robust succession planning process that includes succession plans for all executive-level and key management positions and appropriate plans to back fill their positions.[548] Develop more formal training and development plans for identified personnel. (Refers to Conclusion 9)

64. Improve processes for monitoring and minimizing leave and other non-productive time, to increase efficiencies and reduce non-productive time. Continue to monitor for abuse and other trends. Pursue automated systems for FMLA and other leave processing and tracking (in process). (Refers to Conclusion 11)

[547] IR 163

[548] NorthStar does not believe levels below this are currently necessary or required for all manager positions.

Chapter XIV. Customer Service (RFP 3.2.8)

This Chapter provides the results of NorthStar's review of NJNG's customer service operations. The NJNG meter reading function recently moved from Customer Services to the Energy Delivery organization, but is addressed in this Chapter.

A. Background

Customer service includes all the activities involved with providing service to NJNG's approximately 500,000 customers. Although NJNG's customer base dropped following Sandy, it projects on-going growth of 6,000 to 7,000 customers per year through conversions and new customer additions. Customer service activities include meter reading, billing, credit and collections, call center operations, complaints and inquiries. During fiscal year 2012, NJNG performed 6 million meter reads, processed about 1 million customer calls, 56,700 walk-in payments, 216,000 web transactions, and performed 28,000 field collection visits. Through 2013, NJNG received four consecutive residential (2009-2012), and three consecutive business awards (2011-2013) in customer satisfaction from JD Power.[549] With the exception of lockbox services, all customer service functions are performed in-house.[550]

Regulatory Requirements

N.J.A.C. and N.J.S.A. regulate NJNG's customer service operations including customer applications, deposits, service calls, discontinuation and restoration of service, meter tests and meter reading, billing, collections, customer contact, and the location of customer offices. Key regulations include the following:[551]

- The utility may require a reasonable deposit as a condition of supplying service, equal to the average of one month's bill and the average monthly service charge. Deposits or increased deposits may be required of existing customers if the customer is 15 days delinquent. (N.J.A.C. 14:3-3.4) Residential accounts must be reviewed each year and non-residential accounts every two years. If the customer has met the requirements for establishing credit, the deposit must be refunded. (N.J.A.C. 14:3-3.5) Deposits must also be refunded on a closed account after the final bill has been settled.

- Customers may request a specified time or a four-hour window for service appointments. (N.J.A.C. 14:3-3.8)

- The utility has the right to suspend or curtail service for purposes of making repairs, changes or improvements to the system, for customer non-payment of bills or deposits, or for tampering or other fraudulent activities. Within 48 hours of a

[549] In the Eastern U.S. among large utilities. JD Power timing differs for residential and business surveys and awards
[550] DR 205
[551] DR 1

customer's request for discontinuation of service, the utility must either discontinue service or obtain a meter reading for the purpose of calculating a final bill. Utilities are prohibited from disconnecting residential service for non-safety reasons other than from the hours of 8:00 am through 4:00 pm Monday through Thursday. Service may not be disconnected before a state holiday. The utility must provide reasonable notice before disconnecting service. (N.J.A.C. 14:3-3A.1)

- A utility may discontinue service for non-payment if the customer's arrearage is more than $100 and/or the account is more than three months in arrears, and may only discontinue service for non-payment of the utility commodity – not for optional services. Nonpayment of business service shall not be reason for discontinuation of residential service. Discontinuation may occur only after the utility has completed all notice requirements,[552] and it confirms no payment has been received through the end of the notice period or posted to the customer's account at the opening of business on the day service is to be discontinued. Additionally, the utility shall notify an adult occupant or leave a note at the premises with information as to how service may be reconnected. If a residential customer offers full payment or a reasonable amount, the utility shall accept payment without disconnecting. (N.J.A.C. 14:3-3A.2)

- Utilities will not disconnect customers who are eligible for the Winter Termination program from November 15 through March 15, any residential customer if the temperature is projected to fall below 32 degrees, for charges in dispute, or if the customer meets the conditions for a medical emergency. (N.J.A.C. 14:3-3A.2)

- Service shall be restored within 12 hours upon proper application. (N.J.A.C. 14:3-3A.9)

- Each utility shall maintain an office in its New Jersey service area. (N.J.A.C. 14:3-5.1) Each utility shall make itself accessible to customers and Board staff by maintaining a toll-free emergency telephone number (24/7) and a toll-free non-emergency telephone number where a customer service representative can be reached during normal business hours.

- Utility companies shall make a reasonable effort to read all meters. When a utility estimates an account for four consecutive billing periods (monthly accounts) or two consecutive billing periods (bi-monthly and quarterly accounts), the utility shall mail a notice to the customer explaining that a read must be taken and explaining the penalty. If low estimates result in an actual bill that is 25 percent greater than the prior estate, the customer must be allowed to amortize the excess amount. (N.J.A.C. 14:3-7.2)

- A utility shall not require a residential customer to pay, as a down payment, more than 25 percent of a total outstanding bill at the time a deferred payment agreement is made. A utility shall renegotiate or amend a residential customer's deferred payment agreement if the customer demonstrates that circumstances have changed

[552] As specified in N.J.A.C. 14:3-3A.3. In accordance with the Customer Bill of Rights, the customer must be notified 10 days prior to disconnection. (DR 180)

significantly. A non-residential customer shall be allowed to enter into a deferred payment arrangement for a period of no more than three months. (N.J.A.C. 14:3-7.7) Customers are entitled to at least one deferred payment plan per year.[553]

Superstorm Sandy

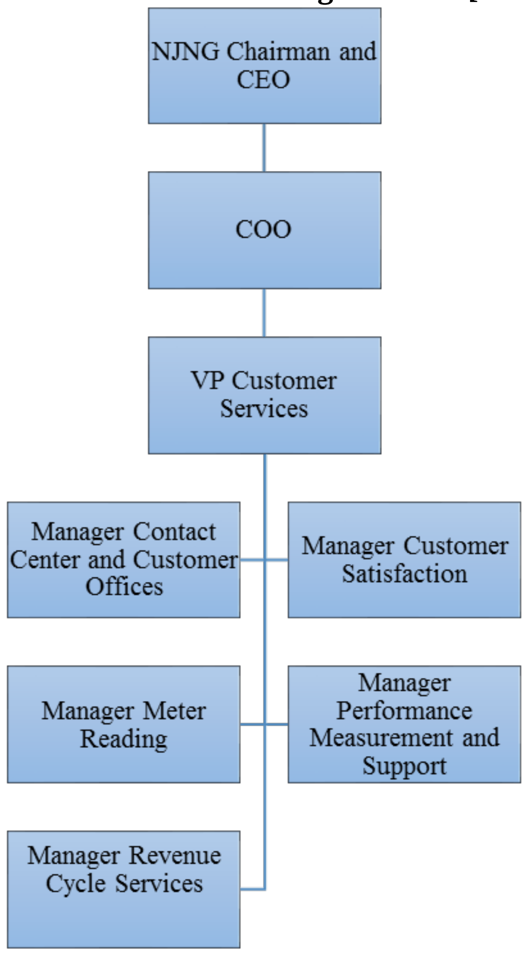
Sandy had, and will continue to have, an effect on customer service operations. Among other effects, customer counts are down, customers may be unable to pay their bills, customers with meters on may have seen increased gas usage if contractors were using the heater to dry houses, and many utilities experienced increased call volumes and longer talk times in the wake of Sandy. NJNG waved account opening fees for customers affected by Sandy. Customers with meters turned off were not charged the monthly customer charge (for the period the meters were turned off), and received a credit for the demand charge for the month of November 2012. Customers in the Seaside area received a hurricane interruption credit for November and December. Customers in those areas received a total bill credit of $24.75 ($8.25 x 3). [554]

Customer Services Operations

Exhibit XIV-1 provides the NJNG customer services organization as of August 2013.

[553] Customer Bill of Rights (DR 180)
[554] DR 462

Exhibit XIV-1
NJNG Customer Services Organization [Note 1]



Note 1: Following Sandy, meter reading was moved out of Customer Service and into Energy Delivery.
Source: DR 4.

Affiliate Services

NJNG's Customer Services organization provides a number of services to NJRHS and NJRCEV.

- NJNG renders monthly bills and maintains the accounts of NJRHS Customers, including the posting of charges/adjustments and other activities required to maintain accurate billing records for the sale of products and services by NJRHS.
- NJNG provides call center services for NJRHS.
- NJNG purchases NJRHS' accounts receivable resulting from NJRHS' sale of products and services. The purchase occurs when the customer is billed for the products and services provided by NJRHS. NJNG thus assumes responsibility for collecting charges from delinquent NJRHS Customers, including forwarding collection notices and other actions necessary to collect such accounts.

- NJNG provide monthly reports to NJRHS relating to services provided by NJNG to NJRHS' customers and unbilled revenue accounts owed to NJRHS.

- NJNG provides billing and remittance processing services for NJRCEV. NJRCEV bills are sent out on NJRCEV bill stock.[555]

As of October 1, 2013, NJRHS had 121,817 customers: 121,253 were also NJNG customers, 564 were served by other gas distribution companies.[556]

Contact Center and Customer Offices (Call Center)

Inbound telephone calls for NJNG and NJRHS are answered in NJNG's Customer Service Call Center. Although calls are answered by the NJNG call center, NJRHS has its own phone number. NJNG's Call Center utilizes an automated call distribution system. The system distributes incoming telephone calls to CSRs based on agent availability and routing skill assignment. Following Sandy, the Call Center added dedicated NJRHS CSRs.[557] For FY 2013, about 27 percent of the call center's call volume were NJRHS calls.[558]

Incoming telephone calls that exceed the number of available agents are placed in queue. On November 2, 2006, NJNG initiated Virtual Hold Technology to provide customers with the option of continuing to remain on hold or receiving a return call when their call is next in queue to be answered by a CSR. Customers can take advantage of this option when the call hold time in queue exceeds two minutes.[559]

The CSRs utilize desktop computers to access UCIS. The information available to the CSRs includes billing, accounts receivable history, usage history, deposit and budget information, meter information, service order history, and customer contact information. Service order availability and order status information is also available to the CSR.

NJNG uses an integrated voice response (IVR) unit. Customers who choose this option can receive basic billing information and makes credit card and ACH payments.

Customer Satisfaction

The Customer Satisfaction organization provides analytical support to the various Business Units as it relates to customer satisfaction and perception. The organization conducts internal perception surveys and post-customer-contact transaction surveys (through an outside vendor) and serves as the interface for the JD Power Surveys. The group also assists the business units in the identification of initiatives to address any customer satisfaction issues.[560]

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[555] January 10, 2014 follow-up email from NJNG Customer Services.
[556] DR 476
[557] DR 186 and call center tour
[558] DR 552
[559] DR 186
[560] DR 206 and IR 109

Meter Reading

As of June 2013, NJNG maintained 513,000 meters, over 97 percent of which were located outside the customer's premise. Outside meters typically pose less of a meter reading (and collections) challenge than inside meters. NJNG reads 20 cycles on a monthly basis, using a staff of 53 meter readers. **Exhibit XIV-2** provides a breakdown on NJNG's meters. In 2009, NJNG implemented Automated Meter Reading (AMR) in Monmouth County (about 50 percent of its meters). Encoder, Receiver and Transmitter (ERT) devices were installed on the meters in Monmouth County. The ERT allows "mobile meter readers" equipped with radio transmitters to drive down the street and collect meter reads.[561] Prior to the introduction of AMR, all meters were read manually on a bi-monthly basis.

Exhibit XIV-2
Meter Location and Read Type by Division

Division	Number of Meters	Percent Inside	Read Type
Northern (Morris County, Rockaways)	61,326	6.51	Manual
Ocean County	225,944	0.39	Manual
Bay/Central (Monmouth County)	225,505	3.75	AMR

Source: DR 192, IR 67 and 155.

Performance Measurement and Support

The Performance Measurement and Support (PM&S) group provides analytical, outreach and administrative support for NJNG's customer assistance programs, its participation in the State's New Jersey's Clean Energy Program (NJCEP) and NJNG's energy efficiency, conservation and marketing programs. PM&S assists in the response to customer inquiries regarding NJNG's website and electronic billing.[562]

Revenue Cycle Services

Revenue Cycle Services is responsible for NJNG's credit and collection activities, theft-of-service and third-party damage programs, revenue billing and payment processing, and gas transportation services. Revenue Cycle Services also acts as liaison to the TPSs, assisting with enrollment and termination processes, transfers of service, credit requirements, response to TPS inquiries, and preparing monthly nomination volumes.

NJNG bills for natural gas service across eight rate classes for firm natural gas service and three rate classes for non-firm gas services. In addition to billing for natural gas service, NJNG also bills for natural gas supplied by TPSs and for services associate with NJRHS' in-home appliance warranty and repair service.[563] NJNG uses JDE for customer billing. The bill printing and mailing functions are performed in-house.[564]

[561] DR 200
[562] DR 206 and various interviews
[563] DRs 186, 202, 374, 375, and 530
[564] DR 464

Customers are able to pay their bills via the mail, telephone, website, bank, in person, or through authorized payment locations. Customers are charged $1 at authorized payment locations, $4.50 (residential)/$11.95 (commercial) for payments made using credit or debit cards online or through the IVR, $3 for an ACH payment made with a CSR, $3 for a CSR-assisted credit card payment, and $4.50 (residential)/$11.95 (commercial) for a CSR-assisted debit card payment.[565] The $3 CSR credit card fee is a NJNG fee, the rest are payment processing vendor charges. About half of the payments processed are checks through the mail.[566] Lockbox payments are handled by an outside vendor.

Bills are due 20 days after the bill prints. If a customer has not paid his/her bill, the next bill will include the current and past due balance (30 days arrears). The bill includes a payment reminder printed on the bill, and is due in 15 days. If the customer still does not pay his/her bill, the third bill will include the current balance plus 60 days arrears, with the bill due in 15 days. If that bill is not paid within 15 days, customers with past due amount greater than $150 are sent a disconnect notice. Payment is due in 10 days. If unpaid after 10 days the account enters the collection queue for possible disconnection. The utility has four days to work the disconnection order. Field collectors visit the customer's premises and attempt to either collect payment or disconnect service. If service is disconnected and the customer does not make a payment to reconnect service, the customer is issued a final bill and a demand notice for payment is sent. The account is sent to a pre-collection agency and ultimately written off and sent to a primary outside collection agency (OCA) for one year (unpaid balances greater than $100).[567] After one year accounts are returned to NJNG and are considered for placement with a secondary OCA.[568] NJNG uses five primary and one secondary OCA.[569]

B. Evaluative Criteria

- Does NJNG have appropriate processes for responding to customer inquiries and complaints, including executive and BPU complaints? (Conclusion 2)
- Are NJNG's meter reading processes accurate and efficient? (Conclusions 3 and 4)
- Do customers receive accurate and timely bills? (Conclusions 5 through 8)
- Are NJNG's credit and collections and other revenue protection programs effective? (Conclusions 10 and 11)
- Has the provision of services to NJRHS negatively impacted regulated utility customers? (Conclusions 12 through 14)
- Are NJNG's marketing efforts appropriate? (Conclusions 14 and 15)

[565] DR 536, review of call center calls
[566] DR 185
[567] Accounts with balances less than $100 are written off to NJNG but not assigned to an OCA (DR 183)
[568] DR 195
[569] IR 66

C. Findings and Conclusions

1. NJNG has a strong commitment to customer service and receives high ratings in customer satisfaction surveys.

- NJNG ranked number one in the east region in overall customer satisfaction among residential and commercial customers in 2011 and 2012, as shown in **Exhibit XIV-3**. NJNG also ranked number one in residential customer satisfaction in 2009 and 2010. Customer satisfaction targets for 2013 were to win both the JD Power Residential and Business Awards. Winning the Residential Award was also a target in 2012.[570]

Exhibit XIV-3
JD Power Overall Customer Satisfaction Results – thru June 2013

		Overall Residential Customer Satisfaction	**Overall Commercial Customer Satisfaction**
2008	Region Rank	3 of 18	5 of 10
	Industry Rank	17 of 60	12 of 40
2009	Region Rank	**1 of 20**	3 of 9
	Industry Rank	23 of 75	25 of 41
2010	Segment Rank	**1 of 10**	2 of 11
	Industry Rank	16 of 75	33 of 54
2011	Segment Rank	**1 of 10**	**1 of 11**
	Industry Rank	23 of 75	13 of 49
2012	Segment Rank	**1 of 10**	**1 of 11**
	Industry Rank	12 of 75	8 of 51
June 2013	Segment Rank	Not available	**1 of 11**
	Industry Rank	Not available	12 of 51

Note: Top ranking are shown in bold.
Source: DR 189.

- Customer satisfaction and customer service are key elements of NJR's CTS performance management framework. For FY 2008 – 2013, the CTS included 12 to 16 associated metrics and goals addressing customer satisfaction, complaint rates, first call/first contact resolution, appointments kept, billing accuracy and timely response.[571]

- NJNG has internal response time standards for customer inquiries and customer requested work:
  - The current standards for email and website inquiries are 2 to 3 days. NJNG plans to change the email response standard to one day in the future.
  - NJNG has a call center service level standard of 82 percent of calls answered in 30 seconds.
  - Social media response time standards are same day during business hours.

[570] DR 50 and DR 551
[571] DR 50

- The inbound mail response standard is a same day reply.[572]

- In addition to the JD Power Survey, NJNG conducts its own perception surveys of customers and stakeholders and conducts weekly satisfaction surveys (transaction surveys) of those customers that have had contact with the utility.

  - The perception survey is distributed to customers who have had no contact with NJNG in the past 12 months and to other stakeholders. The survey covers such topics as safety, reliability, pricing, understanding of and response to customer needs, communication, the bill and website, employees and community support. NJNG receives about 300-500 responses to this survey annually. For FY 2009-2012, satisfaction ranged from 93.2 to 95.7 percent.[573]
  - Weekly transaction surveys are performed by a third-party vendor of a random sample of customers who have had contact with the call center, customer offices, first responders, Energy Delivery field personnel (including NJNG's two construction contractors Kiely and Gray), NJRHS field personnel, and the marketing organization.[574] About 1,650 surveys are completed each month to achieve a targeted 95 percent confidence level +/- 3 percent.[575] **Exhibit XIV-4** provides the overall results of the transaction surveys by Department. The surveys also track satisfaction with specific functions and elements of the experience/process.

[572] DR 203
[573] DR 189, IR 109 and DR 705
[574] DR 189, IR 109
[575] DR 549 and DR 705

Exhibit XIV-4
Customer Satisfaction Transaction Survey Results – FY End
(Percent)

	2008	2009	2010	2011	2012
Call Center					
Goal	93.8	94.0	93.8	93.8	94.0
Actual Percent Satisfied	94.6	91.6	92.4	93.9	95.7
Energy Delivery					
Goal	95.8	95.7	95.7	95.6	95.1
Actual Percent Satisfied	95.4	94.6	95.5	95.1	95.9
Marketing					
Goal	94.5	95.0	95.6	97.6	96.4
Actual Percent Satisfied	95.4	94.0	93.9	96.5	95.3
NJRHS					
Goal	96.3	96.5	97.1	95.5	95.1
Actual Percent Satisfied	96.9	94.8	95.6	93.3	92.7
Overall					
Goal	94.5	94.5	94.5	94.5	94.5
Actual Percent Satisfied	95.0	92.4	93.3	94.0	94.9

Source: DR 189.

- A team of representatives from NJNG and NJRHS (Customer Satisfaction Liaisons) meets twice a month to discuss the transaction survey results and to address any issues raised by either the transaction or JD Power surveys.[576]

- CTS dashboards which include customer service metrics are reviewed by various levels of management and the BOD.[577]

- Results of the customer satisfaction surveys are reviewed by Executive Management, the BOD and distributed throughout the organization:[578]

  - A monthly customer satisfaction report is provided to the CEO, BOD and all employees. This report provides the results of the transaction surveys, perception surveys, BPU complaints and customer comments, as well as a discussion of key initiatives.
  - Daily transaction survey results (by question for each customer) are emailed to the Customer Satisfaction Liaisons.
  - Business Unit Heads and Customer Satisfaction Liaisons receive monthly reports summarizing the results of the transaction surveys and the underlying details for their business unit.
  - The CEO, Business Unit Heads and Customer Satisfaction Liaisons also receive detailed survey results for any customer that provided an overall satisfaction rating of 6 or below on a 10 point scale.

[576] IR 109
[577] Board packet and DR 50
[578] DR 550 and DR 705

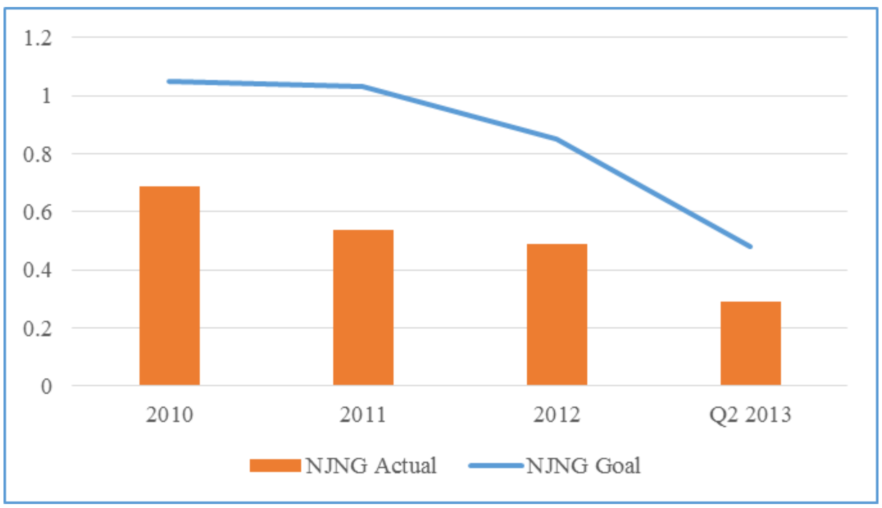
2. **NJNG has established processes for tracking and managing BPU, Executive and call center complaints.**

- NJNG has an established hierarchy for responding to escalated complaints within the call center.

  - CSRs will first attempt to resolve the call themselves.
  - If they are unable to achieve resolution they will attempt to reach their senior clerk or another team's senior clerk, their immediate supervisor or another team's supervisor, and then the call center manager.
  - If the CSR is unable to reach any of the personnel in the chain, they are to fill out a form requesting a customer call back.[579]

- NJNG tracks the nature of all calls into the call center, including the number of escalated calls (less than 1/3 of one percent of all calls in FY 2012 and 2013). Escalated calls (NJNG and NJRHS) are also an element of the CTS framework.[580] As shown in **Exhibit XIV-5**, targets and actual complaint rates have declined.[581]

Exhibit XIV-5
Escalated Complaints per 1,000 Customers – NJNG
2010-Q2 2013



Source: CTS Dashboards (DR 50).

- In addition to the Call Center, NJNG customers have the ability to register complaints through other channels. As is typical of the industry, the majority of these complaints are billing or collections-related as shown in **Exhibit XIV-6**, which provides the source and nature of the external and executive complaints.

  - Complaints can be sent to the BPU by phone, mail or on-line.

[579] DR 191 and direct observation
[580] DR 191 and DR 552.
[581] Escalated calls were not CTS metrics in 2009.

- Customer complaints are also registered internally through the Chairman's office, Regulatory Affairs office, Consumer Relations or the NJNG Customer Advocate.

Exhibit XIV-6
BPU/Executive Complaints - Source of Inquiry (thru 6/13)

Source of Inquiry	2008	2009	2010	2011	2012	2013
BPU	295	433	308	232	222	172
Regulatory Affairs	1	2	0	0	0	0
Chairman's Office	8	13	5	8	5	4
Consumer/Community Relations	3	7	2	4	3	1
Customer Advocate	50	47	27	26	16	29
Total	**357**	**502**	**342**	**270**	**246**	**206**

BPU/Executive Complaints - Nature of Inquiry (thru 6/13)

Nature of Inquiry	2008	2009	2010	2011	2012	2013
Billing	94	163	66	50	43	52
Collections	195	268	225	166	168	89
Construction Services	2	1	2	0	1	1
Customer Services	14	21	14	13	8	9
Field Service - Utility	16	22	17	19	5	4
First Responders	1	2	1	4	0	0
Marketing/Conservation	8	5	3	8	9	5
Meter Reading	12	4	2	1	3	1
New Business Process Team	4	0	2	5	4	1
Operations	11	15	8	4	4	43 [1]
Supplier Choice/ Deregulation	0	1	2	0	1	1
Total	**357**	**502**	**342**	**270**	**246**	**206**

Note 1: Hurricane Sandy made landfall in New Jersey on October 29, 2012 – NJNG's fiscal year 2013.
Source: NJNG, Inquiry and Complaint System, Statistical Analysis Summary, 2008-2013 (DR 190) and DR 759

- All BPU and executive complaints are filtered through the Customer and Community Relations Department (CCRL). This department manages the complaints on a daily basis and provides monthly and annual statistical summary reports.[582]

- NJNG uses an automated complaint tracking system to log and monitor BPU and Executive complaints. This system captures the complaints and provides a daily report of new complaints. For executive phone complaints, if the complaint is easily resolved within 24 hours, CCRL will log and handle the complaint.[583] Otherwise CCRL will forward the complaint to the appropriate business unit for resolution.[584] All BPU complaints and written executive complaints are logged and forwarded to the business unit for resolution, with CCRL notification upon resolution.[585] The tracking system is updated throughout the process, and it remains the CCRL's responsibility to ensure all complaints are satisfied.

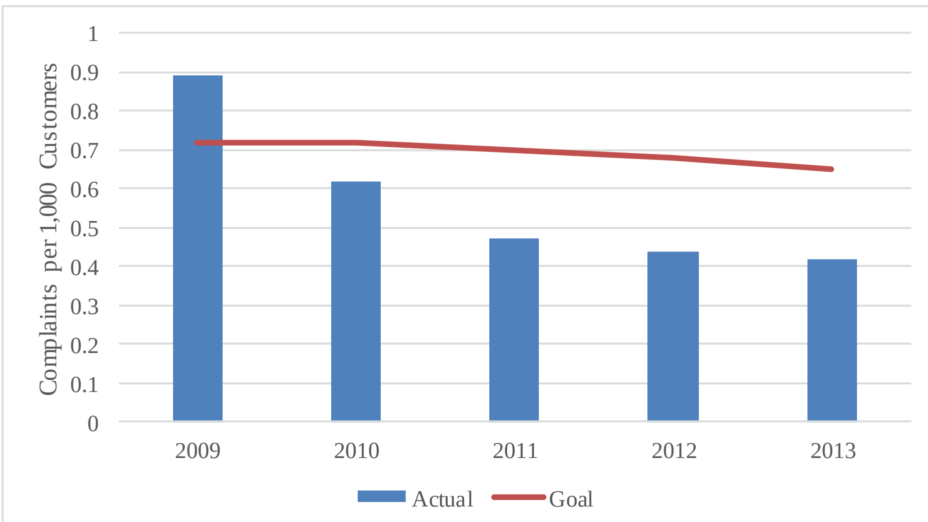
[582] DR 190 and 760 and IR 100
[583] CCRL follows up on all complaints, but does not track the timeliness of complaint resolution (DR 760).
[584] DR 190 and 761
[585] DR 190 and 761

- For BPU complaints, the BPU is notified of the resolution through the complaint tracking system.[586]

- In September 2013 the BPU transitioned to a web-based system for complaint tracking and reporting. When complaints are entered into the system by the BPU an email is generated to NJNG notifying CCRL of the complaint. CCRL can then access the complaint through a web-interface. NJNG anticipates a spring go-live for its internal BPU complaint system.[587]

- As shown in **Exhibit XIV-7**, NJNG met its BPU complaint goal during the audit period, and targets became more aggressive in 2012 and 2013. NJNG reports the lowest complaint rate in the state as shown in **Exhibit XIV-8**.

Exhibit XIV-7
BPU Complaint Performance – NJNG



Source : DR 720.

Exhibit 8
BPU Inquiries per 1,000 Customers– New Jersey

Utility	2009	2010	2011	2012	2013
NJNG	0.89	0.63	0.47	0.44	0.42
PSE&G	2.00	2.14	1.97	1.57	1.49
ETG	3.38	2.11	2.03	1.18	1.03
South Jersey Gas	3.10	2.57	2.38	1.26	1.34
Atlantic City Electric			4.07	3.85	3.54

Source: DR 762.

[586] DR 759 and Supplement
[587] DR 759

3. **NJNG uses an industry standard set of controls to ensure the accuracy of its meter reads.**

- In accordance with BPU regulations, all gas meters must be routinely tested for accuracy to ensure that customers are being accurately charged. Meter testing results are reported to the BPU.[588]

  - All large meters (commercial and industrial) ten years and older are removed from the customer premises and tested.
  - Smaller meters (primarily residential and small commercial) are tested through a BPU-approved meter sampling program. Meters are grouped into "families" based on their size and date of purchase. Once a family has been in service for no more than 10 years, a representative sample of each family is pulled from a customer's premises and tested.

- For manual reads, edit checks built into the meter reader's hand-held ITRON meter reading devices will return an error if the read is outside an expected range based on prior reads (high/low). The meter reader is then required to reenter the read. For reads that are further outside the built-in tolerance, the device will require that the meter reader input the meter number.[589]

- The ITRON handhelds do not display prior read information in order to prevent the meter reader from inputting false reads without reading the meter. [590]

- For Monmouth County (which utilizes AMR), the driver is notified if a read does not register.[591] If the read does not register on a second drive by the address, meter readers will manually read the meter.

- Recently, NJNG IAD conducted an audit to compare the ERT reads with a manual read for about 6,000 five and six dial meters. The results are provided in **Exhibit XIV-9**. IAD recommended that NJNG also perform a comparison review of ERT to index reads for 4-dial meters.[592]

Exhibit XIV-9
Audit Results – ERT versus Index Read

Meter Type	Over	Under
5-Dial Meters	19	60
6-Dial Meters	7	2
Total	**26**	**62**

Source: DR 486.

588 N.J.A.C., DR 486
589 IR 115, DR 200
590 IR 115
591 DR 200, IR 67
592 DR 751

- ERT reads are also compared with index reads as part of the meter testing program and during a read investigation (e.g., high bill complaints).[593]

- NJNG reads all meters even those considered inactive.[594]

- Internal procedures require an actual read at least once per year. According to NJNG, customers are contacted by phone to attempt to obtain an actual read after four months of estimates and are sent a letter after eight months.[595] NJNG maintains an internal list of accounts without an actual read in eight months. For FY 2012, only eleven meters were on the eight month list.[596] At the end of FY 2013, no meters were on the list.[597]

- Supervisors monitor meter reader performance and walk with each meter reader on an annual basis.[598]

- At a customer's request, Energy Delivery will perform a high bill investigation to determine whether the meter reading was accurate and the potential cause of a "high" bill. Customers can request a meter test.

- As discussed in further detail later in this Chapter, Revenue Cycle Services runs a number of exception reports, including a read error report which is reviewed weekly to identify potential read errors.[599] Exceptions related to active meters with no consumption are to be reviewed daily.[600]

4. **With the implementation of AMR in Monmouth County, meter reading performance has improved substantially; however, NJNG has not performed any recent analyses to determine whether current staffing levels are optimal.**[601]

- AMR was deployed in Monmouth County in order to achieve a monthly meter reading schedule without the loss of meter reading jobs.[602] Existing meters readers were redeployed to other portions of the service territory and NJNG switched to monthly reads for its entire service territory.

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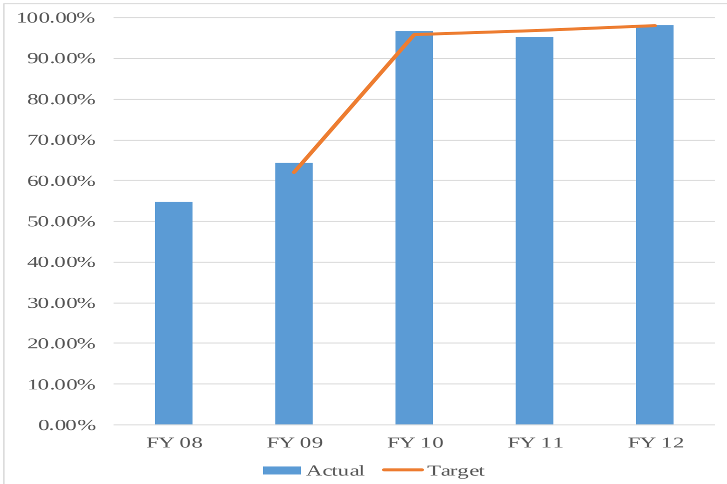
[593] DR 751
[594] IR 115
[595] Meter Reading Policy and Procedure, Eight Month or More Consecutive Estimate Report, Revised 8/22/11 (DR 183), DR 752 and IR 115
[596] DR 185
[597] DR 751 Attachment A
[598] IR 115
[599] DR 199, 200, IR 108
[600] Revenue Billing Policy and Procedure, No Consumption on an Active Meter – Meter Reading Exception Report (DR 183)
[601] DR 748-750
[602] DR 752, IR 167

- For FY 2012, NJNG achieved an actual read rate in excess of 98 percent system-wide as shown in **Exhibit XIV-10**. As a comparison, the AGA/Edison Electric Institute (EEI) second quartile benchmark was 94.4 to 98.71 percent for 2010.[603]

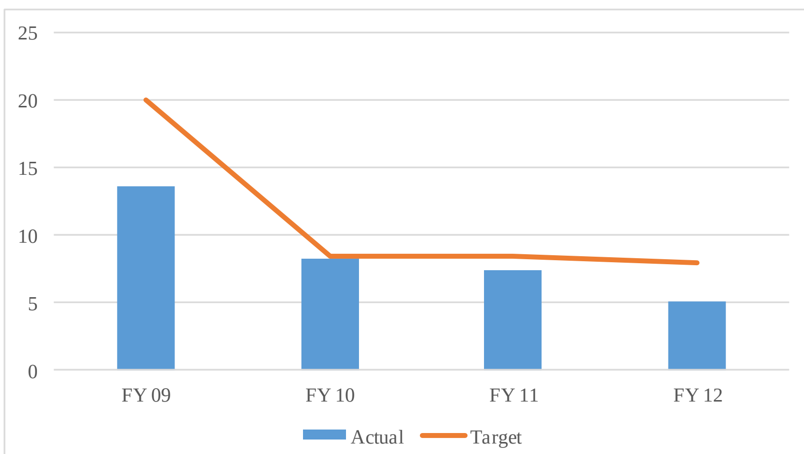
Exhibit XIV-10
Target and Actual Meter Read Rate



Source: DR 185.

- Meter reading accuracy has similarly improved since FY 2009 as shown in **Exhibit XIV-11**. Through April 2013, the FY 2013 error rate was 1.19 reads per 10,000.[604]

Exhibit XIV-11
Meter Reading Error Rate per 10,000 Reads



Source: DR 185.

- Meter reading routes are periodically updated, and new dwellings are inserted into a meter reading book based on relative geographic position.

[603] DR 185
[604] DR 198

- Ocean County was rerouted in 2009 with the introduction of AMR.
- The Northern Division was rerouted in 2012.

- NJNG has no current plans to expand its AMR deployment, nor has it performed any recent analyses of the potential cost-effectiveness of deployment in other areas of its service territory.[605]

- Four meter readers read the AMR routes; 49 meter readers read the remaining meters.[606] Meter reader staff levels have not changed materially since 2008, due to the shift to monthly reads in the non-AMR regions.[607] NJNG cites is read rate performance as justification for the current number of meter readers, but has not performed a formal analysis.[608] According to NJNG, "the completed percentage of reads has improved greatly while keeping cost relatively flat. Based on this information, meter reading management believes it has appropriate staffing levels to meet NJNG customer needs as well as to meeting the needs of the NJNG billing process."[609]

5. NJNG has appropriate processes and controls to provide timely and accurate bills.

- There are 20 monthly billing cycles. Since 2009, NJNG postponed a full or partial billing cycle on five occasions due to delayed printing, representing a 99.8 percent on-time processing rate.[610]

- Each billing cycle is reviewed for completeness by identifying any active accounts that failed to bill and or did not go through the billing cycle.[611]

- NJNG monitors bill calculation accuracy on a quarterly basis and upon changes in rates.[612]

- NJNG has implemented a number of programs to verify customers are on the correct rates including:

    - The Marketing Department establishes the applicable tariff (rate code) based on service use and load when new gas services are added to NJNG's system. Any rate change needed to an established service (i.e. additional load added by customer) is submitted to revenue billing for UCIS update.
    - Revenue billing runs a weekly system query matching the entered demand level indicator with the account's rate code in order to identify any account set up incorrectly.

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605 DR 197 and 748-750
606 IR 67 and IR 115
607 DR 185
608 IR 115
609 DR 748
610 DR 531, IR 21, IR 167. According to NJNG the bills were mailed the following day (IR 167).
611 DR 527
612 DR 609

- Revenue billing reviews commercial meter therm usage to identify any general service-small (GSS) tariff account that has usage above the tariff threshold on annual basis.[613]

- Customer bills are monitored and investigated for a number of exceptions including: High Bill, Active Meter – No Consumption, Consumption – Inactive Meter, Negative Consumption, and Conflicting Meter Read Date. NJNG also monitors the number bills that required cancellation and rebilling.[614] While NJNG maintain records of billing exceptions, NJNG does not have established performance targets to compare against actual performance.

- It is NJNG's policy to provide customers with monthly bills. When an actual meter read cannot be obtained, NJNG utilizes an appropriate historic base usage plus weather adjustment to estimate a customer's bill.[615]

6. NJNG's bills display most, but not all of the information required by NJAC 14:3-7.2, as shown in Exhibit XIV-12.

Exhibit XIV-12
Bill Format – Paper and Electronic [Note 1]

Requirement	Section	Bill Format Complies?	Discussion
Meter readings at the beginning and end of the billing period.	14:3-7.2(b)1	Yes	
Dates on which the meter is read.	14:3-7.2(b)2	Yes	Bills display the start date and end date of the service period (implying the meter read date).
Number and kind of units of measure.	14:3-7.2(b)3	Yes	NJNG utilizes hundreds of cubic feet (ccf) of natural gas.
Identification of the applicable rate schedule. If the applicable rates are not shown, the bill shall carry a statement to the effect that the applicable rate will be furnished upon request.	14:3-7.2(b)4	Yes	The applicable rate schedule is identified in the customer charge of the unbundled calculation portion of the bill.
The gross and/or net amount of the bill. If the utility uses gross and net billing, the date on which payment must be made to qualify for the net billing or discount.	14:3-7.2(b)5-6	Yes	The bill displays the total monthly amount, a balance statement of previous payments and/or credits, and the due date.
A distinctive marking to indicate the method used to calculate the bill; for example, electronic readings, estimated billing, budget billing, or the index of a remote reading device.	14:3-7.2(b)7	Yes	Actual readings are shown as "Actual Read" in the box labeled as "Current Meter Read Is". Estimated reads are identified as "Calculated" in the same box. Budget billing is identified as a separate line item.
An explanation or statement of any conversion from meter reading to billing units or any other calculations or factors used in determining the bill.	14:3-7.2(b)8	Additional information possible	CCF are converted to British Thermal Units (BTU). The conversion factor is shown on the bill. However, the conversion factor changes from month to month and NJNG does not provide an explanation either on the front or the back of the bill explaining the conversion factor.

[613] DR 528
[614] DR 525, 606, 607, and 608
[615] DR 530

Requirement	Section	Bill Format Complies?	Discussion
For each electric and gas utility, a statement of all applicable taxes imposed upon and included in the cost of the energy provided to the customer. The following language is suggested as a model statement to be included on the bill: "under applicable tax law, the State sales and use tax, corporate business tax, and Transitional Energy Facility Assessment are imposed upon the energy which you have used. To obtain the exact amount of tax included in your billing, please contact the utility at the telephone number listed on your bill."	14:3-7.2(b)10 [Note 2]	No	The NJNG tariff identifies the base component of the rates and the applicable riders and taxes. NJNG does not provide a disclosure of all applicable taxes imposed upon and included in the cost of energy.

Note 1: Electronic bills display the same information as paper bills.
Note 2: N.J.A.C. 14:3-7.2(b) 9 applies to water and wastewater utilities.
Source: N.J.A.C, DR 41, www.njng.com.

7. NJNG has an established budget billing program in compliance with N.J.A.C. 14:3-7.5

- The budget-billing program is 12 months in length. The budget year is from August to July annually.

- Any customer who is current on their NJNG bill is eligible to participate. A customer may cancel at any time during the year. Upon cancellation, the customer is billed or credited for all remaining charges. The customer is automatically removed from budget billing if he/she falls more than two months behind on payments.

- A mid-year true-up is conducted in January to identify imbalances over 25 percent. In these instances, the adjustment is billed during the remaining six months of the budget year.

- The customer bill includes all required information.

- NJNG provided budget-billing information as a billing option in bill inserts twice per year.[616]

8. NJNG has a billing dispute process in compliance with N.J.A.C. 14:3-7.6.

- N.J.A.C. 14:3-7.6 requires NJNG to have an established billing dispute process. It further requires NJNG to notify the customer of its right to request the BPU to begin an investigation into a billing dispute.[617]

- The process begins with an informal complaint where NJNG interviews the customer and tries to determine if additional testing is required. When a customer does not agree with NJNG, NJNG has a formal policy for handling escalated complaints.

[616] DR 535
[617] DRs 190 and 537

- NJNG's Customer Bill of Rights is provided to customers at the time of service and annually as a bill insert. The Customer Bill of Rights notifies customers of their right to request an investigation into a billing dispute.[618]

- NJNG provides the BPU's web page address and telephone number on the back of its customer bills.[619]

9. NJNG offers customers a sufficient number of options for remitting payments.

- Payment options include mail, on-line via NJNG's website, in-person at district offices and authorized payment locations, pay-by-phone, CSR-assisted payment, electronic check, and payments at the door (field collections).

- NJNG assesses residential customers a $4.50 surcharge for credit card transactions, a $1.00 surcharge at authorized payment locations, and a $3.00 surcharge for CSR-assisted payments.[620]

10. NJNG's revenue protection programs are adequate given the utility's size and current loss profile.

- For FY 2013, NJNG's gross write-offs were $3.4M (7,202 accounts, 0.50 percent of sales), representing an average gross write-off of less than $500.[621] The average net write-off for 2013 (90 day lag) was 0.30 percent of sales.[622] **Exhibit XIV-13** provides details of NJNG's delinquency balances and write-offs. About 40 to 50 percent of NJNG's delinquent accounts have a past due balance of less than $100.

Exhibit XIV-13
Delinquencies and Write-Offs as Reported to the BPU

Division	CY 2010	CY 2011	CY 2012	CY 2013 through May
Number of accounts with overdue amounts [Note 1]				
Less than $100	34,144	32,929	41,018	41,729
$101 - $500	33,739	38,033	33,183	49,939
$501 - $1000	5,275	6,092	3,002	5,184
Over $1000	2,236	2,824	1,339	2,119
Charge Off				
Gross	$5,040,302	$5,102,073	$2,934,294	$1,266,263
Recovery	$1,126,025	$1,139,384	$1,085,037	$396,788
Net	$3,914,277	$3,962,689	$1,849,257	$869,475

Note 1: Represents a point in time.
Source: DR 196.

[618] DRs 190, 537, and 723
[619] DR 723
[620] DR 536
[621] DR 378 and 704
[622] DR 372

- NJNG's philosophy is to try to work with the customer, and views disconnecting service as a last resort to obtain payment.[623]

- NJNG does not perform identity verification for new customers unless it has reason to believe there is a problem.[624]

- Regulations allow NJNG to collect deposits for residential and commercial customers as a condition of service and in the event of delinquency.[625] NJNG's internal procedures only require a deposit of non-homeowners and customers with a prior history of poor credit with NJNG.[626] Deposits are generally collected on commercial accounts.[627] N.J.A.C. 14:3-3.4 specifies the amount of deposit as the average monthly charge for the service for a 12-month period and one month's average bill. In accordance with its tariff and internal procedures, NJNG charges customers the estimated gross bill for two months. According to NJNG, this method has been approved by the BPU in its rate cases.[628]

- NJNG does not perform risk-based account segmentation until accounts are eligible for termination. All customers, regardless of payment history go through the same collections process.[629]

- NJNG's current dialer only allows NJNG to leave customers payment reminder messages. A customer is not able to connect to a CSR to make a payment during the automated call.[630] According to NJNG it has purchased a new outbound dialer which should improve its collections capabilities by allowing customers to pay during the outbound call.[631]

- Termination notices are sent to customers with a past due balance greater than $150. Regulations allow termination for past due balances of $100 or more.

- NJNG has processes for identifying and billing consumption captured during a turn-on read (i.e., read at turn-on is greater than the read at turn-off), and for billing customers for non-registering meters.[632]

- NJNG maintains a program for reporting and investigating possible cases of theft of service. Leads are typically generated by field employees who receive annual training or occasionally by other utilities or the public. Unauthorized use that is fully recorded is pursued as a billing and collections matter. Cases where usage is not

623 DR 195, IR 66
624 IR 66
625 N.J.A.C. Chapter 3, 14:3-3.4 Deposits for Service
626 DR 201 and UCIS Training Handbook (DR 183)
627 DR 201
628 DR 790
629 IR 66, review of collections procedures
630 DR 195 and IR 66
631 IR 66, DR 350 and DR 370
632 DR 183 and 185

recorded or is restricted are pursued as theft of service and may result in criminal prosecution.[633]

- Field employees receive annual training in recognizing and reporting potential theft of service and the utility offers an incentive program for verified, reported cases.[634] In order to encourage reporting, NJNG may pay an incentive ($50 plus 10 percent of the recovery amount for recoveries in excess of $500 up to a maximum of $2,500).[635] In 2012, NJNG received 45 leads, eight of which were confirmed theft. Eight accounts were billed. Incentives were paid on 10 of the leads.[636]
- Bill inserts and the Customer Information Booklet include a reminder that meter tampering is unsafe and illegal and provide a toll-free number for confidential reporting by the general public.
- NJNG collected $37,900 from theft of service accounts in 2012 as shown in **Exhibit XIV-14**.

Exhibit XIV-14
Theft of Service Cases [Note 1]

FY	Cases Confirmed	Cases Billed	Amount Billed	Amount Collected
2009		22	$69,964	$48
2010	9	7	$32,946	$21
2011	9	10	$54,151	$23
2012	8	9	$32,756	$37
June 2013	4	2	$6,964	$11
Tota	**30**	**50**	**$196,781**	**$142,7**

Note 1: Cases and amounts represent the values for the calendar year. The amount collected in a year does not directly correspond to the amount billed in that year due to timing lags.
Source: DR 188.

11. Additional field collectors may be warranted.

- NJNG employs six field collectors, who are each assigned about 32 accounts per day.[637] In FY 2012, the field collectors collected $3.7M (very roughly $600k per collector).

- As shown in **Exhibit XIV-15**, only a small portion of the customers who are sent disconnection notices are assigned for field collection, and only a portion of those are either terminated or make a payment in the field.[638]

[633] DR 185, 188 and IR 66
[634] DR 188
[635] DR 183
[636] DR 188
[637] DR 792
[638] DR 185 and 469

Exhibit XIV-15
Field Collections

FY	Disconnect Notices Sent	Accounts Assigned	Percent Assigned	Value of Accounts Assigned	Field Payments	Service Disconnects [Note 1]
2009		28,538		$29,890,857	$4,188,244	11,674
2010		26,782		$24,324,630	$2,166,085	11,400
2011	332,819	29,791	9.0%		$3,710,905	8,890
2012	270,381	28,147	10.4%		$3,682,447	11,785
2013 [Note 2]	289,066	18,521	6.4%	$20,066,746	$2,934,596	8,833

Note 1: In 2013 about 74 percent of customers that were disconnected reconnected service (DR 470).
Note 2: NJNG suspended or limited collections during November, December and January as a result of Sandy.
Source: DR 185, 470 and 704.

- NJNG has not recently evaluated whether the number of accounts assigned to each collector is the appropriate number or whether additional field collectors would prove cost-effective.[639]

12. Overall call center performance has improved in response to prior audit recommendations; however, performance declined following Sandy and as of September 2013, remained below target.

- NJNG's service level average for 2006 was 40.9 percent of calls answered in 30 seconds. The goal was 70 percent.[640] From 2008-2012 the service level averaged just under 80 percent, and fell following Sandy to 50.9 percent for FY 2013. **Exhibit XIV-16** provides NJNG's service levels from 2006 to the present.

Exhibit XIV-16
NJNG Call Center Service Levels

FY	Target Percent in 30 Seconds	Actual Percent in 30 Second
2006	70	40.9
2007	70	54.2
2008	70	85.4
2009	82	68.6
2010	75	84.3
2011	82	77.3
2012	82	78.4
2013	82	50.9

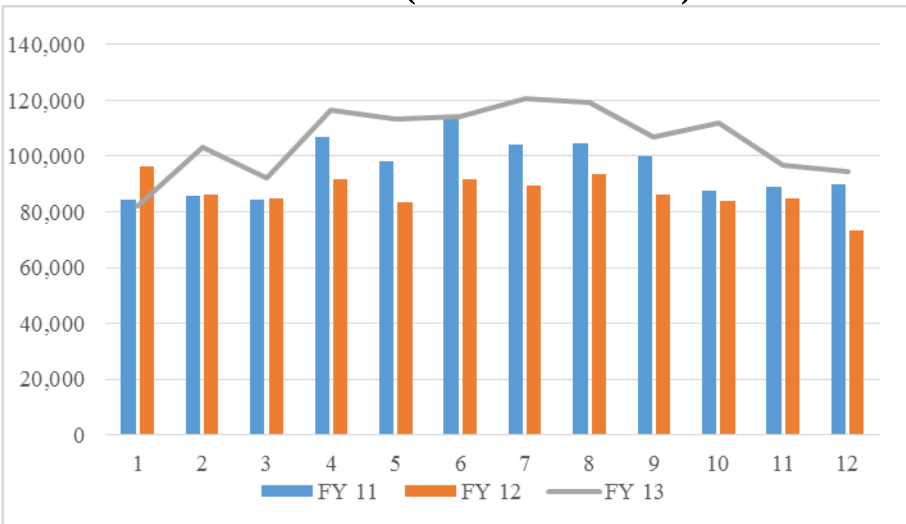
Source: Liberty Report, DR 185 and DR 704.

- As shown in **Exhibit XIV-17**, call volumes and talk times have increased since 2012 and continue to remain above historic levels. Increased call volumes and talk times are attributable to higher utility call volumes due to the effects of Sandy, higher

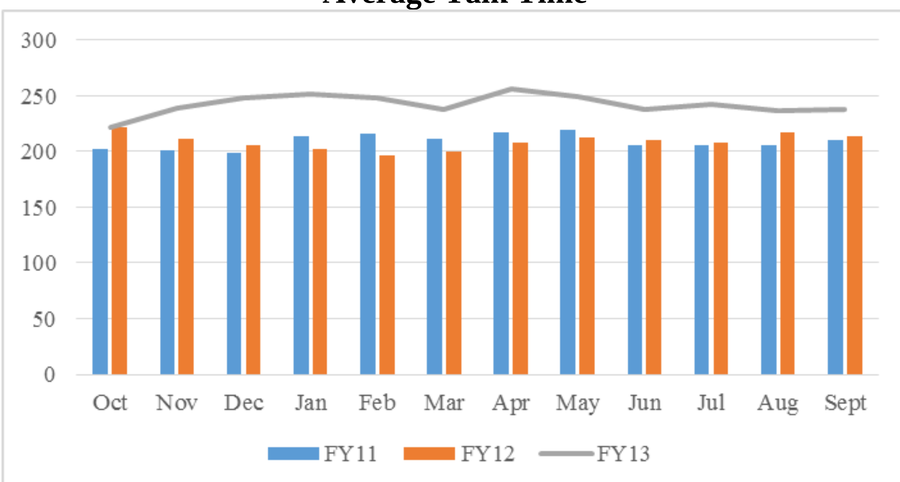
[639] IR 114, DR 791 and 792
[640] Liberty Report

NJRHS call volumes due to weather-related service appointments and a more aggressive marketing campaign, and increased call complexity.[641]

Exhibit XIV-17
Call Volume (Total Calls Offered)



Average Talk Time



Source: DR 185 and 704.

- With the exception of the temporary CSRs fielding NJRHS calls (discussed later), available call center FTEs have not gone up appreciably since 2012.[642] Lost hours have increased due to increases in sick and FMLA leave. The amount of time the CSRs spend at their desks fielding calls and not in training, meetings, or other activities also increased substantially since Sandy, increasing the risk of employee burnout.[643]

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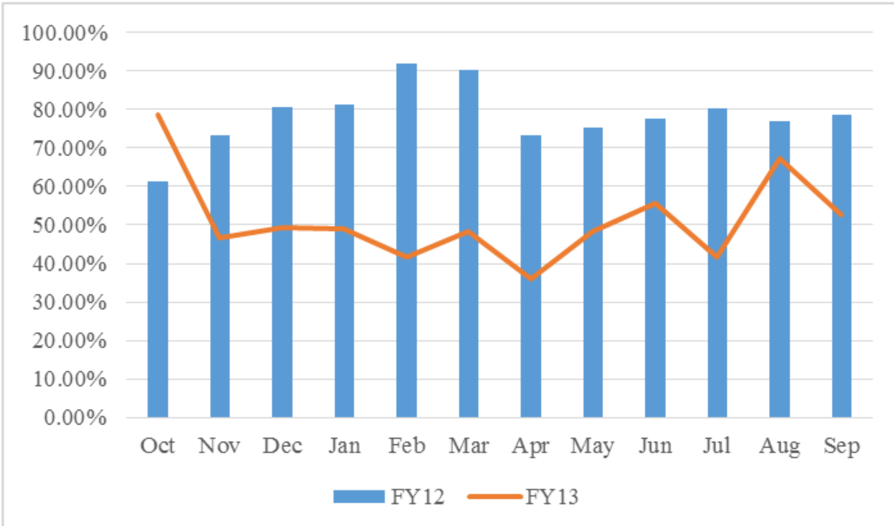
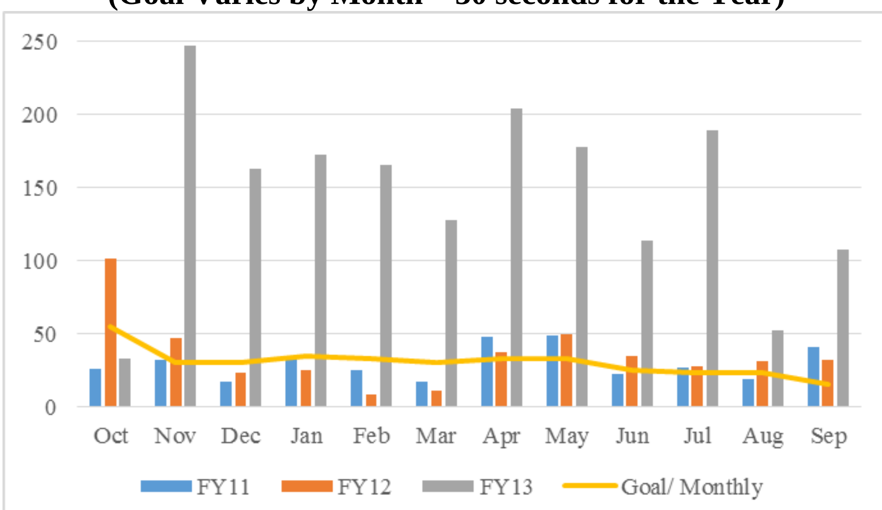
[641] Call center dashboards (DR 185 and 704)
[642] DR 185 and 704, IR 167
[643] DR 185 and 704

- As a result, the call center's monthly service level has declined since October 2012 and is significantly below both the target and 2012's actual performance. However, first call resolution rates remain above target and have not declined significantly.[644]

Exhibit XIV-18
Service Levels – FY 2012 and 2013
(Goal 82 percent in 30 Seconds)



Average Speed of Answer
(Goal Varies by Month – 30 seconds for the Year)



Source: DR 185 and 704.

- NJNG operates a relatively small call center which offers certain benefits, but also poses challenges. Smaller call centers frequently face staffing challenges particularly

[644] 2013 actual performance of 90.75% relative to a goal of 90.60% (DR 704), IR 167

during periods of inconsistent call volume. NorthStar reviewed a sample of customer calls and provides the following observations:[645]

- Frequent hold times were observed, some in excess of five minutes while the CSR processed or input information.
- The smaller size of the call center allows NJNG the opportunity to do things that may improve customer satisfaction but increases call times and would not be done in a larger call center. These include getting up from the desk during a call to check for a fax from the customer, sending information to the customer, attempting to locate another CSR or personnel from other business units such as transportation and marketing, and remaining on the call while the customer contacted a TPS.
- The lack of a tie between UCIS and NJRHS work scheduling causes CSRs to have to call NJRHS to determine appointment availability, resulting in significant hold times.
- The UCIS system is slower than some that NorthStar has observed, resulting in extra time spent keying information into the system or moving between screens.
- It is possible that the emphasis on call type coding and the considerable number of codes, while useful for trending, cost allocation and understanding the nature of the customer inquiries, may increase handle times.
- Customer account information entered into the IVR is not automatically pulled up when the call is transferred to a CSR. According to NJNG the new IVR, which is scheduled to be deployed February 2014, will include this functionality as well as allow the customer additional self-service options.[646]
- One CSR had challenges closing the call.

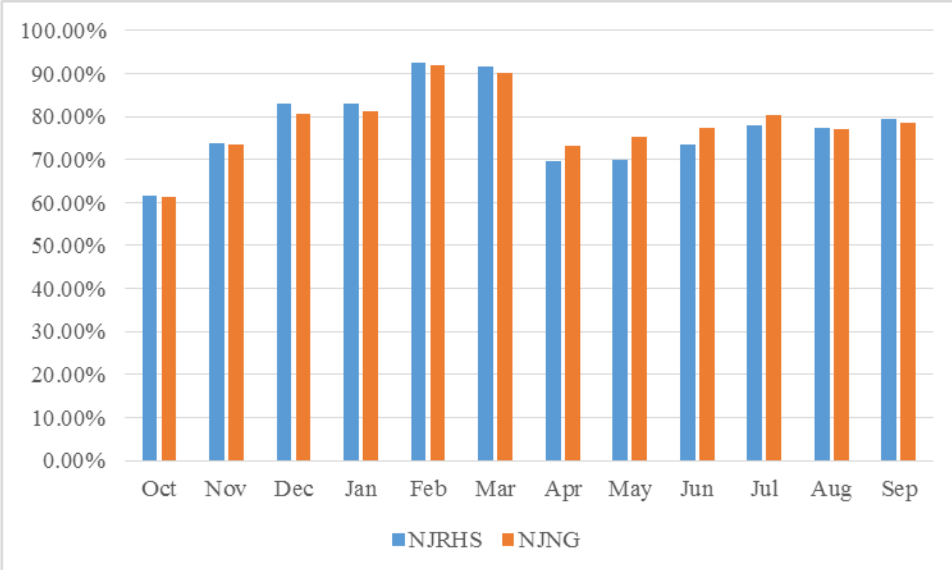
• NJNG is in the early stages of reviewing options for potential outsourcing and is in the process of training additional CSRs.[647] Five CSRs are currently in training and NJNG is in the process of hiring seven additional CSRs. Some of these will be used to address anticipated attrition. The current budget reflects three additional permanent CSRs.[648]

13. In 2013, NJRHS call center service levels were better than those of the utility, due to the hiring of additional personnel and the training cycle.

• In FY 2012, NJNG and NJRHS service levels were generally comparable as shown in **Exhibit XIV-19**.

[645] Review of recorded and live calls
[646] IR 24 and 167 and DR 350
[647] IR 24 and 167
[648] IR 167

Exhibit XIV-19
Relative Service Levels – FY 2012

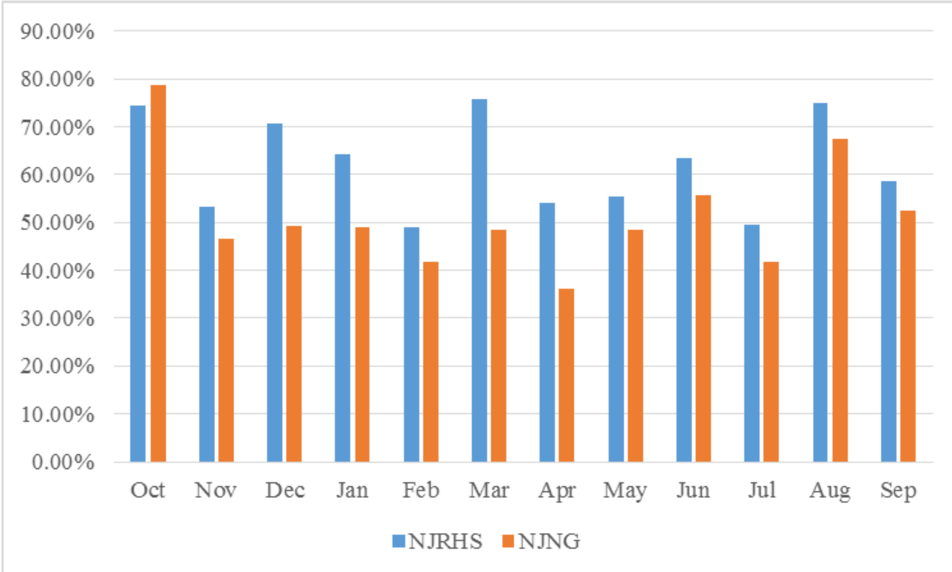


Source: DR 480 and 562.

- However with the hiring of temporary CSRs to handle NJRHS calls following Sandy, service levels for NJRHS have improved relative to those of the utility as shown in **Exhibit XIV-20**. In November 2012, NJNG hired about 10 temporary CSRs to handle NJRHS calls.[649] As of August 2013, three were still providing NJRHS call center support. NJRHS service orders are the simplest calls and are the first module in the training process. Utility billing calls are typically the most complex of the calls and one of the last skills trained by a utility.

[649] DR 185 and IR 24

Exhibit XIV-20
Relative Service Levels – FY 2013



Source: DR 480 and 562.

- The average handle time (AHT) for NJRHS calls is slightly higher than for the utility calls. For FY 2013, the AHT for NJNG calls was 283 seconds. AHT for NJRHS calls was 293 seconds for Sales/Service Calls and 317 seconds for billing calls.[650]

- The Call Center Dashboards illustrate some of the challenges faced by the Call Center.

  - From the April 2013 Dashboard: Call volume has increased in all areas over last year. Collection calls by thirty-one percent, Billing and General by thirty percent, Utility eighteen percent and NJRHS calls ten percent.
  - From the May 2013 Dashboard: The average call handle time of 290 seconds is the third highest this fiscal year and third highest recorded. Factors contributing to this are: the challenges CSRs face when explaining a service availability date for three weeks from the date of the call, making an outbound call due to escalations for a sooner date, explaining the NJRHS "Stand By List" and when applicable promoting NJRHS contracts. CSRs handled 16,512 NJRHS calls; a 35 percent increase over the 12,198 calls handled in May 2012. The temperatures for the last three days in May were in the low 90's, by May 31st NJRHS had 953 customers on their "Stand by List" waiting for a service call for their AC unit.
  - From the July 2013 Dashboard: 19,930 calls tracked for NJRHS is the highest ever recorded. Weather being a major contributor with 17 days of temperatures over 90 degrees. Calls handled in July by CSRs (58,583), by IVR (44,046) and combined total (102,629) is the highest recorded for the month of July. CSR staffing availability is the second lowest for this fiscal year. Possibly affected by high utilization rate and stress of difficulty of calls during the heat wave.

[650] DR 480, 562

- From the September 2013 Dashboard: AHT of 280 seconds was 9 percent higher than 256 seconds in 2012 partly due to customer inquiries on the budget and NJRHS. Lost hours in FMLA and personal sick is steady and on the rise with 676 hours combined in these categories compared to 260 in 2012, a 160 percent increase. NJRHS calls (12,532) increased by 32 percent over last year's calls (9,491) partly due to weather, marketing promotions and service calls. Part calls alone (420) increased by 52 percent compare part calls in 2012 (276).

14. While there are a number of ties and overlaps, NorthStar's audit found no direct evidence that the provision of services to NJRHS has negatively impacted regulated utility customers, other than potentially the recent increases in call volumes.

- There are strong similarities between the NJNG and NJRHS logos. NJRHS charges appear on the NJNG bill. The NJNG call center responds to NJRHS calls.

- NJRHS is charged a fully loaded cost for all calls coded as NJRHS. If a customer contacts the call center and discusses its NJNG bill and asks a question about a Home Services contract, the call is coded as NJRHS and charged to NJRHS.[651] NJRHS calls account for about 25 percent of the call center call volume.[652]

- Although CSRs are instructed not to promote NJRHS, they are able to discuss NJRHS if the customer is known to have a NJRHS contract. Also, if a customer calls the NJNG line but was trying to reach NJRHS, the CSR can take the call without transferring it. Call center training provides the following:

  - …we do not use the utility service call to provide an advantage to NJRHS. Therefore, a CSR cannot promote service contracts or repair service provided by Home Services during a utility call UNLESS the customer specifically requests information. At that time, you refer them to the Yellow Pages or the Internet.
  - …if the customer directly asks if Home Services provides repair services, you can answer yes.
  - A customer calls on a utility matter. I can tell right away from looking at the initial screen that she or he is a contract customer. Can I ask about scheduling an inspection? Yes. That is allowed because the customer already knows about NJRHS.
  - Once that you have established that that a caller is an existing Home Services customer you can answer all contract questions regardless of what line the call comes in on (no need to transfer call back to queue).[653]

- It is possible that not all customers understand the utility and NJRHS are not the same company.

[651] DR 563, IR 149, DR 775, DR 706. As part of DR 706, NorthStar reviewed 35 calls: eight of these calls came in on the NJNG line but discussed NJRHS and were coded as NJRHS.
[652] DR 185 and 704
[653] UCIS training

- NorthStar reviewed a sample of 35 calls classified as NJRHS. Eight of these calls came in on the NJNG line, but were Home Services calls and were classified as such. Additionally, where necessary, the CSR clarified that the service contracts were with Home Services and not the utility.[654]

15. In 2013, NJRHS customers received a bill insert for a new NJRHS program in their NJNG bill. NorthStar found no other evidence of potential joint marketing activities or tying of the services of NJNG and NJRHS.

- NJR's Compliance plan requires that employees "shall not provide leads, solicit business, or acquire information on behalf of any Retail Affiliate."[655] It's fair competition guidelines instructs all employees to be "particularly conscious of their conduct so that a level playing field exists for all product and service providers who compete with the Company and our Retail Affiliates….For example, if a friend or neighbor asks about available appliance protection plans, you may not give a referral to or about Retail Affiliates."[656]

- The annual Code of Conduct training reinforces that there can be no joint advertising, that a disclaimer is required on affiliate literature and that NJNG employees cannot promote NJRHS or NJRCEV.[657] New employees receive similar training regarding the affiliate standards.[658] Call center training instructs the CSRs to not promote NJRHS.[659]

- A Retail Affiliate cannot trade upon, promote or advertise its relationship to NJNG and it cannot use NJNG's name and/or logo in any publicly circulated materials in NJ without clear and conspicuous or audible language disclosing its independent status. NorthStar reviewed NJRHS print and radio ads and found all collateral contained the required disclosures.[660]

- In response to the issues identified during the Liberty Audit, NJRHS has its own phone number and the NJNG phone menu does not list NJRHS as a category.[661]

- NorthStar selected a sample of calls classified as "general information" for review.[662] In three instances, the CSR had the opportunity to recommend NJRHS in response to customer questions, but did not mention or recommend the affiliate.

- NorthStar reviewed a sample of 35 calls classified as NJRHS. No irregularities were identified. When the call came in on the NJNG line, the CSR confirmed the caller had an NJRHS service contract before discussing NJRHS.

[654] DR 706
[655] DR 2, p. 4 of 169
[656] DR 2, pp. 19-20 of 169
[657] DR 25
[658] DR 477
[659] USIC Training Manual
[660] Review of marketing materials (DR 475)
[661] Call to the NJNG phone number
[662] DR 455 and DR 689. Calls were selected as part of the TPS testing but included some NJRHS calls.

- The CSRs interviewed understood the affiliate rules as they relate to NJRHS.[663]

- In 2013, a bill insert promoting NJRHS' new interior plumbing and electric service plans was included in the NJNG bills of NJRHS Customers.[664] According to NJNG, this is not a violation of the rules as its website offers to provide advertising, billing and collections services.[665]

D. Recommendations

65. Track and report BPU and Executive complaint response times. (Refers to Conclusion 2)

66. Perform a detailed assessment of meter reader staffing levels and the relative costs and benefits of further AMR deployment. (Refers to Conclusion 4)

67. Develop targets to assess NJNG's performance against reported billing metrics. (Refers to Conclusion 5)

68. Include an explanation of the conversion factors from CCF to BTU on the back of the customer bill. (Refers to Conclusion 6)

69. Include the State recommended disclosure, "Under applicable tax law, the State sales and use tax, corporate business tax, and Transitional Energy Facility Assessment are imposed upon the energy which you have used. To obtain the exact amount of tax included in your billing, please contact the utility at the telephone number listed on your bill", on the customer bill. (Refers to Conclusion 6)

70. Perform a detailed cost-benefit/economic justification analysis for the addition of more field collectors. At a minimum, the analysis should consider projected available workload, the full-loaded cost of the collector and the anticipated dollars collected. Add field collectors if anticipated benefits exceed costs. (Refers to Conclusion 11)

71. Develop a written action plan for addressing call center service levels. The plan should include consideration of the following: (Conclusions 12 through 14)

    - Outsourcing (but not off-shoring) a portion of utility calls, after discussions with the BPU Staff. This would also provide potential benefit during emergencies as an outsourced call center may be able to respond more quickly to an increase in call volume.

    - Outsourcing NJRHS calls.

    - Improved forecasting and staffing (underway).

[663] CSR Focus Group (IR 113)
[664] DR 42 Supplement
[665] http://www.njng.com/regulatory/postings.asp

- Use of cross trained personnel (likely from revenue cycle services) to answer phones during times of high call volume (e.g., Mondays, extreme weather, seasonal turn-ons/offs).

- Part-time agents and work-at-home agents.

- The call center issues noted in Conclusion 12 through training and process improvements. Note: NorthStar is not recommending the purchase or development of a new CIS/Billing System.

72. Closely monitor call handle times for NJNG and NJRHS. If NJRHS handles times prove to be materially longer than NJNG calls, the cost allocation methodology may need to be adjusted. NorthStar recognizes that under the current methodology, as long as the calls are classified correctly the longer NJRHS handle time may be offset by the fact that NJRHS currently pays for any "joint" calls. (Refers to Conclusion 14)

73. Continue to reinforce separation between NJRHS and NJNG as it relates to the customer service function. Perform an analysis of the cost of outsourcing NJRHS calls. The analysis should consider the cost and staffing impact to NJNG in addition to NJRHS. Refers to Conclusions 14 and 15)

74. To avoid customer confusion, do not include NJRHS marketing materials in NJNG customer bills. (Refers to Conclusion 15)

CHAPTER XV. CLEAN ENERGY AND RELATED PROGRAMS (RFP 3.2.11)

A. Background

Within the State of New Jersey, energy efficiency programs are offered as part of New Jersey's Clean Energy Programs (NJCEP) with supplemental programs offered by the State's utilities. NJNG's involvement in NJCEP and its energy efficiency offerings are two separate programs, managed by two different organizations.

Exhibit XV-1
Overview of NJNG's Clean Energy and Energy Efficiency Programs

Program	Overview	Responsible NJNG Organization
NJCEP	NJCEP Comfort Partners Program -- the only NJCEP program with direct utility participation.	Customer Services
Energy Efficiency	SAVEGREEN program -- through SAVEGREEN, NJNG offers rebates and financing options to supplement the NJCEP energy efficiency programs. The NJCEP programs are managed outside of the utility companies.	Marketing & Business Intelligence

NJNG Participation in New Jersey's Clean Energy Program

NJCEP was established on January 22, 2003, in accordance with EDECA. NJCEP provides financial and other incentives to the State's residential customers, businesses and schools that install high-efficiency or renewable energy technologies, thereby reducing energy usage, lowering customers' energy bills and reducing environmental impacts. The program is authorized and overseen by the BPU, which has instituted a number of initiatives to reduce peak demand, conserve finite resources and promote new technologies.

All but one of the NJCEP programs are delivered by outside firms under contract with the BPU, and not the utility companies. Since 2007, the NJCEP residential energy efficiency and renewable energy programs and C&I energy efficiency programs have been managed by the NJCEP Market Managers, Honeywell International, Inc., and TRC Energy Services. Applied Energy Group (AEG) provides program coordinator services, including cost tracking and billing. The State's Office of Clean Energy (OCE) performs certain administrative functions, including program evaluation.[666]

[666] DR 156, Attachment B. IN THE MATTER OF COMPREHENSIVE ENERGY EFFICIENCY AND RENEWABLE ENERGY RESOURCE ANALYSIS FOR THE 2009 - 2012 CLEAN ENERGY PROGRAM: 2009 PROGRAMS AND BUDGETS: COMPLIANCE FILINGS

NJNG's direct participation in NJCEP programs is limited to the residential low-income program, Comfort Partners.[667] Comfort Partners is a free energy saving and energy education program for qualified low-income customers. Comfort Partners is available to any New Jersey household with significant energy use that has an income at or below 225 percent of the federal poverty guidelines.[668] If eligible, participants receive:

- Installation of cost-effective energy efficiency measures in the home (determined on a home-specific basis) which can include: efficient lighting products, hot water conservation measures (water heater insulation, water heater pipe insulation and energy-saving showerheads and aerators), replacement of inefficient refrigerators, thermostats, insulation upgrades (e.g., attic, wall), blower-door guided air sealing, duct sealing and repair, heating/cooling equipment maintenance, and other measures.

- Comprehensive, personalized energy education and counseling.[669]

Comfort Partners is targeted at participants in the Universal Service Fund. Program participation is prioritized by energy use, with the highest energy users served first.

Comfort Partners is managed by six New Jersey utilities (Atlantic City Electric Company, Jersey Central Power and Light, PSE&G, ETG, NJNG, and South Jersey Gas Company). The program is implemented through third-party contracts and overseen collectively by the six utilities. Electric and gas utilities with overlapping service territories jointly deliver efficiency, health and safety, and education services, so that customers receive both gas and electric efficiency measures simultaneously.

NJNG collects NJCEP funds through the NJCEP factor included as part of the societal benefits charge on customer bills. The BPU establishes a utility-specific funding allocation for NJCEP on four-year cycles, with utility funding obligations specified for each month during the period. Each utility is required to remit a monthly amount to support the NJCEP. NJNG's NJCEP funding obligation is summarized in **Exhibit XV-2**.

Exhibit XV-2
NJNG NJCEP Funding Amounts
(Dollars in Thousands)

Year	Amount
2009	$ 10,269
2010	$ 11,275
2011	$ 13,392
2012	$ 15,896
2013 (first six months)	$ 9,839

Source: DR 156A.

[667] DR 156
[668] DR 167
[669] http://www.njcleanenergy.com/residential/programs/comfort-partners/comfort-partners

NJNG remits its NJCEP funding amount, less the amount it pays directly to Comfort Partner contractors, to the NJCEP program coordinator on a monthly basis.[670] NJNG's Comfort Partners costs are summarized in **Exhibit XV-3**.

Exhibit XV-3
NJNG Comfort Partners Costs
(Dollars in Thousands)

Year	Admin.	Sales Marketing Call Center Website	Training	Implementation Installation Measures	Rebate Processing, Inspections & Other Quality Controls	Total Program
2009	$ 133.4	$ 67.7	$ 28.8	$ 3,477.4	$ 123.8	$ 3,831.0
2010	153.7	80.2	21.6	3,748.4	179.4	4,183.2
2011	155.2	75.9	17.9	3,340.5	143.7	3,733.1
2012[1]	255.1	94.4	31.6	5,143.2	241.4	5,765.8
Total	**$ 697.3**	**$ 318.2**	**$ 99.8**	**$ 15,709.5**	**$ 688.2**	**$ 17,513.1**
Percent	4%	2%	1%	90%	4%	

[1] 2012 represents an 18 month period from January 1, 2012 to June 30, 2013. The change made to align with NJCEP's shift to a fiscal year starting each July.
Source: DR 161.

NJNG's participation in Comfort Partners is under the auspices of the Customer Services Department. The Manager of Customer Services for PM&S is the primary lead for the program, and is assisted by his administrative assistant. Their general responsibilities include:

- Program management with other utilities
- Contract negotiation
- Review of billing
- Approval of invoices
- Activities supporting the data entry and reporting for enrollment and billing
- Verification of eligibility
- Addressing issues related to program policies, procedures, and operations
- Approval of additional measures and health and safety requests
- Budget preparation and monitoring
- Addressing customer inquiries
- Marketing and customer outreach.

Energy Efficiency Programs (SAVEGREEN)

NJNG's energy efficiency programs began in 2009, and supplement the NJCEP offerings. In October 2008, New Jersey Governor Jon Corzine announced a plan to help New Jersey withstand the economic crisis and lay a foundation for economic recovery. The plan was intended to directly support employment and economic activity in the short term, and to enhance the State's business climate and economic prospects in the long term. As part

[670] DR 156

of the plan, the Governor called upon NJ's electric and gas utilities to invest $500 million in utility energy efficiency programs for residential and business customers through 2009.[671]

On January 19, 2009, NJNG filed a petition with the BPU seeking approval to implement three energy efficiency programs with a total investment of approximately $16.7 million over twelve months. NJNG's energy efficiency programs complement NJCEP offerings. Specifically, NJNG's programs are related to the following NJCEP programs:

- **Home Performance with Energy Star (HPwES) – (Residential Customers) –** Following a home energy audit, performed by a participating contractor, customers receive rebates for home energy efficiency improvements.

- **WarmAdvantage – (Residential Customers**) **–** Rebates for high efficiency natural gas boilers and furnaces.

- **Direct Install – (C&I Customers**) – The program covers up to 70 percent of the cost for eligible upgrades such as lighting, controls, refrigeration, HVAC, motors, variable speed drives and natural gas equipment. Participating contractors conduct energy assessments and install the cost-effective measures.

NJNG's energy efficiency programs fall under the SAVEGREEN Project®, the initiative through which NJNG manages the energy efficiency programs approved by the BPU. The NJNG SAVEGREEN programs incorporate grants for residential customers, and opportunities for participation in the NJNG on-bill repayment program (OBRP) for eligible residential and commercial customers.[672] **Exhibit XV-4** provides a high level summary of the NJCEP program and the SAVEGREEN supplemental programs from 2008 through 2012. Note that there is currently no program for C&I Customers. An OBRP has been approved, but not yet implemented.

Exhibit XV-4
Overview of NJCEP and SAVEGREEN Programs

	NJCEP Program	NJNG Program (SAVEGREEN)
Residential Programs		
HPwES	NJCEP offered different rebate and financing options in seven different periods from 9/2009 to the present. Rebate levels differ based on the projected energy savings of installed energy measures as compared to total possible energy savings identified in the energy audit. 1/2012 to Present: Audit fee variable. Customers receive rebate of up to $5,000, which can be combined with 0 percent 5 or 10-year financing.	NJNG also offered various rebate and financing options in different periods from 9/2009 to the present. 1/2012 to Present: SAVEGREEN offers customers OBRP at 0 percent APR and pays rebate when OBRP is used.

[671] http://www.state.nj.us/bpu/pdf/boardorders/7-1-09-2H%20NJ%20NATURAL%20GAS.pdf
[672] DR 162

	NJCEP Program	NJNG Program (SAVEGREEN)
WarmAdvantage	9/9/2009 to 6/30/2013 -- $300 to $400 rebate for furnaces and boilers. 7/1/2013, rebates range from $250 to $300.	9/9/2009 - 6/30/2013- Additional $900 rebate. 7/1/2013 – 6/30/2015 -- Additional $500 rebate. NJNG Audit required for rebate in all periods.
Commercial and Industrial Programs		
Direct Install	A turnkey solution to upgrade to high efficiency equipment. Direct Install is designed to cut facility energy costs by replacing lighting, HVAC and other outdated operational equipment with energy efficiency alternatives.	**No NJNG program since 2011. New program approved 7/2013, but not yet implemented.** 9/9/09 – 12/31/10 - Funded additional programs in NJNG territory. As of 10/31/2013, an OBRP had been approved, but not yet implemented.
Combined Heat and Power	Energy efficiency through on-site power generation with recovery and productive use of waste heat.	**No Current Program** 1/1/2011 – 1/17/2012 – SAVEGREEN provided a match for NJCEPs financial incentives for projects within NJNG territory.

Source: DR 397, http://www.njcleanenergy.com

In addition to SAVEGREEN, NJNG has three pilot energy efficiency programs:

- **OPOWER** – customized letters are sent to a subset of residential customers to evaluate whether information regarding energy usage relative to similar homes in their area influences customer behavior. NJNG's program launched in March 2011.[673]

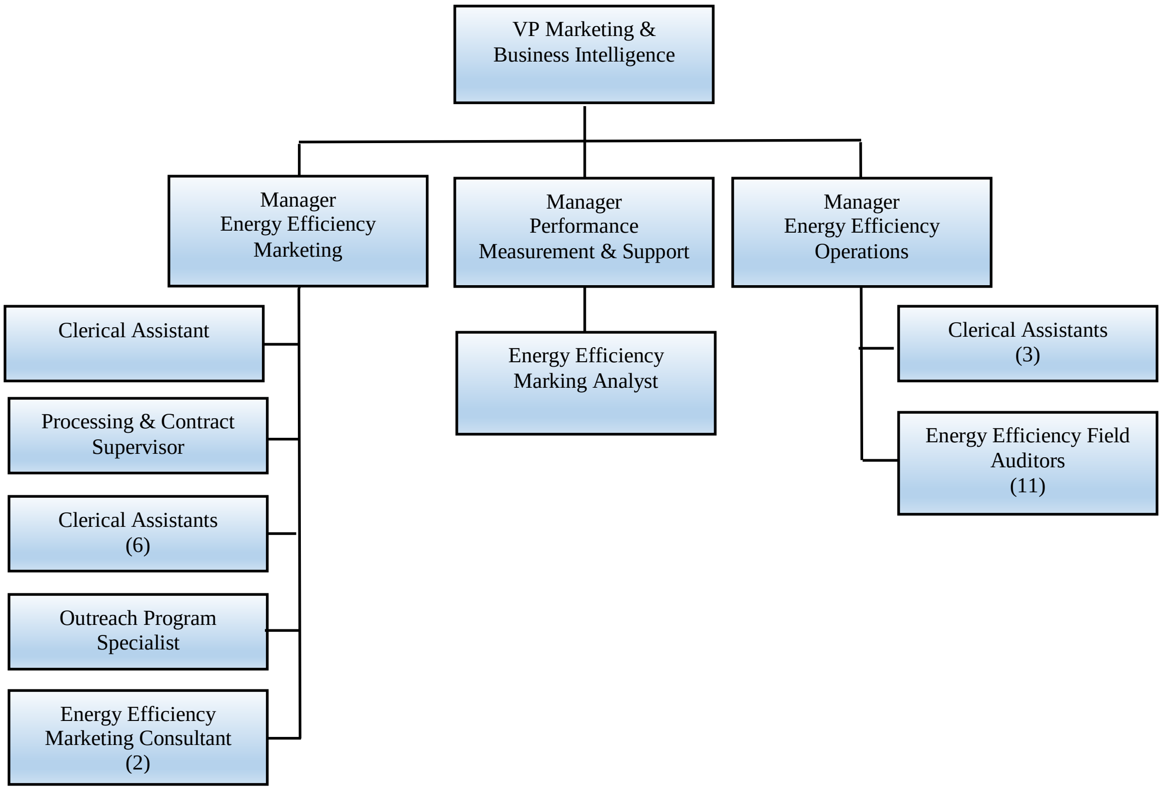
- **Fostering Environmental and Economic Development (FEED)** – provides financial assistance through the FEED tariff for energy efficiency and economic development opportunities for C&I customers. All agreements are custom developed and need BPU approval. The program began in 2011.[674]

- **The Access to Affordable Energy Pilot Program (Access)** – offers eligible residential home owners a grant to convert an existing electric heating system to a high-efficiency system. The program was approved in January 2012, but no conversions have been performed to date, due to challenges in reaching the target market, as well as challenges following Superstorm Sandy.[675]

NJNG's Vice President, Marketing and Business Intelligence is responsible for the overall management of the SAVEGREEN programs. NJNG employees administer the SAVEGREEN programs and manage the day-to-day operations. **Exhibit XV-5** shows the organizations supporting the SAVEGREEN Programs.

[673] DR 397 and DR 401
[674] DR 397
[675] DR 397

Exhibit XV-5
NJNG Energy Efficiency Organization



Source: DR 162

The Energy Efficiency Marketing group is responsible for marketing, verification and processing of enhanced grants, processing of on-bill repayment applications, and handling customer inquiries. The Energy Efficiency Operations group is responsible for the inspection of HVAC equipment upgrades, and audits of customers' premises. The Performance Measurement and Support (PMS) group in Marketing & Business Intelligence prepares the required monthly and quarterly reporting information sent to NJCEP's program manager's Information Management System (IMS).[676]

In accordance with BPU regulations, NJNG submits an annual energy efficiency filing to the BPU for approval. NJNG's filings include testimony and the rationale for all proposed programs, and address the minimum filing requirements established by the BPU in May 2008. The proceeding is subject to a discovery process with numerous inquiries from BPU Staff, as well as consultants working on behalf of the New Jersey Division of Rate Counsel. While there is a litigated track established for each case, NJNG has reached a settlement

[676] DR 162

agreement in each SAVEGREEN filing, with the support of all parties. The Board provided formal approval of such settlements without modifying the terms of any of the settlements.[677]

Since 2009, NJNG has submitted four SAVEGREEN filings to the BPU, as summarized in **Exhibit XV-6**. This past year, the BPU shifted to a two-year approval so that all parties could be involved in developing new administrative processes.

Exhibit XV-6
NJNG SAVEGREEN BPU Filings

Filing	Docket No.	Date Filed	Date Approved	Implementation Period for Participation
Initial SAVEGREEN (also referred to as UE3)	GO09010057	1/20/2009	7/17/2009	9/9/09-12/31/10
1st extension (also referred to as RGGI I)	GO10030225	3/29/2010	9/24/2010	1/1/2011-1/17/2012
2nd extension (also referred to as RGGI II)	GO11070425	7/14/2011	1/18/2012	1/18/2012-6/30/2013
3rd extension (generally called SAVEGREEN filing)	GO12070640	7/9/2012	6/21/2013	7/1/2013-6/30/2015

Source: DR 397.

NJNG's energy efficiency costs are summarized in **Exhibit XV-7**. The energy efficiency program costs are recovered over a four year period through a per-therm charge collected via the Energy Efficiency Rider, "Rider F".

Exhibit XV-7
NJNG Energy Efficiency Costs Reported to the BPU
September 2009 – June 2013
(Dollars in Thousands)

	Labor, Admin. & Program Dev.	Sales, Call Centers, Marketing and Website	Training	Rebates	Labor: Rebate Processing Inspections, Other Quality Control	Total
Initial Filing – Approved: 7/17/2009. Implementation: 9/9/09 – 12/31/2010						
WarmAdvantage	$ 421.9	$ 1,200.6	-	$ 6,345.9	$ 1,064.7	$ 9,033.1
HPwES Enhancements	154.5	389.8	1.4	7,283.6	198.0	8,027.3
Commercial Direct Install	35.5	18.8	-	453.5	-	507.8

[677] DR 164

	Labor, Admin. & Program Dev.	Sales, Call Centers, Marketing and Website	Training	Rebates	Labor: Rebate Processing Inspections, Other Quality Control	Total
Initial Filing (UE3)	**$ 611.9**	**$ 1,609.1**	**$ 1.4**	**$ 14,083.0**	**$ 1,262.7**	**$ 17,568.2**
1st Extension -- Approved: 9/24/2010. Implementation: 1/ 1/2010 – 1/17/2012						
WarmAdvantage-Actual	$ 161.4	$ 1,565.9		$ 6,411.6	$ 928.1	$ 9,067.1
HPwES Enhancements	133.7	319.1		3,187.7	155.1	3,795.6
O Power	-	332.8		-	-	332.8
1st Extension (RGGI I)	**$ 295.1**	**$ 2,217.8**		**$ 9,599.3**	**$ 1,083.2**	**$ 13,195.4**
2nd Extension -- Approved: 1/18/2010. Implementation: 1/18/2012 – 6/30/2012						
WarmAdvantage-	$ 194.4	$ 1,372.0		$ 7,822.8	$ 1,145.7	$ 10,534.9
HPwES Enhancements	137.4	320.5		5,185.8	219.9	5,863.5
O Power	-	555.7		-	-	555.7
2nd Extension (RGGI II)	**$ 331.8**	**$ 2,248.1**		**$ 13,008.6**	**$ 1,365.6**	**$ 16,954.0**
Total Expenditures 9/2010 - 6/2013						
WarmAdvantage	$ 777.7	$ 4,138.4		$ 20,580.3	$ 3,138.5	$ 28,635.0
HPwES Enhancements	425.5	1,029.4	1.4	15,657.1	572.9	17,686.4
Commercial Direct Install	35.5	18.8	-	453.5	-	507.8
O Power	-	888.4	-	-	-	888.4
Total 9/2010 - 6/2013	**$ 1,238.8**	**$ 6,075.0**	**$ 1.4**	**$ 36,690.9**	**$ 3,711.5**	**$ 47,717.6**

Source: DR 158, DR 397.

B. Evaluative Criteria

- Is NJNG's participation in the NJCEP programs in compliance with BPU guidelines and supportive of ratepayer benefits? (Conclusion 1)
- Does NJNG exercise appropriate management oversight of its participation in the NJCEP Programs? (Conclusion 2)
- Does NJNG account for, and exercise appropriate control over, the costs of the NJCEP Programs in compliance with applicable procedures? (Conclusion 3)
- Does NJNG have effective processes to manage its energy efficiency programs? (Conclusions 4 and 5)
- Does NJNG have adequate processes for energy efficiency accounting and reporting? (Conclusion 6)

C. Findings and Conclusions

1. As a result of the state-wide utility management and structure of the Comfort Partners program, NJNG has little direct control over NJCEP activities and costs.

- The management and administration of the NJCEP Comfort Partners program is done jointly between the six utilities.

  - Selection of program delivery contractors was done jointly. Implementation vendor contracts were finalized in August 2009 and include a total of five program contractors.[678]
  - The utilities use the JCP&L web-based Comfort Partners (CP) System as the statewide platform to track all program participants, measures and energy savings. The system is used by all utilities, BPU Clean Energy staff, the program delivery vendors, and inspection contractors. Maintenance and enhancements to the system are paid by JCP&L and are incorporated in the program budget. [679]
  - The utilities collectively file an annual compliance plan that is subject to review by OCE staff and public comment from interested stakeholders. After receipt of any public input, OCE staff provides a recommendation regarding such filing to the Board. Should there be any changes required by the Board order, the utilities submit a final revised compliance filing.

- NJNG participates in monthly NJCEP Program Coordinator meetings.

2. NJNG has a defined process to review its Comfort Partners invoices and costs.

- The Comfort Partners weatherization and education contractors submit their invoices through CP, the system used for joint utility administration. The amount spent on each customer is based on a standard administrative fee and an allowance based on the customer's energy usage.

- The NJNG staff assigned to Comfort Partners review and approve monthly batch invoices for the home weatherization contractors through the CP system.

- Invoices for the Third Party inspections of the installation contractors are handled outside the CP system.

  - The staff prepares vouchers for approval by the Manager of Customer Services and by the VP, Customer Services, if the invoice is $25,000 or more.
  - Original vouchers are given to Accounting for payment then submitted to Accounting for posting. A copy of the signed voucher and invoice are kept on file.

- Monthly allocation of labor, travel, and facilities' expenses for NJNG staff charged to the Comfort Partners program is handled by the Accounting department.

[678] Comfort Partners January 2012 Compliance Plan
[679] Comfort Partners January 2012 Compliance Plan

- On a monthly basis, the Manager of Customer Services runs a query on all monthly expenditures by account numbers. That information is used to provide monthly totals to NJCEP's Program Coordinator, AEG, through the NJCEP IMS. AEG informs NJNG of the amount due, and the Manager and VP of Customer Services sign off on payments.[680]

3. NJNG has adequate processes to manage participation in its HPwES Program.

- As shown in **Exhibit XV-8**, NJNG has provided rebates and on-bill payments to over 25,000 residential customers who install home energy efficiency improvements.

Exhibit XV-8
Number of SAVEGREEN
HPwES Projects

	Implementation Period	Number of HPwES projects with financing/OBRP through SAVEGREEN
Initial SAVEGREEN	9/9/09-12/31/10	456
1st extension	1/1/2011-1/17/2012	474
2nd extension	1/18/2012-6/30/2013	1,171
3rd extension	7/1/2013-6/30/2015	458 (through 9/30/2013)
Total through 9/2013		**2,559**

Source: DR 397.

- NJNG screens customers prior to participation in the OBRP.[681]
  - Applicants are screened as to their credit worthiness (utility payment history) at the time their application is submitted. NJNG checks 12 consecutive months of NJNG billing, or payment history from another utility company if they are new NJNG customers.
  - Customers may have no more than two Level 2 (31 – 60 days past due) or higher incidents in their billing history.
  - NJNG also checks for bankruptcy filings within the past 10 years (date of discharge).
  - The Supervisor of Credit and Collections signs off on either pre-approval or denial of application.
  - Approved OBRP customers must return completed promissory note and truth-in-lending documents. [682]

- Rebates comprise 89 percent of SAVEGREEN HPwES program costs, as shown in **Exhibit XV-9**.

[680] DR 166
[681] NorthStar reviewed NJNG's descriptions of this process in data responses and interviews, but did not perform detailed testing to confirm that NJNG executes this process as described.
[682] DR 166

Exhibit XV-9
SAVEGREEN HPwES Program Costs Reported to the BPU
(Dollars in Thousands)

	Labor, Admin. & Program Dev.	**Sales, Call Centers, Marketing and Website**	**Training**	**Rebates**	**Labor: Rebate Processing Inspections, Other Quality Control**	**Total**
Initial SAVEGREEN	$ 154.5	$ 389.8	$ 1.4	$ 7,283.6	$ 198.0	$ 8,027.3
1st extension	133.7	319.1		3,187.7	155.1	3,795.6
2nd extension	137.4	320.5		5,185.8	219.9	5,863.5
Total through 6/2013	**$ 425.6**	**$ 1,029.4**	**$ 1.4**	**$ 15,657.1**	**$ 573.0**	**$ 17,686.4**
Percent	2%	6%	0%	89%	3%	100%

Source: DR 158.

- Following installation of the HPwES measures by NJCEP, NJNG processes the rebate and OBRP amounts using an OBRP processing checklist with signatures and dates indicating the completion of each step. The rebate level and the amount of the OBRP is determined by NJCEP.[683]

  - Following the completion of an HPwES project, NJCEP sends NJNG the HPwES Work Completion Approval documents which provide the rebate level and the amount of the OBRP for each customer.[684] The Work Completion Approval documents include a list of customers whose HPwES jobs have been approved to be paid, the Work Completion Approval which verifies the incentive and OBRP amounts, and a signed *Certificate of Completion* (signed by customer and HPwES contractor). NJNG does not determine the rebate level or the amount of the OBRP.[685]
  - The OBRP processor (in NJNG's Energy Efficiency Marketing Group) reviews all documentation to ensure that information is accurate and prepares a voucher for payment. Payment includes both the rebate and OBRP amount.
  - The voucher is signed by the Energy Efficiency Marketing Manager and is then sent to the VP of Marketing & Business Intelligence for final approval.
  - Once signed, the voucher is brought to Accounts Payable with instructions to return the check to the appropriate rebate processor at which time the check is sent to the customer via certified mail.[686]
  - Accounts Payable does not mail the check directly to customer because there are additional steps that SAVEGREEN team members perform to complete documentation for the file:
    - A SAVEGREEN team member enters and codes the loan amount and rebate amount into UCIS.

[683] DR 776
[684] DR 776 and DR 166
[685] DR 776.
[686] DR 166

- A Marketing Performance Measurement and Support team member enters the special charges for the OBRP into the customer's account.
- After special charges have been added to the account, a SAVEGREEN team member mails the check and a companion letter to the customer via certified mail.
- Process is then considered completed and the file is closed.[687]

4. NJNG has appropriate processes to manage its SAVEGREEN WarmAdvantage Program.

- As shown in **Exhibit XV-10**, NJNG has provided residential customers, and small commercial customers installing residential size gas furnaces or gas boilers, close to 25,000 "enhanced NJNG rebates" for the installation of WarmAdvantage (part of NJCEP) qualified equipment.

Exhibit XV-10
NJNG SAVEGREEN WarmAdvantage Participation

	Implementation Period	**Total number of NJNG audits**	**Total number of rebates paid [Note 1]**
Initial SAVEGREEN	9/9/09-12/31/10	6,695	7,052
1st extension	1/1/2011-1/17/2012	6,833	7,124
2nd extension	1/18/2012-6/30/2013	8,522	9,197
3rd extension	7/1/2013-6/30/2015	1,396	1,444 (7/1/2013 – 9/30/2013)
Total 9/2009 – 9/30/2013		**23,446**	**24,817**

Note 1: Since many homes may have multiple HVAC units, the number of audits may not tie to the number of rebates paid.
Source: DR 397.

- Following the installation of qualifying equipment through the NJCEP program, customers must participate in a no-cost HPwES audit conducted by an NJNG auditor.
  - All NJNG auditors (in the Energy Efficiency Operations group) have credentials meeting Building and Performance Institute (BPI) certified home energy auditor requirements. [688]
  - Efficiency guidelines follow NJCEP criteria.[689]
- Once the audit is completed and qualifying equipment has been verified, NJNG processes the WarmAdvantage rebate applications.[690]

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[687] DR 763
[688] NorthStar reviewed the NJNG's descriptions of this assertion in data responses and interviews, but did not perform detailed testing to confirm that all NJNG inspectors have credentials meeting Building and Performance Institute (BPI) certified home energy auditor requirements.
[689] DR 442
[690] NorthStar reviewed the NJNG's descriptions of this process in data responses and interviews, but did not perform detailed testing to confirm that NJNG executes this process as described.

- Customers submit both the enhanced rebate application along with a paid receipt for the equipment.
- The rebate processor confirms: a) that the audit was completed and b) prints out the Certificate of Product Rating from the American Heating and Refrigeration Institute (AHRI) website.
- If all information is authenticated, the processor enters the rebate information into the NJNG accounting system and submits the customer file to the supervisor.
- The supervisor validates the information, confirms that information was entered correctly into the accounting system, approves the application for payment, and vouchers the application (in weekly batches) signaling accounts payable to process checks.
- Checks are mailed directly from accounts payable to customers. [691]

- Rebates comprise 72 percent of total program costs, as shown in **Exhibit XV-11**.

Exhibit XV-11
NJNG SAVEGREEN WarmAdvantage Costs

	Labor, Admin. & Program Dev.	Sales, Call Centers, Marketing and Website	Rebates	Labor: Rebate Processing Inspections, Quality Control	Total
Initial SAVEGREEN	$ 421.9	$ 1,200.6	$ 6,345.9	$ 1,064.70	$ 9,033.10
1st extension	161.4	1,565.9	6,411.6	928.1	9,067.1
2nd extension	194.4	1,372.0	7,822.8	1,145.7	10,534.9
Total 9/2009 – 6/30/2013	**$ 777.7**	**$ 4,138.4**	**$ 20,580.**	**$ 3,138.5**	**$ 28,635.0**
	3%	14%	72%	11%	100%

Source: DR 158 and 397.

5. NJNG is taking steps to automate the administration of OBRP and rebate processes, thus allowing real-time access to program information.

- As a result of the BPU's June 2013 approval of a longer program term for SAVEGREEN, NJNG was able to automate some administrative processing functions using a web-based management (software) system that will allow NJNG, its customers, and contractors to view and track all projects in real-time.

  - NJNG will be able to readily access customer applications and project status data.
  - Customers will be able to follow the status of their application online.
  - Contractors will be able to follow the status of their customers' applications. [692]

- Currently this information is tracked on three individual Excel spread sheets, and neither customers nor contractors have ready access to this information [693]

[691] DR 166
[692] DR 400

6. NJNG has sound accounting and reporting processes for its SAVEGREEN programs.

- The PMS group in Marketing provides SAVEGREEN accounting and reporting support, and is responsible for OBRP collections.[694]

- PMS audits and reconciles all enhanced rebate and on-bill repayments on a monthly basis.[695]

- PMS performs a monthly reconciliation of OBRP billings and provides a breakout of OBR billings to post to the general ledger.[696]

- PMS performs monthly reconciliation of O&M expenses on a customer and employee level, comparing UCIS data to general ledger amounts.[697]

- PMS prepares routine reports for internal use, as well as required reports to the BPU.
  - Weekly and monthly status and budget reports.
  - Quarterly SAVEGREEN report to the BPU. Data is obtained through UCIS queries and checked against the general ledger.[698]

- PMS also is reponsible for OBRP collections.
  - On a monthly basis PMS reviews all accounts that have an active OBRP agreement and are in arrears.
  - Any account that falls into greater than 30 days in arrears will get a formal reminder letter and the PMS team will closely monitor that account.
  - After an account receives a third reminder letter, PMS will shift to issuing a formal default letter.[699]
  - Since the inception of the OBRP program NJNG has executed more than 2,100 agreements and only 35 customers have been issued a reminder letter and only 1 customer has reached the default letter stage.[700]

- NJNG does not discontinue service for non-payment of OBRP amounts. It is NJNG's policy, in compliance with NJAC 14:3-3A.2, that a customer's service will be discontinued only for non-payment of the NJNG gas portion of the bill. The collection processes comply with this regulation and the supervisors in Customer Service monitor to ensure compliance. Additionally, if an account has been discontinued for non-payment of the commodity-related charges and there are special

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[693] DR 400
[694] Working session to review documentation and processes (IR 105)
[695] Working session to review documentation and processes (IR 105)
[696] Working session to review documentation and processes (IR 105)
[697] Working session to review documentation and processes (IR 105)
[698] Working session to review documentation and processes (IR 105
[699] NorthStar reviewed the NJNG's descriptions of this assertion in data responses and interviews (IR 105), but did not perform detailed testing to confirm process execution.
[700] DR 566

charges involved in the balance, NJNG can only collect the gas usage charges for the customer to be eligible for reconnection.[701]

D. Recommendations

None.

[701] DR 764

CHAPTER XVI. REMEDIATION COSTS (RFP 3.2.14)

This Chapter provides the results of NorthStar's review of NJNG's manufactured gas plant (MGP) remediation efforts and costs.

A. Background

NJNG is responsible for environmental remediation and on-going monitoring of contamination at three former MGP sites and two other sites contaminated through associated construction and earlier clean-up actions. NJNG's responsibilities for these sites arise through the operations of predecessor companies that were acquired and consolidated into the current NJNG operations. The sites for which NJNG is responsible are the following:[702]

- Atlantic Highlands MGP site: Under the ownership of NJNG predecessor firms, a carbureted water gas manufacturing facility was operated at the Atlantic Highlands site from 1910 through 1949. NJNG demolished the MGP facilities at this site, finishing in 1981. The site is currently used as a Division Service Center.

- Long Branch MGP site: This site was used for manufactured gas activities beginning in the 1860s. It was operated by Jersey Central Power & Light (JCP&L) and sold to NJNG in 1952. MGP activities continued until 1961. Part of the site was donated to the City of Long Branch in 1976, and another portion was sold to a private party in 1983. Demolition of MGP-related structures on the Long Branch site was completed by 1991.

- Toms River MGP site: This site operated from approximately 1900 to 1950, and was sold by JCP&L to NJNG in 1952. Demolition activities were completed in 1975. The site was used as a Division Service Center until 1989 when NJNG relocated the Division Offices. This cessation of operations triggered the Environmental Cleanup Responsibility Act (ECRA), requiring the submittal of an Initial Notice to the New Jersey Department of Environmental Protection (NJDEP).

- Manchester and Berkeley sites: As a result of the dismantling of NJNG's Long Branch and Atlantic Highlands MGP sites in the 1970s, materials from those facilities were delivered to asphalt recycling facilities operated by a private company at locations in Manchester, Berkeley and Barnegat townships. NJNG has responsibility for removing contaminates at the Manchester and Berkeley locations that can be traced to the three MGP sites. NJNG was only contacted in 2008 regarding possible responsibilities for some contaminants at the Berkeley disposal site, so that site is still in the relatively early stages of assessment.[703]

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[702] DR 407

[703] Testimony of John Raspa, p. 5 (DR 170).

NJNG's obligations at the MGP sites extend beyond cleanup and remediation, as parties responsible for environmental sites retain the responsibly for on-going monitoring and any remediation actions necessitated by changes in conditions for thirty years.

NJNG's Environmental Services department is responsible for NJNG's MGP program. It is comprised of a Director, two Project Managers (both environmental engineers) and an Administrative Coordinator, and has no other responsibilities. NJNG has retained independent external engineering firms to serve as the Oversight Engineering Consultant (OEC) at each of its active MGP sites. The use of outside engineering resources is a common practice for large-scale environmental remediation projects. Each OEC has overall responsibility for coordinating the work underway at its site. This includes developing cost estimates for remediation options and assigned work, selecting and managing contractors performing the testing and remediation work, and supporting NJNG's in-house staff in its interactions with NJDEP and other interested parties.

NJNG's activities at the MGP sites are under the direction and control of the NJDEP. The NJDEP issues rules and regulations covering all work at environmental sites throughout the state, and all remedial action work plans must be submitted to and approved by the NJDEP. As of May 2012, New Jersey implemented significant changes in the processes for addressing future remediation oversight responsibilities, with Licensed Site Remediation Professionals (LSRPs) replacing some of the basic functions of the NJDEP. LSRPs are paid by the parties responsible for the cleanup (that is, NJNG), but essentially represent the NJDEP's interests regarding site cleanup.[704] The LSRPs determine the correctness and conclusion of investigations and cleanups, and issue the final sign-off documents (called the Response Action Outcome, RAO) for a site. After an LSRP issues an RAO, the NJDEP has three years to audit the LSRP's work, though the facts and circumstances for the NJDEP to invalidate an RAO are relatively narrow.

Remediation Expenditures and Recovery

Exhibit XVI-1 provides a breakdown of remediation costs by site. Currently there is little activity at the Berkeley site due to inaction on the part of the property owners.

[704] For NJNG's MGP remediation sites, the LSRPs are contracted through each site's OEC.

Exhibit XVI-1
NJNG MGP Remediation Cost by Site July 2009 – June 2013
(Dollars in Thousands)

	July 2009 - June 2010 [1]	July 2010 - June 2011 [2]	July 2011 - June 2012	July 2012 - June 2013 [3]	Four-Year Total
Atlantic Highlands	$ 2,134.0	$ 5,572.9	$ 5,441.6	$ 2,073.6	**$ 15,222.1**
Berkeley	164.1	56.3	39.6	31.2	**291.2**
Long Branch	1,183.8	6,521.1	3,931.7	2,293.5	**13,930.1**
Manchester	76.8	107.3	106.9	93.1	**384.1**
Toms River	551.9	746.6	885.3	744.6	**2,928.4**
TOTAL	**$ 4,110.6**	**$ 13,004.2**	**$ 10,405.1**	**$ 5,236.0**	**$ 32,755.9**

Note 1: An additional $66,000 in this period is associated with insurance litigation ($65,000) and Dover site activities ($1,000).
Note 2: An additional $11,000 in this period is associated with insurance litigation.
Note 3: April to June costs are estimated.
Source: DR 408.

NJNG recovers its remediation costs on a deferred basis, over a rolling seven-year period through the Remediation Adjustment Clause (RAC). Permitted costs include those incurred for all investigations, testing, land acquisition, actual remediation activities, litigation matters, and other liabilities related to site remediation. Any insurance settlements and proceeds from the sale of properties are included as credits in the RAC.[705] NJNG requests BPU approval of the RAC recovery rate in its annual Societal Benefits Clause (SBC) factors filing.[706] According to NJR's 2013 Annual Report, as of September 30, 2013 and 2012, $47 million and $59.7 million, respectively, of previously incurred remediation costs still to be recovered through the RAC were included in regulatory assets on the NJR consolidated balance sheets.[707] Currently the RAC recovery rate is set to recover approximately $20 million annually.

Estimated Future Cost of Remediation

NJNG is required under GAAP to report annually an estimate of the total cost of its outstanding MGP remediation liabilities. Because of a BPU order authorizing recovery of these expenditures from ratepayers, NJNG also records a regulatory asset equal to the estimated liability. Thus there is no net impact from an overall balance sheet standpoint of NJNG's environmental remediation responsibilities.

Over the past six years, the estimated total future cost of remediation (the value recorded on the balance sheet and reported in the annual report) increased from $130 million in 2007 to $222 million in 2010. Since then, the estimated total future costs of remediation have decreased 12 percent, as shown in **Exhibit XVI-2**. This decrease is the result of several factors, including the completion of some remediation activities, the clarification of the scope of remediation required and NJNG's responsibilities, improvements in technology, and the development of more cost-effective remediation options for remaining work. Together these

[705] DR 409
[706] The SBC is a non-by-passable charge that all customers pay on a dollars per therm basis.
[707] 2013 10-K Report, p. 20

factors have more than offset the impact of inflation in the construction costs estimates. Estimates of future costs are still increasing for the Berkeley site where the investigation of impacts is still in its early phases.

Exhibit XVI-2
Estimated Remediation Cost Comparison
(Dollars in Millions)

Site	Most Likely Costs, by year of estimation					
	2007	2008	2009	2010	2011	2012
Atlantic Highlands	$ 60.1	$ 68.2	$ 68.4	$ 78.9	$ 70.3	$ 56.1
Berkeley	NA	3.6	13.1	13.3	15.5	15.9
Long Branch	48.3	48.4	47.8	53.7	34.2	35.9
Manchester	1.1	0.4	0.6	0.3	0.7	0.9
Toms River	20.6	23.5	56.8	67.7	53.9	65.0
Total	**$ 130.2**	**$ 144.2**	**$ 186.9**	**$ 222.2**	**$ 202.2**	**$ 195.7**
Percent change (prior year's estimate)		+11%	+30%	+19%	-9%	-3%

Source: DR 170 and 695.

B. Evaluative Criteria

- Do NJNG's on-going monitoring and remediation efforts reflect the best cost alternatives for each of the sites? (Conclusions 1, 2 and 3)
- Has NJNG exercised reasonable oversight and control of its MGP remediation costs? (Conclusions 4 through 9)
- Does NJNG exercise appropriate controls over recording of costs and calculation of outstanding balances in the recovery accounts? (Conclusion 10)

C. Findings and Conclusions

1. NJNG's environmental remediation strategy and implementation program are appropriate, and actions during the audit period have resulted in reductions in the scope of NJNG's responsibilities and potential remediation costs.

- NJNG's remediation strategy specifies that it will identify, develop and implement both conventional and innovative engineering and business solutions that will enable NJNG to cost effectively investigate, remediate and manage the risk of the long-term environmental liabilities associated with NJNG's former MGP properties, with a clear understanding of the need to both minimize costs and protect human health and the environment.[708]
- NJNG's remediation program has been under the direction of the same individual since 2001, assuring continuity of approach and a deep understanding of historical issues and decisions.

[708] Strategy presented in Testimony for Remediation Year 2009 (DR170), Remediation Years 2010/2011 (DR325) and Remediation Years 2012/2013 (DR409)

- During the audit period, NJNG undertook numerous activities to identify other potentially responsible parties. NJNG:

  - Initiated negotiations with the Berkeley site property owner regarding the source of and responsibility for non-MGP contaminants identified in NJNG's initial site investigations.[709] As of the date of the 2012/2013 SBC filing, those negotiations had not reached resolution.[710]
  - Completed studies regarding off-site product delineation and vapor intrusion on properties adjacent to the Toms River site to distinguish MGP contaminants from other sources.[711]
  - Pursued investigation of a contamination plume in the Toms River and achieved a significant reduction in the scope of NJNG's required remediation efforts.[712]
  - Held discussions with various commercial property owners adjacent to all the sites regarding possible compensation and levels of remediation.[713]

- Claims filed previously against prior insurance carriers were resolved to the benefit of NJNG and its ratepayers. The settlement payments due to ratepayers were included in the SBC/RAC calculations in 2009.[714] The prior insurance carriers are no longer in existence, so NJNG is not able to submit additional claims under these policies.[715]

- NJNG obtained insurance against personal liability claims. While these policies have numerous restrictions, they represent protection for NJNG against future claims.[716] Obtaining this coverage was a recommendation in the Liberty Audit (Recommendation GS-21).

2. NJNG has appropriately pursued innovative and least-cost remediation options and has obtained approval for the use of these options in many instances.

- NJNG appropriately limits its remediation activities to minimal required levels while awaiting approval of remediation plans, results of tests, and negotiation with joint property owners and owners of impacted adjacent properties. This minimizes the possibility of incurring expenditures that are not required or approved.

- At numerous points during the audit period, NJNG pursued innovative remediation options, including:[717]

  - Requested approval for the use of in-situ stabilization (ISS) treatment alternatives for hot spots and remaining product impacts at Atlantic Highlands and Manchester.

[709] DR 325, Raspa, p. 11.
[710] DR 409, Raspa, p. 11.
[711] DR 170, Raspa, p. 10 and DR409, Raspa, p. 10.
[712] DR 170, Raspa, p. 10 and interviews.
[713] DR 170, DR 325, DR 409.
[714] DR 170, Raspa, p. 8.
[715] DR 170, DR 325, DR 409
[716] DR 523 (Confidential). Details confidential.
[717] DRs 170, 325 and 409, Raspa testimony in each proceeding.

- Implemented an upgrade to the ground water treatment system at Atlantic Highlands that would reduce annual operating costs.
- Received approval from the NJDEP for the use of ISS at Toms River.

- NJNG has worked actively with the NJDEP, the OECs and LSRPs to identify lower cost remediation options at its sites. For example, NJNG:

  - Pursued an alternative impact assessment approach relative to possible water quality impacts on the Toms River, resulting in the limitation of remediation scope.
  - Reconsideration of the construction of a slurry wall and groundwater treatment system at Toms River, as the use of ISS became more viable.

3. NJNG is appropriately involved in monitoring MGP issues and pursuing opportunities that would benefit ratepayers and that are consistent with its remediation strategy.

- NJNG Environmental Services personnel actively monitor potential changes in regulations and technology that could impact NJNG's remediation responsibilities, options and costs.[718]

- In addition to its own monitoring efforts, NJNG is an active member of the Site Remediation Information Network (SRIN), a group of approximately 30 companies (principally from the chemical and utility industries) in New Jersey who have environmental site remediation responsibilities.

  - SRIN reviews proposed regulations, sponsors testimony before the legislature and the NJDEP relating to site remediation issues, and participates in discussions and negotiations to craft regulations that balance public benefits with remediation costs.
  - SRIN participated in discussions regarding the move to use LSRPs to monitor and track remediation efforts.

4. NJNG generally follows a well-documented procedure for selection of remediation contractors through competitive bidding; however, it did not follow this procedure for work performed by one of its Alliance Contractors (Kiely).

- NJNG Environmental Services and NJR Purchasing departments work together with the OEC at a particular site to select remediation contractors. The procedures require the following: [719]

  - Environmental Services initiates the process by directing the OEC to prepare bid packages and an engineer's estimate of the expected costs to be used as a gauge when reviewing bids.

[718] DR 510
[719] DR 328, DR 142, DR 174

- Procurement provides the OEC with terms and conditions, submission schedules, and bid requirements and the NJR Legal department provides input regarding bonding requirements.
- The OEC may add supplementary terms and conditions with the approval of NJNG. These might include quality control procedures and on-site construction management protocols.
- Either NJNG or the OEC can send out bid packages, and the OEC responds to technical questions from bidders. Bid responses are sent to both NJNG and the OEC.
- The OEC reviews the technical, contractual and financial components of the base bid and provides written assessment of bids to the Purchasing Department.
- NJNG takes the lead in all negotiations with potential contractors and all discussions with the bidders. The NJR Legal department approves agreements prior to execution.

- Once the remediation contractor is selected, the Purchase Order (PO) can be approved. If the PO is for more than $100,000, an Authority for Expenditure (AFE) is prepared which provides more information than the PO, including justification, a summary of bid data, and budget impact.[720]

- During the audit period, NJNG issued 19 initial POs for MGP remediation work over $100,000 (excluding POs issued to the OECs). NorthStar reviewed documentation related to the selection of contractors for five of the 19 POs (see **Exhibit XVI-3**). Documents reviewed include:

  - Correspondence between the bidder and the OEC
  - OEC evaluations of proposals and recommendations to NJNG
  - Correspondence between bidder and NJNG
  - Best and Final Offer
  - AFE and Bid comparisons.

Exhibit XVI-3
Review of Remediation PO Solicitations

Dollar Value of Contract	Number of Solicitations	Number of Bids Received	Awarded to Low Bid?	OEC Recommended Bidder?
$8.2 M	7	5	Yes	Yes
$6.3 M	6	3	Yes	Yes
$2.9 M	6	5	Yes	Yes
$284,800	3	2	Yes	No (The OEC bid on work)
$198,658	0	0	No Bid	No Bid

Source: DRs 779 and 646.

- In four of the PO solicitations, the contractors were selected from among several respondents based on the lowest bid.

[720] DR 142

- The fifth PO solicitation that NorthStar reviewed was issued to one of NJNG's Alliance contractors for work that had already been performed under the terms of the Alliance agreement.[721] The amount of the PO was $198,658 for the installation of wastewater disposal tanks which the Alliance contractor performed as part of pipeline installation work.[722] This PO solicitation did not follow the specified process for soliciting contractors for remediation work.

5. NJNG did not use a competitive bidding process to select the current OECs for the Atlantic Highlands and Toms River sites.

- During the audit period NJNG hired two new OECs. In 2010, it hired an OEC for the Toms River site, and in 2012, it replaced the OEC at the Atlantic Highlands site.

- The MGP procurement procedures do not provide a specific procedure for the selection of an OEC. Instead the procedures indicate that the process for selecting a remediation construction contractor also apply to the selection of an OEC, but with the RFP process managed by in-house personnel or with the assistance of a third-party not bidding on the work.[723]

- NJNG did not issue an RFP for the replacement OEC at Atlantic Highlands. Instead, NJNG relied on cost data submitted for a PO solicitation and gradually shifted OEC-type assignments to the new vendor.

  - In 2011, NJNG determined that the rates requested by the Atlantic Highlands OEC were high, and that its field performance was becoming complacent and lacked cost containment procedures.[724] As a result, NJNG reduced the existing OEC's budget and shifted the bulk of the work to another consultant.
  - NJNG did not issue an RFP to select the replacement OEC for Atlantic Highlands. As explained in the Purchase Order: "This work was not bid against others for the Atlantic Highlands work at this time, but a cost comparison was done with other environmental consultants. [Contractor] was competitively priced…"[725]
  - The replacement OEC was first hired to work on the Atlantic Highlands site when NJNG solicited bids for a specific task with a detailed scope of work. According to NJNG, NJR Procurement reviewed the bid and determined that there was value in using the successful bidder in lieu of [the first OEC]. After the successful execution of the task, NJNG gradually awarded additional assignments to the new vendor until it eventually transitioned into being the lead OEC for the project.[726]

- It is not apparent that NJNG used competitive bids when it hired the OEC for the Toms River site in 2010.

[721] See Chapter XI. Distributions and Operations Management for further discussion of the Alliance contracts.
[722] DR 179
[723] DR 328, DR 142, DR 174
[724] DR 766
[725] DR 646 2013 SBC MFRs
[726] DR 766

- In response to NorthStar data requests, NJNG did not provide any analyses comparing bids for this contract.[727]
- The AFE for the initial PO for the Toms River OEC does not show the comparison of bids, as is typical for these documents.[728]
- NJNG might have intended to bid this competitively, but there is no documentation of any competitive analysis. In an email to the bidder, NJR Procurement states that the "specific scope of this bid was to provide a platform for comparing the engineering and technical approach that would be employed and to validate that billing rates for specific labor categories were competitive. From this technical review, [contractor] was selected to be awarded the opportunity."[729] The email continues to discuss the proposed billing for the project manager.[730]
- According to NJNG, a "significant driver in the selection process was the initial proposal submitted by [the Consultant] which included an in-depth investigation and analysis of historic data which their primary competition did not include."

6. NJNG has a sound structure and process to manage the remediation projects and activities at its MGP sites.

- NJNG Environmental Services' two Project Managers are directly responsible for site activities. Each Project Manager is responsible for oversight of work at two MGP remediation sites, where they supervise the OECs and contractors, work with community leaders, and prepare and submit all required documents and reports to the NJDEP.[731]

- The OEC for each site is responsible for technical analyses such as identification and evaluation of remediation options for the site, and the development of design plans and specifications. In addition, the OEC has oversight responsibilities, including:[732]

  - Program management and technical direction
  - Development of cost estimates for remedial construction tasks
  - Regulatory strategy and negotiations
  - Coordination of team partners, including contractors, community relations, legal, purchasing and real estate
  - Assisting in the selection of remediation construction contractors
  - Acting as the construction project manager
  - Contractor invoice review.

- The NJNG Project Manager and the OEC conduct weekly progress meetings at each site, with more frequent meetings when there is on-going construction.[733] The OEC prepares detailed notes to document discussions, action items and conclusions.[734]

[727] DR 777
[728] DR 777
[729] DR 777
[730] DR 777
[731] DR 710
[732] DR 142

- NJNG authorizes the release of approved funds for the OEC's tasks through a Work Approval (WA) Form.[735]

  - The Engineering Consultant submits the WA Form to the NJNG Project Manager for approval.
  - NorthStar reviewed a sample of WA Forms and found evidence of proper approvals.[736]

7. NJNG has appropriate controls in place to manage the OEC's work activities and associated costs.

- The release of approved funds for the OEC's in-scope tasks is authorized through a work directive release (WDR).[737]

  - The OEC submits the WDR to the NJNG Project Manager for approval.
  - Since the WDR refers to approved and budgeted tasks, no further approvals are required.

- NJNG also ensures the OEC's rates are in line with industry rates by bidding out work to other engineering firms and consultants when it is possible to identify a discrete task within the OEC's scope. [738]

- OECs can request a rate increase on an annual basis. If the OEC requests a rate increase, NJR Procurement reviews the proposed rates and compares these rates to rates received through competitive bids for related work and to industry standards, when available.

- If OEC rates are determined to be higher than comparative rates, NJNG may reject the requested rate increases or decide to replace the OEC, as occurred for the Atlantic Highlands OEC during the audit period (see Conclusion 5).

8. NJNG has an appropriate change order control process for its site remediation work.

- The remediation contractor submits change order requests to the OEC. If the OEC agrees that the contractor is entitled to additional compensation or time, the OEC prepares a Construction Change Request (CCR) for review and approval by NJNG. The CCR is signed by the OEC, the NJNG Project Manager and the remediation contractor.[739]

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[733] IS 160
[734] Meeting minutes reviewed on site.
[735] DR 142
[736] DR 781
[737] DR 142
[738] IS 160 DR 345
[739] Review of CCRs on site.

- Change order requests for OEC work are handled through the WA Form, which is signed by the OEC and approved by the NJNG Project Manager.

- Change orders requested through the CCRs and WA Forms are reviewed and approved through the PO process. Several CCRs or WA Forms may be processed through one change order and an associated AFE.

- If an initial PO for remediation construction services is in excess of $500,000, then NJNG also prepares a supplementary change order PO in the amount of $50,000. According to NJNG, this facilitates the smooth flow of work and provides a mechanism to authorize emergency work to begin.[740] As stated in NJNG procedures, this supplemental change order PO is tied to each site's contingency budget, and is only used to supplement the primary remediation construction engineer and the OEC POs. NJNG recognizes the discretionary nature of this type of PO and has more restrictive approval levels than for a typical PO.[741]

- NorthStar reviewed the AFEs for seven of the fourteen change order POs issued during the audit period and found no exceptions. The AFEs provided line item costs for the work to be performed, were supported by approved WA Forms or approved CCRs, and were approved by appropriate personnel.[742]

9. NJNG has an appropriate process for review and approval of contractor invoices.

- NJNG has a formal invoice review and approval process.

  - The OEC reviews all remediation contractor invoices prior to submission to NJNG, and prepares a recommendation to NJNG to approve the invoice.
  - The NJNG Environmental Services Administrative Coordinator reviews each invoice to ensure appropriate backup documentation exists and that costs are in compliance with contract terms and conditions.
  - The NJNG Project Manager reviews the invoice against their knowledge of work being done onsite and other information from the weekly on-site meetings with the OECs to verify that services have been rendered. The invoice is then reviewed and approved by the Director of Environmental Services.

- In the invoice review process, the Administrative Coordinator reviews the "Schedule of Values", an Excel™ spreadsheet prepared by the OEC which lists budgeted and actual costs and units by task.

  - As part of the invoice package, the OEC submits an updated Schedule of Values, cataloging by bid line-item all expenditures incurred for the past month for both the Construction Contractor and themselves.

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[740] DR 142
[741] DR 142
[742] DRs 764 and 780

- The Schedule of Values includes approved CCRs and work directive releases, authorizing OEC work packages.[743]

- NorthStar reviewed a sample of invoices and related documents and found evidence of proper review and approval by the NJNG Project Manager and OEC.[744]

10. NJNG has appropriate controls over recording of costs and the calculation of the outstanding balances in the recovery accounts.

- NJNG's Financial Services group calculates the remediation interest amount each month. In order to determine the average balance of unrecovered costs, net of deferred taxes, NJNG inputs GL expenses, revenue recovery amounts, and Federal Reserve Treasury bill information into a spreadsheet model.

- NorthStar tested NJNG's calculation of interest amounts for FY 2012 and 2013 and found no exceptions.

  - Expenses tie to the GL and to appropriate supporting documentation. Costs include: stores, permits, contractor costs, costs of OECs, and NJNG labor costs.
  - Annual interest amount is calculated in accordance with the Tariff using the seven-year T-Bill rate for August 31 of each year, plus 60 basis points.
  - Monthly interest is accumulated and added to the balance each October.

- NorthStar verified that the balances used in the 2012/2013 RAC filing tie to the amounts recorded in the GL and used to calculate the monthly interest charge.

D. Recommendations

75. Require that remediation work by all contractors go through the competitive bid process specified in NJNG's procedures. (Refers to Conclusion 4)

76. Develop a procedure for the selection of OECs that requires issuance of an RFP and a formal, documented comparison of the technical and cost attributes of proposals. (Refers to Conclusion 5)

[743] DR 142
[744] DRs 783 and 782

CHAPTER XVII. EXTERNAL RELATIONS (RFP 3.2.9)

This Chapter provides the results of NorthStar's review of the external relations function and the interfaces between NJNG and its various stakeholders (e.g., customers, regulators, and the media). This Chapter also addresses NJNG's communications during Superstorm Sandy and its associated emergency response communication plans.

A. Background

External affairs involves the interface and relationships with the various stakeholders of the utility including Federal and State agencies, the utility's regulators, the various municipalities and communities within its service territory, consumer advocates, the business community, the media, customers, investors, and the financial community. NJNG's external relations functions are performed by a variety of NJNG and NJRSC personnel as shown in **Exhibit XVII-1** (following).

- Customer and Community Relations, reporting to the NJNG SVP Regulatory Affairs, coordinates NJNG's consumer advocacy programs, NJR's employee volunteerism program, community outreach and events, and administers NJR's charitable trust. This function is also responsible for the BPU and executive complaint processes discussed in further detail in the Customer Service Chapter.[745]

- Regulatory Affairs are handled by six employees, including the SVP Regulatory Affairs, within NJNG's Regulatory and External Affairs organization. Responsibilities include all BPU filings and rate case preparation.[746]

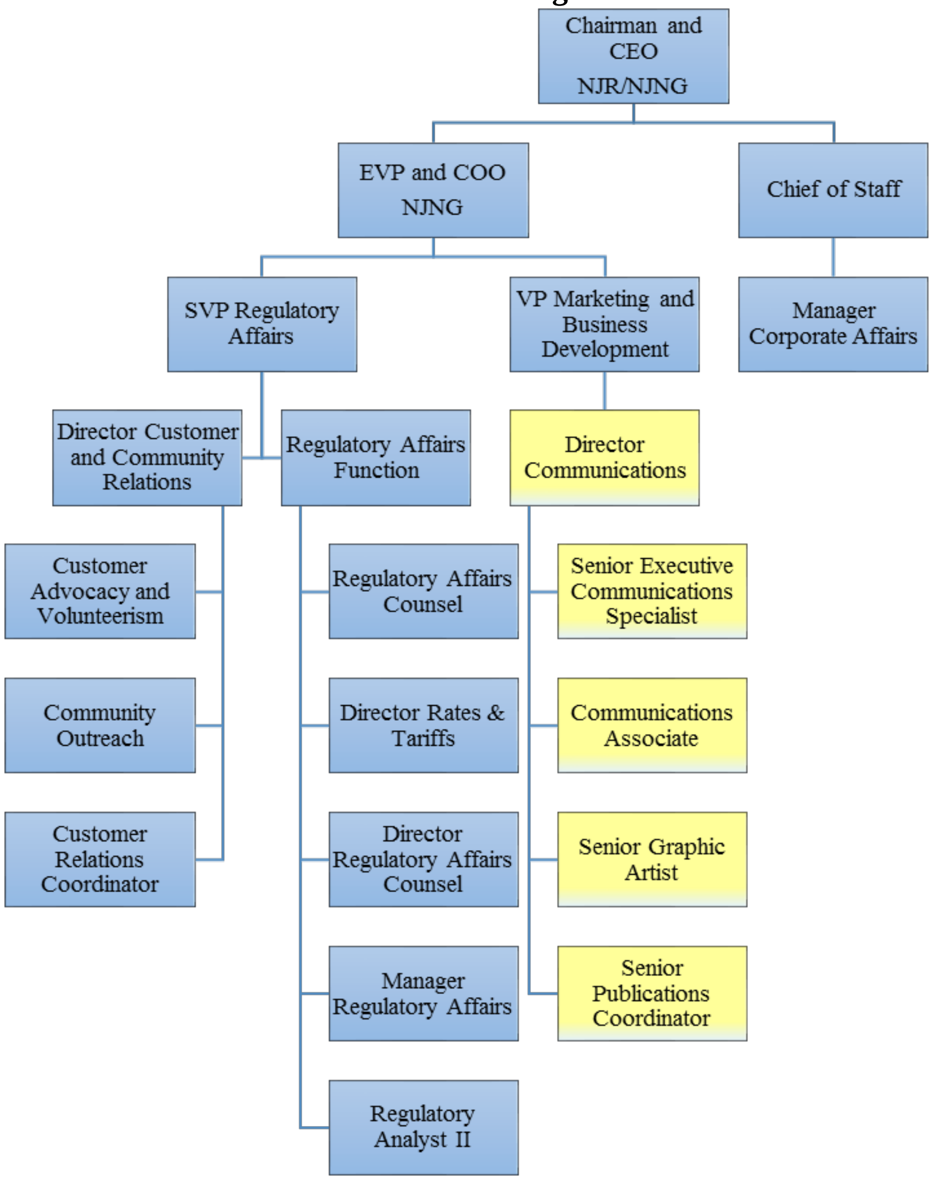
- The NJRSC Communications group, reporting to the NJNG VP Marketing and Business Development, handles all internal and external communications including customer communications, the NJR and NJNG websites, NJNG's social media presence, energy efficiency and marketing materials, media relations, corporate communications (e.g., annual reports, earnings and financial releases), and CEO communications. Most materials are prepared in-house. The budget for the Communications organization is part of NJRSC; managerially and organizationally the function reports to NJNG.[747] The reporting relationship between NJNG and NJRSC is discussed in the Affiliate Relationships Chapter.

- The NJNG Manager Corporate Affairs serves as the primary interface with the local municipalities regarding permit processes, coordination of system improvements and

[745] IR 5, see also Customer Service Chapter
[746] IR 5
[747] DR 225, IR 58

construction activities, and responses to inquiries.[748] The Manager also meets with community leaders regarding the status of NJNG's MGP remediation efforts.

Exhibit XVII-1
External Relations Organization



Note: NJRSC positions in yellow.
Source: DR 4.

Government and Legislative Affairs are handled by the Chief of Staff who was on loan during NorthStar's audit fieldwork. The Government Affairs function represents NJR/NJNG before elected and appointed officials and their staffs at all levels of government, and advocates NJR's and NJNG's business interests as they relate to government policy determined through legislative, regulatory or other channels and processes. Government

[748] IR 116

Affairs also monitors and analyzes ordinances, resolutions, and other legislation to determine the effect of government action or inaction on NJR and NJNG interests.[749]

Emergency Planning

NJR's Business Continuity Plan sets forth the structure, responsibilities and activities during an emergency or other threat to business continuity. In the event of a major event, as was the case with Sandy, NJR adopts an Emergency Incident Management Organizational Structure which includes the following:[750]

- An Executive Planning Committee (EPC) consisting of senior-level NJR officials who have the authority and responsibility to decide overall policy for NJR in the context of the disaster or emergency event and its aftermath. The EPC provides centralized direction and control of the incident.
- An Incident Commander (IC) for the incident who has overall responsibility for the development and execution of an Incident Action Plan (a plan for dealing with the emergency and returning NJR to its pre-emergency operational state).
- An Emergency Operations Center (EOC) Team composed of representatives from any relevant area of NJR, but likely including the VP-Corporate Services, HR, Corporate Communications, IT, Finance, Procurement, Energy Supply, Dispatch, Gas Control and Facilities. Representatives of these departments are assigned to one of two sections (Operations or Planning) in the EOC during an emergency event. These personnel are responsible for gathering emergency impact data from their assigned areas, supporting the coordination of response and recovery operations, accounting for personnel, transmitting reports to the appropriate personnel, and disseminating emergency instructions to constituents. Each of the identified functional units should be prepared at all times to provide information and recommendations to decision makers (i.e. the EPC).

B. Evaluative Criteria

- Has NJNG's management of the external relations function, and specifically the methods by which NJNG relates to its various stakeholders (i.e., customers, regulators, and the media) in the fulfillment of its corporate goals and objectives, been effective? (Conclusions 1 through 6)

[749] DR 225
[750] October 9, 2008 Business Continuity Plan (DR 123 Attachment 3)

C. Findings and Conclusions

1. **NJNG has few formal communications policies and procedures. Despite the lack of formal procedures, NJNG's communications have generally proven effective as discussed in Conclusions 2 and 3.**

   - As is typical of most utilities, NJNG maintains a calendar of customer communications (i.e., bill inserts and newsletters).[751] It does not maintain a specific calendar for other marketing materials.[752]
   - Prior to Sandy, NJNG did not have government affairs, external relations, and communications plans, policies and procedures, except to the extent communications elements were addressed in existing disaster recovery or business continuity plans.[753]
   - NJNG's only formal policy is a recently developed a social media strategy.[754]

2. **NJNG has appropriate processes for communicating with and understanding the needs of its customers.**

   - NJNG uses a variety of channels to communicate with its customers including mail, email, inbound and outbound phone calls, press releases, social media (i.e., Facebook, Twitter), and its website.[755]
   - Customers receive bill inserts which provide safety information (e.g., call before you dig, gas leaks and carbon monoxide safety) and information on NJNG and state programs (e.g., budget billing, income-assistance program, and the NJ Comfort Partners Program).[756]
   - Business and residential customers also receive monthly newsletters which provide information on NJNG programs, community programs, rate changes, online account management (My Account), conservation, billing information, payment options, safety, switching suppliers, and recent events (i.e., Sandy).[757]
   - As discussed in further detail in the Customer Service Chapter, NJNG participates in annual JD Power residential and business customer satisfaction surveys and conducts internal customer perception and satisfaction surveys obtaining input from customers that have had recent contact with NJNG as well as those that have not contacted the utility. This information is used to direct or modify programs and activities.

[751] NorthStar experience
[752] DR 228
[753] DR 227
[754] DR 227
[755] DR 42, 228, 482, IR 58
[756] DR 42 and 228
[757] DR 42 and 228

3. **NJNG has appropriate processes for communicating with and relating to its other stakeholders.**

- NJNG has a positive relationship with the BPU.[758]

- As discussed in further detail in the Finance Chapter, NJNG is well regarded by investors and the financial community.[759]

- The NJNG Manager Community Affairs spends about half his time in the community interfacing with elected and appointed officials in the municipalities in which NJNG operates.

- NJR is committed to being a good corporate citizen and supporting the communities in which it operates.

    - Corporate Citizenship is an element of NJR's CTS. Associated measures include the number of employee volunteer hours, number of organizations supported through charitable and in-kind donations, reduction in greenhouse gas emissions and carbon reduction, code of conduct training attendance, and business diversity procurement targets.[760]
    - NJR/NJNG sponsors a variety of community events and programs, including Project Venture, a middle school mentoring program, and NJR's Home Ownership Program, which began in 1996 in partnership with Interfaith Neighbors. Since then NJR has also worked with Homes for All, Inc. in Ocean County and Morris Habitat for Humanity, to expand the program throughout its service territory.[761]
    - NJR/NJNG employees volunteer in the community through NJNG's Volunteers Inspiring Service In Our Neighborhoods (VISION) program. Employees donated over 4,400 hours in 2011 and 5,000 hours each in 2012 and 2013.[762] Examples of community events include:
        - Fundraising for the American Heart Association, American Cancer Society and March of Dimes' March for Babies.
        - Cleaning up local beaches and sponsoring environmental and marine programs at Ocean Fun Days.
        - Assisting at community races such as the Spring Lake and Belmar Five Mile Runs.
        - Landscaping the Ronald McDonald House and Collier Services.

[758] Interviews with NJNG and BPU staff.
[759] Earnings calls, see also Finance Chapter. On January 30, 2014, Moody's Investors Service upgraded NJNG's senior secured rating from Aa3 to Aa2, with a stable outlook. The rating upgrade was driven primarily by the overall credit supportiveness of the regulatory environment under which NJNG operates. In its announcement, Moody's noted the BPU's continued support of NJNG's rate mechanisms, which allows for timely recovery of costs, including those associated with NJNG's BGSS and Conservation Incentive Programs CIP. In addition, the favorable recovery of investments related to NJNG's infrastructure and energy-efficiency programs factored into their decision to upgrade NJNG's rating.
[760] DR 50
[761] DR 42, NJR Annual Reports
[762] DR 42, NJR Annual Reports

- Volunteering at the FoodBanks of Monmouth and Ocean Counties.
- Supporting the Special Olympics at local events.
- Refurbishing the facilities and grounds at the Head Start Center of Brick.

4. NJR and NJNG appropriately monitor legislation that may affect the utility.

- Federal legislative monitoring is performed primarily through NJNG's participation in AGA. Communications conducts additional research as necessary and provides information to the organizations within NJNG that may be affected. Concerns regarding any pending or proposed legislation are relayed to AGA.[763]

- NJNG more actively monitors the state legislative process, reviewing pre-file legislation and tracking potential legislation of interest (e.g., reliability, Sandy, natural gas vehicles). NJRSC uses a legislative tracking service (GovNetNJ.com) to monitor bills.[764] Communications or Corporate Affairs may contact a bill's sponsor or the NJUA to propose changes or amendments. NJR recently added the services of a lobbyist who primarily provides research services.[765]

5. NJNG did an effective job in its Sandy communications, avoiding the pitfalls experienced by many other utilities.

- Although NJNG did not have a formally-defined communications plan pre-Sandy, it provided a single, consistent message to customers, elected officials, emergency responders and other key stakeholders.[766] According to NJNG, the emphasis was on transparency.[767]

- Communications responsibilities during an emergency or other major event are specified in NJR's Business Continuity Plan:

  - The IC is responsible for providing information to Corporate Communications for press releases, and obtaining approval/confirmation from the EPC before release.
  - Communications is responsible for: newsgathering, coordination, and release to appropriate authorities; provide "one voice" message to media; and to provide for/coordinate rumor control and emergency communications.[768]

- Following Sandy, daily updates from each Command Center provided data to management and Corporate Communications so both could be kept up to date on developments and accomplishments on a close to real-time basis.[769]

- Five to ten minute shape-up meetings were held on a daily basis with NJNG field personnel and mutual aid personnel to address safety, the objective for the day, the

[763] IR 58
[764] Review of tracking sheets and email communications (DR 485)
[765] IR 58
[766] IR 58, DR 227
[767] IR 116
[768] October 9, 2008 Business Continuity Plan (DR 123 Attachment 3)
[769] DR 125

plan for tomorrow, and the current status with respect to the plan. These briefings helped field personnel to understand that a plan was in place, their role in the plan, and the progress that was being made. [770]

- On a daily basis, operational reports were translated into daily and then weekly updates that were disseminated throughout the organization (including the field and CSRs), to the press, elected and appointed officials, and emergency responders such that they all received the same information at the same time.[771]

- NJNG used door tags, mailers, social media, website updates, press releases, signage, the contact center, field personnel and other methods to communicate with its customers.[772]

  - Press releases and public statements were distributed to the local media and posted on NJNG's and NJR's websites on October 26, 2012 (in advance of the storm), roughly daily from October 30, 2012 to mid-December after which it shifted to weekly updates.[773]
  - Beginning on November 11, 2012, NJNG provided daily color-coded restoration maps on its website. The maps and associated announcements described the areas NJNG would be working in and associated road closures, the estimated duration of work and completion dates, and provided information on the restoration process and the customer's responsibilities.[774] These maps were also placed on the affected municipality websites.
  - NJNG's Facebook site was updated on a daily basis.[775]
  - Door tags were distributed to the affected areas beginning November 3, 2012.[776]
  - Beginning November 7, 2012 customers in affected areas were sent postcards providing updates on the restoration process, the use of meter tags indicating service to a property had been restored, and the resumption of billing.[777]

- NJNG was onsite on the Barrier Islands and Long Beach Township on a daily basis, providing information on the restoration efforts.[778]

- NJR and NJNG met routinely with State and local officials.[779]

[770] DR 125
[771] DR 227 and 484
[772] DR 125, 227, 484
[773] http://www.njresources.com/news/releases/2012/index.asp
[774] DR 483
[775] DR 227
[776] DR 227
[777] DR 484
[778] IR 116
[779] DR 227

6. **Although NJNG's storm-related communications efforts were well-received, opportunities exist for improved storm communications, as identified in the Sandy Lessons Learned review. At the time of the audit, not all of the recommendations had been addressed.**

- According to NJNG's Sandy Lessons Learned Report and interviews with NJNG/NJRSC personnel, the quality of its communications was a source of praise from the public and external agencies and helped to stop speculation.[780]

- The Sandy Lessons Learned Report found that the importance of accurate, consistent and thorough information could not be overstated. State and local officials, regulators, customers and others affected rely on information provided by the utility to coordinate their own activities.[781]

- The Sandy Lessons Learned Report provided the following critique/lessons learned:[782]

    - In some cases assumptions were made about content and terminology for newly developed materials without adequate communication of their use.
    - Changes to plans or methodologies were sometimes made on the fly.
    - Mutual aid personnel may have had inadequate information and responded to customer inquiries based on their own experience thus providing misinformation.
    - Initial communication regarding the incident command structure was confusing.
    - Some municipalities provided incorrect information to customers regarding steps that must be taken by the customer.
    - Use of the social media network could be expanded.
    - A field presence was important to customers.
    - The use of visual aids was beneficial to customers, employees and other affected parties.

- NJNG developed an emergency communications plan in February 2013, following Sandy, which relies on a targeted communications approach.[783] The plan was based on an initial plan drafted during Sandy.[784] The plan emphasizes safety, restoration, transparency and the need for honesty, and identifies key communications channels including mail, door hangers, media updates, briefings, NJR and NJNG's websites, town meetings, email blasts and social media updates.[785]

- The development of other action plans as a result of Sandy lessons learned were in process at the time of the audit.[786]

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[780] DR 125, IR 58 and IR 116 - based on attendance at Mayors Association meetings in Ocean and Monmouth Counties as well as other feedback.
[781] DR 125
[782] DR 125
[783] IR 58
[784] DR 227
[785] DR 227
[786] DR 124

D. Recommendations

77. Develop a formal storm communications strategy that address the issues identified in the Superstorm Sandy Lessons Learned Report. The plan should continue to ensure that NJNG speaks with one voice during a major event, providing customers, employees, emergency responders, state and local officials, the media and other stakeholders with consistent, accurate, timely information. As part of the plan NJNG should explore the use of text messaging. (Refers to Conclusions 1, 5 and 6)

CHAPTER XVIII. SUPPORT SERVICES (RFP 3.2.12)

The Chapter provides the results of NorthStar' review of the following support services. Support services are provided by a combination of NJNG, NJRSC and CR&R.

- Facilities, Real Estate and Land Management (CR&R)
- Legal (NJRSC)
- Insurance and Claims (NJRSC)
- Records Management (NJRSC)
- Computer Systems and Services (NJRSC)
- Materials Management (NJRSC and NJNG)
- Transportation (NJNG)
- Infrastructure Security (NJNG)

A. Facilities, Real Estate and Land Management

CR&R manages NJR's real estate and land; designs, maintains, and manages NJNG's facilities; and provides some advisory services to NJR and NJNG on an informal basis. There are four employees in the CR&R organization: the President/CEO and an assistant who work out of the CR&R office, and two others who provide facility services.[787] NJNG's facilities include office buildings, garages, service centers and associated plant. They are located at Asbury Park, Atlantic Highlands, Manahawkin, Lakewood, Rockaway, Wall (the W. L. Maude service center/garage/records center), and the Wall General Office, which serves as NJNG's main offices as well as the corporate offices of NJR and its other subsidiaries.

The audit included a review of the facilities and real estate function, including organization and processes to determine the following:

- Are the facilities and real estate functions organized effectively within NJR/NJNG? (Refers to Conclusion 1)
- Are facilities, real estate and land management processes, procedure and functions effective and appropriate? (Refers to Conclusion 2)

[787] DR 583

Findings and Conclusions

1. The CR&R structure is not an optimal organizational choice for NJNG facilities management.

- The planning, maintenance, and other management of NJNG's facilities are an integral part of the operation of the utility.

- CR&R is a small organization that should have ceased operations a number of years ago.[788] More importantly, CR&R's mission and business focus is not to support NJNG's facilities.

    - CR&R develops and owns commercial office and mixed-use commercial and industrial real estate projects in Monmouth and Ocean Counties, New Jersey.
    - CR&R owns and leases commercial office space to end-use customers and as such, is a related competitive business segment.
    - CR&R reports directly to the NJR Chairman and CEO with no reporting relationship to NJNG.
    - The function does not measure effectiveness or provide management reports to NJNG.[789]

- The CR&R President and CEO is responsible for obtaining and overseeing contracted maintenance services for NJNG facilities.[790] These are not the types of tasks and responsibilities associated with an executive level position. NJNG is either using a President and CEO position/resource to oversee maintenance contracts or NJNG is merely covering the executive overhead of an affiliate, which would not be in the best interest of the ratepayers.

- As described in the Liberty Audit, NJRHS has its own facilities; therefore, the logical organizational placement for the function is in the Energy Delivery Support unit, which already is in charge of managing NJNG's stores and vehicle functions, and thus already has daily contact with, and responsibilities for, supporting NJNG's field organization.

2. CR&R does not have policies, procedures or measures of effectiveness.

- CR&R's oversight of contracted NJNG facilities maintenance activities cover HVAC, landscape and janitorial services. All facility oversight work is reviewed and approved by the CR&R President and CEO acting as facilities manager for NJNG.[791]

- CR&R provides few functions directly and facility maintenance is performed by contractors. CR&R performs its own bidding and awarding of contracts related to

[788] DR 294, Liberty Audit
[789] DR 4, 22, and 142
[790] DR 142 and 582
[791] DR 584

facilities.[792] However, these purchase orders flow through JDE. Once the purchase orders are finalized and the work is in progress, all cost information goes to Accounting for payment, tracking and allocation to the various affiliates.[793]

- New POs are uncommon as change orders are generally used to extend services from year-to-year.[794]

- CR&R does not have policies and procedures covering facilities management, nor does it know or have an estimate of facilities charges to NJNG.

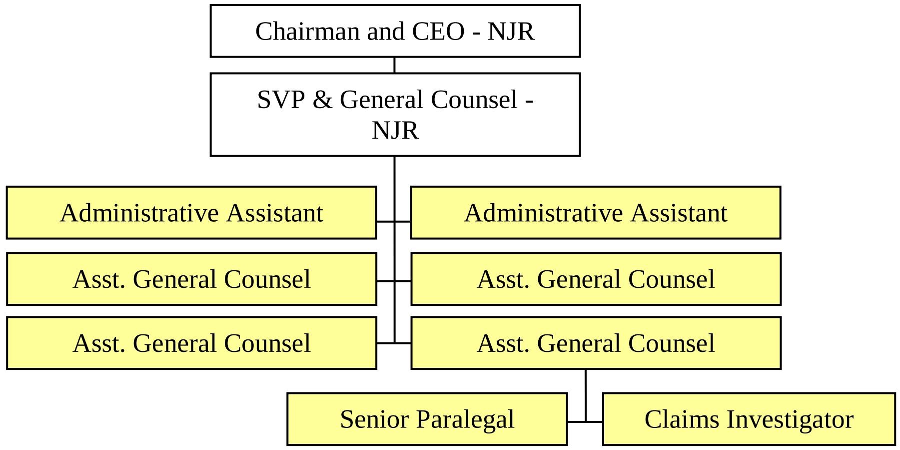
  - NJNG stated that with respect to purchasing materials or services, CR&R performs its own bidding and awarding of contracts related to facilities. However, their POs flow through the JDE system. Consequently, they are subject to the same SOX controls as any other business unit.[795]
  - There are no procedures covering the following:
    - Accounting for and control of buildings, real estate, equipment, vehicles, and inventory.
    - Assigned responsibility levels, and appropriate procedures for acquisition, retirement, and sale of assets.
    - Acquisition of real estate, including evaluation of levels of approval and analysis of financing alternatives.
    - Programs for the use of land held for future plant and storage facilities.
    - Identification and disposal of surplus land.
    - Management of land inventory.

B. Legal

Legal support is provided by NJRSC. The SVP and General Counsel serves as the head of the legal function, which also includes Right of Way & Claims. The General Counsel is part of NJR while the remainder of the Legal Department is part of NJRSC as shown in **Exhibit XVIII-1.**

[792] DR 22 and 142
[793] DR 142 and 582
[794] DR 22
[795] DR 142

Exhibit XVIII-1
General Counsel and Law Department Organization



Source: DR 4.

Four Assistant General Counsels provide in-house counsel to NJNG. Right of Way & Claims reports to one of the Assistant General Counsel positions, and consists of a Claims Investigator and a Senior Paralegal. The Legal Department also includes two administrative assistants.

The General Counsel does not manage legal services provided to Regulatory Affairs. An attorney assigned to Regulatory Affairs provides much of the day-to-day advice about BPU matters that have legal implications.

The audit included a review of the legal function, including organization and processes to determine the following:

- Are legal resources effectively balanced between internal versus outside counsel and comparable with those of similar utilities? (Refers to Conclusions 3 and 4)
- Are guidelines for selecting and managing outside legal resources effective? (Refers to Conclusion 4)
- Is there a process for informing appropriate NJNG personnel of relevant legal guidelines and issues? (Refers to Conclusion 5)

Findings and Conclusions

3. NJNG benefits from the ability to use the NJR Law Department's pool of legal resources, and resource levels have been stable over the audit period.

- The ability to consolidate all legal resources for the entire NJR organization provides economies of scale and the availability of skills that would otherwise be difficult to achieve for NJNG.

- NorthStar found that NJNG's cost allocations and charges including legal services were generally accurate and met the needs of NJNG. Refer to the Accounting and Cost Allocation Chapter for additional detail.

- Senior counsel positions have increased by one over the last five years and still report directly to the General Counsel. This is one position more than in the Liberty audit.

4. The General Counsel's control over the use of outside counsel has been appropriate.

- The Legal Department uses a structured approach to managing litigation via a tracking system or "Litigation Log" to assure that the required steps are taken when required.

- The General Counsel has full discretion, authority and control over legal services provided to NJR and thus NJNG. The Legal Department is responsible for retaining outside counsel to provide legal services to NJR and its subsidiaries. When the need for legal services arises, requests are made by the business unit to the Legal Department. Thereafter, either the General Counsel or one of the senior attorneys determines whether it is necessary to retain outside counsel.[796]

- According to Administrative Procedure #3, (amended Sept. 19, 2008), if it is necessary to retain outside counsel, either the General Counsel or one of the attorneys in the Legal Department selects and retains the firm. The decision is based on several factors, including necessary experience, subject matter knowledge, and resources to effectively and efficiently handle the matter. In litigation matters, it has been the Company's practice to retain outside counsel.[797]

    - Each engagement has an engagement letter, containing the terms and conditions of the engagement, a brief description of the services to be provided, the names of the attorneys who will be performing the work, and the hourly rates for those attorneys.
    - Formal guidelines cover staffing matters; work plans and budgets, invoices and fee arrangements, invoice format, permissible expenses, communication with the Legal Department, confidentiality and conflicts of interest.[798]
    - LegalEdge is used by the Legal Department for purposes of tracking information. The LegalEdge software keeps a record of outside counsel invoices by the legal matter and firm name.

- Much of the work that the Company assigns to outside counsel is recurring such as corporate governance, securities, and tort defense work.

- Accounting for outside counsel costs receives regular attention and is sufficient to assure proper cost segregation.

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[796] DR 18 – 04R-09
[797] DR 18 – 04R-09
[798] DR 139 – Administrative Procedure #49

- The Legal Department does not keep track of expenses for in-house counsel.[799] **Exhibit XVIII-2** provides the legal fees and expenses paid to outside counsel representing NJNG from 2008 through year-to-date 2013.[800]

Exhibit XVIII-2
Summary of Outside Legal Expenses by Year
(Dollars in Thousands)

Year	Expenses
2008	$501.4
2009	$700.1
2010	$627.4
2011	$352.5
2012	$277.0
2013 (year-to-date)	$250.7

5. There are no specific procedures for informing employees of relevant legal guidelines and issues.

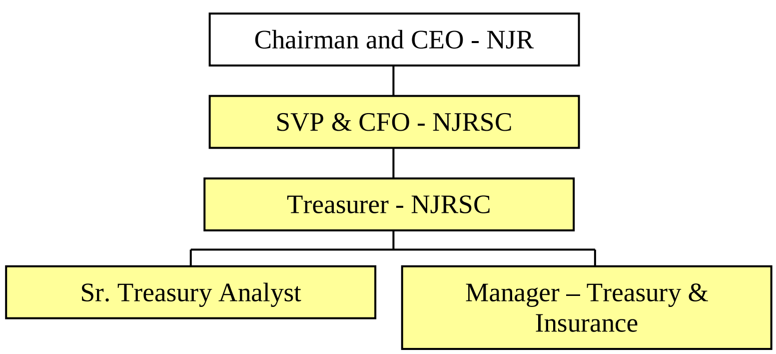
- All employees are required to attend annual Code of Conduct training where they are notified of various laws governing their conduct (e.g., prohibition against utility companies engaging in political activities).[801]

- Notice of and education about laws affecting specific business units takes place on an informal, case-by-case basis.

C. Insurance and Claims

NJRSC's Treasury Organization provides insurance services for NJNG. The organization is provided in **XVIII-3.**

Exhibit XVIII-3
Treasury and Insurance Organization



Source: DR 4.

[799] DR 140
[800] Fees and expenses paid to outside counsel for MGP matters are not included in the Legal Department budget so they are not included in the summary exhibit.
[801] DR 141

The audit included a review of the risk management function, including organization and processes to determine the following:

- Does NJNG have an appropriate strategy to mitigate potential risks and liabilities through insurance, financial tools, and appropriate risk reduction programs? (Refers to Conclusion 6)
- Does NJNG compare the cost of current policies with industry norms, and effectively manage claims challenges and settlements? (Refers to Conclusion 6)
- Are there apparent areas of uncovered liability? (Refers to Conclusion 7)

Findings and Conclusions

6. NJRSC's program to address risks and potential liability has been effective. Insurance coverage is consistent with industry standards.

- In July 2013, NJR conducted a broad insurance renewal strategy and risk identification review.[802] A summary of this review and the current insurance program structure is shown in **Exhibit XVIII-4**. The policy term for casualty insurance program runs from October 1, through October 1, annually.

Exhibit XVIII-4
Insurance Program Structure

Item	Description	Liability Limits Per Occurrence
Excess Liability	Insurer: Energy Insurance Mutual Limited Premium and tax: $582,792 Limit: $100,000,000-$35,000,000	$135,000,000
Excess Liability	Insurer: AEGIS Premium and tax: $1,989,508 Limit: $35,000,000-Primary	$35,000,000
Automobile Liability	Insurer: Liberty Mutual Fire Insurance Premium and tax: $394,644 Limit: $500,000	$500,000
General Liability	Self-Insured	$200,000
Employer's Liability	Insurer: NJM	$500,000
Worker's Compensation	Insurer: NJM	Statutory Limits

- Benchmarking shows that insurance limits are generally within industry norms:[803]
  - Seventeen other gas and combination utilities surveyed had liability limits of $85M-$362M versus NJR at $135M.
  - Six other gas only utilities had liability limits of $120M-$300M versus NJR at $135M.

[802] DR 287
[803] Marsh Benchmarking Study, DR 287

- Self-insured retention levels of the 17 gas and combination utilities were $0.5M-$10M versus NJR at $0.2M.

- During 2012, the insurance market for management liability lines of coverage showed signs of transitioning to a firmer market. Given NJR's low risk profile coupled with no significant claims and long carrier relationships, Directors and Officers liability insurance renewals remained flat along with fiduciary liability.

- A five-year summary of casualty losses is shown in **Exhibit XVIII-5**. Large losses, greater than $25,000 were generally automobile collisions. One significant umbrella/ excess liability loss during the five-year period, a house fire with multiple injuries (11/04/2008), reflected paid losses of $231,717 by AEGIS.[804]

Exhibit XVIII-5
Five Year Summary of Losses

Term	Claims Received	Claims Open	Paid Loss	Outstanding	Total Incurred
2007-2008	22	0	$ 242,164	$ 0	$ 242,164
2008-2009	57	2	$ 90,287	$ 68,744	$ 159,031
2009-2010	50	0	$ 59,493	0	$ 59,493
2010-2011	64	3	$ 38,967	0	$ 38,967
2011-2012	48	0	$ 28,547	0	$ 28,547
2012-2013	60	13	$ 27,202	$ 20,786	$ 47,988
5-yr. Avg.	**48**	**n/a**	**$ 91,892**	**$ 13,749**	**$ 105,641**

Source: DR 287.

7. NJR is monitoring and responding to emerging areas of liability. NJR recognizes that there are a number of operational and technological areas that, as they evolve, may present additional risk issues and potential liability including:

- Steckman Ridge
- Renewable energy – solar, wind, etc.
- Cyber security
- Physical facilities.

D. Materials Management

Materials management is handled by a combination of NJRSC and NJNG resources. The NJRSC Purchasing department (reporting to the NJRSC Treasurer) provides materials management for NJNG and NJRHS.[805] Purchasing resources include a Manager, a Purchasing Supervisor, a Senior Buyer, two Buyers and an Administrative Assistant. Buyers are responsible for expediting deliveries but are not responsible for receiving.

The Purchasing department is responsible for most of the purchasing done by NJNG and the non-utility businesses, with the exception of the following:

[804] DR 287
[805] DR 4

- Procurement of natural gas by the NJNG Gas Supply group
- NJRES trades and contracts
- Legal services
- Certain HR services
- Small purchases (procurement card program).

Purchasing prepares specifications, solicits and evaluates bids, and encourages competitive purchasing with the objective of obtaining the best value. Vendors are chosen by the user and Purchasing.[806]

The Stores Department is part of the NJNG Energy Delivery Support group.[807] Stores is headed by the Supervisor, Meters & Material, who reports to the Director, Energy Delivery Support. Stores facilities include the Northern Storeroom, a storeroom that serves the Bay and Central operating centers, and the Ocean operating center, the largest storeroom which has a yard for storage and is staffed by two warehouse-persons and a storekeeper. The Alliance contractors (Kiely and Gray) have their own storerooms to which NJNG issues materials. Primary Stores activities are issuing, receiving, and returning material so that NJNG's field forces have required materials. Field personnel fill out stores order forms for materials and maintain their own truck stock. Storekeepers make sure that the storerooms have adequate supplies of consumables and goods that are used in large quantities, such as rags, pipe dope, soap, and pipe components. The Stores department uses the JDE module that supports materials management.

The audit included a review of the materials management function, including organization and processes to determine the following:

- Are key activity volumes such as annual procurement, request levels, process times, supplier distribution, workload distribution, change orders, contract amounts, and levels of competition measured? (Refers to Conclusion 8)

- Does NJNG use formal procedures for materials management activities from completion to initial requisition to the issue of the item from inventory? (Refers to Conclusion 8)

- Are procedures for calculating stocking levels, handling back orders, maintaining accurate perpetual records, and identifying obsolete items appropriate? (Refers to Conclusion 8)

- Are inventory levels and inventory turnover ratios at the various store locations appropriate for the level of activity? (Refers to Conclusion 9)

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[806] DR 23, 358-365
[807] DR 4

Findings and Conclusion

8. Stores and purchasing controls are minimal and can be improved. Stores does not record or use management reports to address its primary mission: providing materials and supplies when needed.

- Purchasing controls are primarily the purchasing-approval hierarchy. The JDE system has approval tables tied to expenditure levels and the business unit's criteria. Approval levels are reviewed annually.[808]

- Field personnel have the ability to execute minor purchases less than $1,000. Field employees and others are also able to use procurement (credit) cards for purchases of less than $1,000, but supervisors can lower the limit. Purchasing reviews improper use of cards to ensure that the cards are being used as intended.

- Stores does not record or use management reports on stock-outs or minimum quantities on hand to identify stocking level problems.

- Stores uses static "min-max" stocking levels and predetermined re-order points. Records of stock-outs and economic analysis of inventory effectiveness are lacking.

- NJNG's explanation of the inventory replenishment process in terms of how inventory levels are determined and adjusted for each storeroom, lack an economic, analytical foundation.[809]

  - Inventory levels are primarily based on seasonal needs and workload. Reorder frequency is based on seasonality and needs associated with special projects.
  - The amounts are determined by the following factors and categories:
    - Season (weather)
    - Needs for specific projects
    - Daily system checks
    - Warehouse checks (shelf-aisle-locations)
    - Blanket orders with vendors
    - Stores orders (requesting materials to be distributed to the satellite storerooms)
    - Need determined by the storekeeper who observes that a particular item needs replenishing
    - Emergency.

- Similarly, NJNG's explanation of responsibility for inventory levels, reordering functions, reorder amounts, and frequency was vague.

  - Reorder points are evaluated on a continuous, routine basis and adjusted by the central storekeeper (Lakewood), along with guidance from Purchasing.

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[808] DR 23, 358-365
[809] DR 732

- This is based on a number of factors, most importantly seasonality and specific projects, as well as prior usage history.

9. Until recently, total inventory levels have been stable and increasing less than ten percent annually.

- **Exhibit XVIII-6** provides the five year inventory balance at the end of each fiscal year for all NJNG storerooms including material stored at Alliance contractor storerooms.[810]

Exhibit XVIII-6
Five-Year Trends in Stocking Levels
(Dollars in Thousands)

Year	Stock Level
2009	$ 5,248.2
2010	$ 5,302.9
2011	$ 6,306.2
2012	$ 6,746.6
2013	$ 13,193.0

- The increase in the 2013 current inventory balance is related to material acquired in response to Hurricane Sandy in anticipation that every meter at the Barrier Island locations where service was curtailed would need to be replaced.[811]
  - The level of meters routinely maintained is based on yearly usage and meters are ordered on an as-needed basis. Prior to Sandy, NJNG stored approximately 3,000 meters.
  - Following Sandy, it became apparent that additional meters and meter bars were going to be necessary to handle the restoration work to be done in the storm damaged areas. Approximately 20,000 items were ordered.

- It was later determined that many of those meter sets were operational and safe – creating the obvious problem of what to do with approximately $6 million of inventory. Currently NJNG is accelerating the replacement of meters impacted by the storm over the next three years. NJNG stated that no regulatory approval was needed to conduct the meter replacement program and that the decision was made through discussions with utility personnel. No business case or justification analysis was performed.[812]

[810] DR 364
[811] DR 364 and 734
[812] DR 735

- The distribution of inventory by location, and staffing levels for each storage location are shown in **Exhibit XVIII-7**.[813] Five of the resources shown in **Exhibit XVIII-7** are employed by construction contractors and are not NJNG personnel.

Exhibit XVIII-7
NJNG Stores Inventory by Location and Staffing
(Dollars in Thousands)

Storeroom	Location	Staffing	Inventory	Company
05	Long Branch	1	$ 1,289.4	Kiely
07	Farmingdale	1	$ 1,067.4	Kiely
15	Rockaway	1	$ 406.6	Gray
70	Forked River	1	$ 232.0	Gray
72	Farmingdale	1	$ 716.5	Gray
30	Maude Bldg. /Wall		$ 59.0	NJNG
20	Atlantic Highlands/Satellite	1	-	NJNG
P30	Maude Bldg. / Wall		$ 99.5	NJNG
10	Rockaway	1	$ 7.0	NJNG
40	Lakewood Manahawkin/Satellite	3	$ 1,554.3	NJNG
	CAMUSO		$ 731.6	Vendor
Reported Total:			**$ 6,163.2**	

Source: DR 359 and 736.

- There is no inventory level reported for Storeroom #20. Materials located there have already been charged to accounts.[814]

- The reported inventory levels by storeroom location shown in **Exhibit XVIII-7** at $6.1 million, does not come close to NJNG's reported inventory level trends shown in **Exhibit XVIII-6** at $13.2 million. NJNG stated that the inventory level of $13 million includes the meter shop storeroom of $6.6 million related to the Hurricane Sandy meters put into inventory. Normally meters are issued out to work orders when they are received and not put into inventory.[815] NJNG's questionable practice of charging meters to work orders upon receipt even though not in use, artificially lowers its reported inventory levels.

- Inventory turnover ratio is the most commonly used measure of stores performance. The turnover of NJNG's inventory is measured in the monthly turnover-ratio report - the total value of inventory transactions over the year divided by the average value of the inventory during the year. NJNG reports turnover ratios of 3 annually but this significantly misrepresents inventory performance.[816]

  - NJNG stated that since Storeroom 40 (in Lakewood) is the primary source for materials and the outlying locations receive the bulk of their supplies from there, the turnover ratios are calculated and reported for Lakewood only.[817]

[813] DR 359
[814] DR 736
[815] DR 359 and 737
[816] DR 364
[817] DR 365

- Turnover should be determined by material issued for use from stores and not transfers or stock level corrections (all types of transactions). If outlying stores locations receive their supplies from Lakewood, NJNG's turnover ratio merely reflects resupply activity and not inventory performance. Inventory merely moves physical locations within the system.
- Storeroom 40 represents less than 25 percent of the NJNG inventory (refer to Exhibit XVIII-7).
- NJNG's inventory turnover calculation, for one storeroom only, excludes safety stock and emergency stock (defined as "special long lead time material) – both elements of inventory.[818]

- NJNG uses inventory cycle counts to track and account for all material within the storerooms. Cycle counts are conducted weekly at Storeroom 40 and every two weeks at the outlying locations. The purpose of cycle counts is to physically check stock levels for replenishment and validate stock items on hand. Inventory control activities include annual cycle counts, the issuance of material, receipt and returns of material, material transfers by/between NJNG storerooms, and inventory reconciliations.[819] Cycle counts have provided sufficient control over physical inventory (loss of inventory items), but fail to improve stores effectiveness.

E. Records Management

The Office Services function of NJRSC provides records management support. The function consists of one supervisor, one senior document specialist (SDS), one offset press operator and three assistants. As of 2012, the Office Services function reported to the manager of operations and special projects. The SDS resource provides the coordination for processing the following:

- Incoming records for storage
- Packaging
- Labeling of cartons
- Indexing of records
- Obtaining proper signoff for input, retrieval, destruction of records
- Ensuring accuracy of record titles
- Retention schedule
- Retention periods
- Processing of offsite storage.

The audit included a review of the Records Management function, including organization and processes to determine the following:

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[818] DR 742
[819] DR 142

- Does NJNG have a records management program that has appropriate policies, procedures, initiatives, training and internal controls? (Refers to Conclusions 10 and 11)

- Does NJNG's records program use classifications and retention schedules, and are the various records easy to access, cost effective and in conformance with regulatory guidelines? (Refers to Conclusions 11)

- Does NJNGs records program provide backup of essential data? (Refers to Conclusion 12)

Findings and Conclusions

10. NJRSC's records management program appears to meet NJNG's records requirements. The system includes the basic components for a records management program and includes some policies, procedures, retention schedules, off-site storage capability and electronic database for management of the process.

- NJR has a set of policies and procedures for handling company records which include procedures for:[820]

  - Finding records
  - Processing new records
  - Offsite vendor submission or retrieval
  - Record destruction
  - Special handling of certain records.

- Records are kept in two locations in the general office building where most critical records are stored. There is also one storage room at the Maude location.

- NJR uses Iron Mountain, a well-known vendor, for its offsite records storage of original records.[821]

- NJR uses the NJR electronic Records Center database to track its records.[822]

- A March 2012 internal audit of the Corporate Retention policy noted that the current policies and procedures had some deficiencies and did not fully cover the following:

  - Documentation of all storage locations
  - Identify environmental controls to protect records in the event of environmental disasters.
  - Procedures to specifically cover for access to records storage by those with master keys and cover the change of keypad codes.
  - Provide for control of protection of non-locked cabinets in the SDS office.

[820] DR 153, DR 154
[821] DR 652
[822] DR 638

11. NJRSC does not currently have a specific training program related to its records management and retention process.[823]

12. A detailed retention schedule was established by the NJRSC Legal Department in 2008, which is broken down into classification levels.[824]

- The company defines four levels of classifications in a tree form with each level providing a greater degree of detail. The level one classification covers various segments of the business functions including:[825]

  - Accounting
  - Administration
  - Corporate
  - Finance
  - Human Resources
  - Information Technologies
  - Legal
  - Marketing
  - Operations
  - Public and Government Relations
  - Tax

13. NJRSC performs regular backups of its data using full backups to tape which it stores at a commercial offsite vendor's location.[826]

- Backups are covered in the procedure for Computer Operations Series backups #130.
- Backups are automated using commercial backup programs.
- Full backups are retained for 28 days.
- Backups are stored at a secure offsite vendor, Vital Records, at their Flagtown, New Jersey facility.

F. Information Technology

The NJRSC IT Department is responsible for establishing and maintaining the information infrastructure including, but not limited to, network administration, network and application security, IT operations and support, and vendor management. The IT staff is responsible for maintaining the integrity of the network infrastructure, security, and

[823] DR 636
[824] DR 638
[825] DR 154
[826] DR 491

maintaining the proper and continuous operations of systems for users within NJR. Corporate IT also maintains the Microsoft Outlook Exchange e-mail service.

NJRSC primarily uses vendor purchased applications. The data center is located in the headquarters building at 1415 Wyckoff Road in Wall, New Jersey. NJR's Local Area Network (LAN) is comprised of Windows 2000, 2003, 2008 and Linux servers. Additionally, there are 9 VMware servers utilizing SAN environments and AS/400 support for JDE. This environment supports the financial and operational applications (including production/staging/development).[827]

The audit included a review of the IT function, including organization and processes to determine the following:

- Do the IT systems and portfolio of applications meet the company's needs for operational reliability? Are they maintained, secure, and run cost effectively? (Refers to Conclusion 14)

- Does the IT function have policies, procedures and internal controls for information technology assets? (Refers to Conclusion 15)

- Do IT policies and procedures for system architecture, maintenance, development, testing and operation exist, and are they robust and followed? (Refers to Conclusions 16 and 17)

- Does IT have and provide effective Help Desk services to its stakeholders? (Refers to Conclusion 19)

Findings and Conclusions

14. NJNG's systems and applications portfolio meet its current needs for operational reliability. They provide industry standard security, are mainly off the shelf, and appear to be maintained and run cost-effectively.[828]

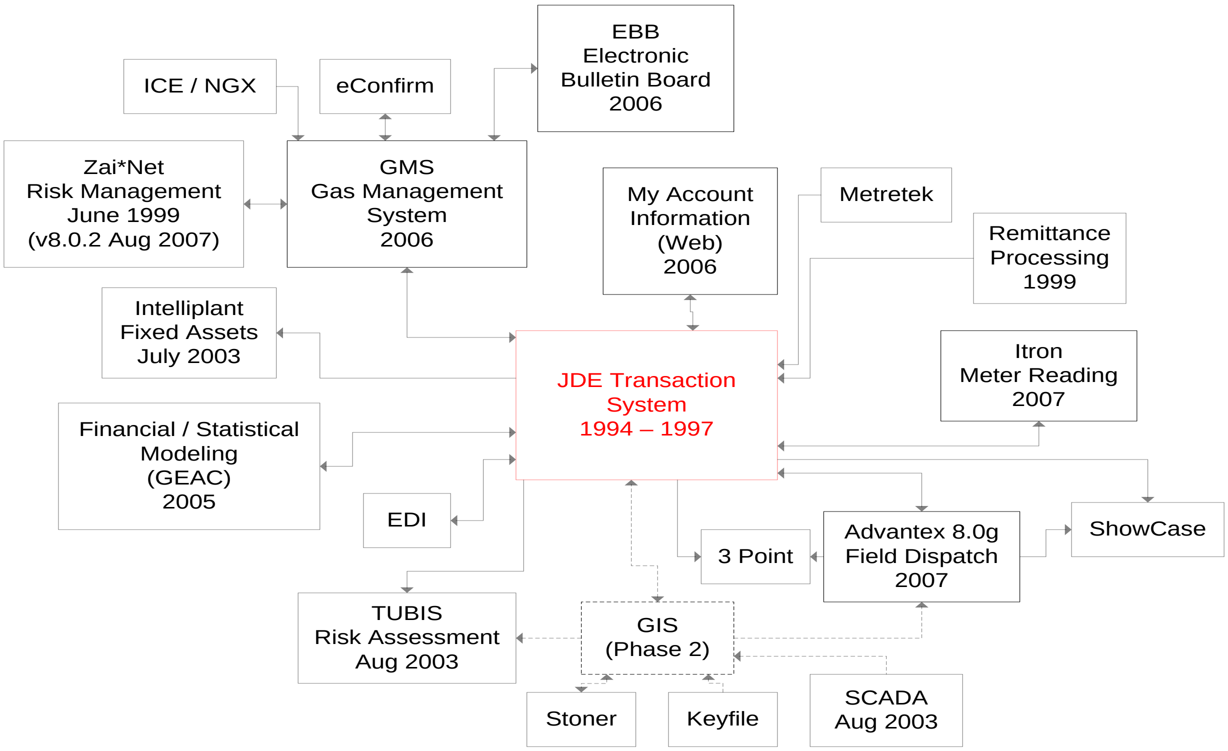
- The main enterprise resource planning (ERP) software used by NJNG is JDE and the associated systems shown in **Exhibit XVIII-8**. JDE is a mature system and used commonly in the utility industry for accounting and ERP functions.

- Engineering Systems include GIS, AutoCAD, Uptime MRP, and SynerGEE Gas.

- System operation and computer-aided dispatch software includes the Telvent software package entitled OASYS DNA (Dynamic Network of Applications) SCADA platform.

[827]DR 31
[828] DR 31

Exhibit XVIII-8
2011 – 2013 JDE Information Flow



Source: DR 31.

15. IT internal controls appear to be adequate and NJRSC has SOX 404 compliance documentation for general computer controls.[829]

16. NJRSC does not have a corporate-wide standard or formal methodology for systems development, selection and implementation of software.

- There is no written criteria for software selection including:[830]

  - Business objectives
  - Business requirements
  - Analysis
  - Feasibility studies
  - Cost benefit analysis
  - Testing standards
  - Conversion standards
  - Project management
  - Risk management

[829] DR 34
[830] DR 149

- Documentation
- Training and "go-live" criteria.

- The company states that the majority of its software is off-the-shelf applications provided by commercial vendors.

17. There are gaps in existing IT policies and procedures.

- IT has a limited set of policies and procedures addressing specific aspects of operations. However, it lacks a complete set of policy and procedure manuals governing operations.[831]

- The lack of focus on documentation including policies, procedures and operating controls as pointed out in the Liberty audit report.

- The IT organization does not have any formal written asset management policies, procedures or controls, or a formal documented technology refresh cycle.[832] IT maintains an IT Organization and Governance Policy; however, the policy does not address technology refresh cycles.[833]

- IT maintains a computer security policy which covers aspects of computer and network security as well as other aspects of computer operational security.[834]

18. IT does not do formal testing as part of system upgrades and no formal IT-specific test plans were provided in response to the audit.

- According to NJNG, IT performs testing as part of system upgrades; however, no formal IT test plans were provided.[835]

- NorthStar requested the test plan for JDE upgrade. NJNG provided a work orders and maintenance training guide.[836] NJNG stated that there was no formal IT-specific test plan. Rather, testing was performed and documented by end users and departments.[837]

19. NJRSC provides appropriate user support.

- The IT Help Desk acts as the first point of content for NJNG clients for all aspects of information technology and appears to be staffed and managed appropriately.

[831] DR 34, DR 149, DR 625
[832] DR 353
[833] DR 628, DR 151
[834] DR 34
[835] DR 326
[836] DR 326
[837] DR 618

- The Help Desk has processes and procedures to provide consistent support to its clients.[838]

- The IT department performs two yearly surveys which assess the departments operations. A review of the surveys for 2008 - 2013 show that the overall customer base is satisfied with the performance of the IT support they receive. Approximately 10 percent of the user population takes part in each of the surveys.[839]

20. The IT department has the appropriate skill sets to support the NJNG's IT needs.

- The IT organization produces a yearly IT skills survey to assess current skills and allow them to plan appropriate training.[840]

- IT hires outside consultants to meet special needs and fill voids in the existing skill sets.

G. Transportation Services

The NJNG Fleet Services Department provides repairs, preventive maintenance, spare parts procurement, acquisition and disposal services for NJR's fleet.[841] Fleet vehicles are either purchased or leased through G.E. Capital and Bank of America. NJR's fleet has grown from 430 units (384 vehicles plus construction equipment) in 2007 to its current level of 578 units, or nearly 10 percent annually.[842] As of June 22, 2012, the vehicle fleet was comprised of the units shown in **Exhibit XVIII-9**:

Exhibit XVIII-9
NJR Fleet Units

Unit	NJNG	NJRHS	Total
Automobiles	42	8	**50**
Light Trucks	297	104	**401**
Medium Trucks	77	8	**85**
Others (tractors, trailers, etc.)	42	-	**42**
Total	**458**	**120**	**578**

Source: DR 287.

NJNG uses garage facilities located in Wall (Maude), Atlantic Highlands and Lakewood, and is in the process of building a facility in Rockaway. All preventive maintenance, annual maintenance and emergency repairs are performed at these garages except for Rockaway which subcontracts all maintenance and repairs to Gray Supply Corporation. Transmission repair, replacements and body work are subcontracted to local garage facilities.

838 DR 152
839 DR 352
840 DR 627
841 DR 18 - IAD audit of Fleet Administration and Maintenance dated February 2013, 13R-12.
842 DR 287 and Liberty audit.

JDE is used to record fleet information, work order information, maintenance scheduling and vehicle service history. When a new vehicle is entered in the system, the maintenance schedule for minor and major work is established. Maintenance work includes such activities as changing the oil and filter, checking fluids and tire pressure, and checking all belts and hoses. Based on the maintenance schedule, work orders are automatically created for all vehicles requiring maintenance. On a weekly basis, a report is generated listing those vehicles requiring scheduled maintenance. The Lead Fleet Technician notifies the driver of the vehicle and the vehicle is brought to the garage. Maintenance is performed during the "off shift" hours of the vehicle's assigned driver. Once the vehicle maintenance or repair work is completed, the work order is closed in JDE.

Garages that perform maintenance and repairs maintain spare parts such as filters, belts, thermostats, wipers, and batteries. Spare parts are ordered as they are used. Non-stocked items are ordered as needed. Once an order is received, the Technician inspects the package and reviews the invoice to ensure accuracy and completeness. The Technician notes the work order number on the invoice for which the part was ordered. Parts used for each vehicle are entered in JDE.

The audit included a review of the transportation function, including organization and processes to determine the following:

- Do operation and maintenance policies and practices for mobile equipment adequately address safety standards, preventive maintenance, scheduling, and vehicle outage records? (Refers to Conclusion 21 and 22)

- Does NJNG analyze outsourcing opportunities for fleet management? (Refers to Conclusion 22)

Findings and Conclusions

21. NJNG fleet management practices are rudimentary, yet seem sufficient for the Company's needs.

- Vehicle acquisition/replacement practices are based on years in service for a particular vehicle class, odometer reading and vehicle evaluation. Automobiles and light trucks are reviewed after seven years of service.[843] Medium duty trucks, equipment and trailers are reviewed for replacement after 10 years of service. The acquisition process is typically done by sending the aggregate (yearly) quantity and specifications to local dealers for bid. Dealers provide the total vehicle price (including delivery), and approximate lead-time. The award decision is made based upon the best total price/lead-time combination (depending on the sense of urgency for the vehicle). For non-forecasted replacements (e.g., due to vehicle failure or accidents), availability becomes a higher priority, but the pricing is still based primarily upon the manufacturer's corporate discount. If vehicles have been purchased in one year and more are needed, the initial winning bidder will typically be awarded the subsequent vehicle purchase(s).

[843] DR 146

- Justification and monitoring of fleet size, composition, assignment, vehicle pool, and standards for use of each class and type of equipment are straightforward, but generally lack formal analysis. Generally, vehicles are replaced on a one-for-one basis according to the vehicle acquisition plans for each fiscal year. The plan is reviewed and approved by management during budget review and ultimately approved by the NJR BOD.[844]

- Fleet Services maintains a vehicle pool at each location to provide a spare vehicle while one is in the garage for preventive maintenance or emergency repairs.

- To account for vehicle inventory, NJNG performs bi-annual physical vehicle and equipment counts in all field locations. A master list is provided to check and verify against physical inventory and equipment.

- Preventive maintenance practices for mobile equipment vehicle outage records are calendar rather than usage driven. Five categories of mobile equipment are included in the NJNG fleet: medium trucks, light trucks, automobiles, construction equipment and trailers/compressors. Fleet Services maintains and services every vehicle every 90 to 120 days.[845] The JDE system prints weekly reports of vehicles for each division that have reached the service threshold and the associated work order number – normally 90 days after the last service was completed and the work order closed. The vehicles remain on the report until the service has been completed and the work order closed. This presents a problem if the work order is not closed.

- NJNG stated that the JDE system has the ability to track vehicle utilization, but reports have not been used.

22. NJNG studied outsourcing opportunities for fleet management and, based on the results of the study, has not pursued this option.

- NJNG performed an analysis on outsourcing its fleet management services in 2004.[846] The analysis indicated that it was less expensive for NJNG to maintain its function in-house.

- In addition to the economics of fleet maintenance and repair, NJNG fleet personnel perform additional duties and responsibilities related to compressed natural gas fueling stations, managing parking spaces at the corporate lot, providing services related to NJNG pool cars, managing external vendors, and other related functions that would not be performed by an outside vendor.

[844] DR 143
[845] DR 144
[846] DR 145

H. Infrastructure Security

One NJNG employee is responsible for the physical security function. Building security is provided by security vendors and system security is provided by the IT organization.

The audit included a review of the infrastructure security function, including organization and processes to determine the following:

- Does NJNG have security resources, policies and procedures covering physical plant and personnel? (Refers to Conclusion 23)
- Does NJNG have programs to identify potential threats or exposure and an appropriate approach to mitigation, level of preparedness, and response to security issues? (Refers to Conclusion 23)
- Does NJNG have any security training programs to improve awareness of employees? (Refers to Conclusion 25)

Findings and Conclusions

23. NJNG has a basic program in place to identify, assess and resolve potential threats and exposure.[847]

- NJNG's security policies are contained in a collection of documents that are part of the recovery/business continuity plans, rather than as one cohesive plan.[848] These include:
    - Crisis Management Plan
    - Pandemic Guide
    - Business Continuity Plan
    - Security Policies
    - List of Essential Services and Employees
    - All Hazards Approach Plan
    - Fire and Emergency Evacuation Procedures
    - Notice about National Terrorism Advisory System.
- The one Security policy "EOC 81" is mainly focused on badge security and procedures for various facilities.

24. NJNG has a dedicated resource for the security function; however, the resource does not possess a law enforcement or security background.[849]

- The program is covered by a set of documents termed EOC documents which are listed above as part of the recovery/business continuity plans.

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[847] DR 123
[848] DR 123
[849] IR 95

25. NJNG has a training program to raise security awareness dealing with physical security or homeland security.[850]

- NJNG periodically trains employees on Crisis Management.
- The company provides an annual Crisis Management handbook to employees.
- In October 2013 a DVD was provided with an electronic version of the Crisis Management training.
- In October 2008, the company provided training concerning Homeland Security Best Practice Awareness.

I. Recommendations

Facilities, Real Estate and Land Management

78. Assign facilities and real estate management responsibilities within Energy Delivery Support Services. Policies, procedures and measures of effectiveness should be formally developed along with this reorganization. (Refers to Conclusions 1 and 2)

Legal

79. Use NJR/NJNG employee communications media to inform employees of relevant legal guidelines and issues. (Refers to Conclusion 5)

Insurance and Claims

None.

Materials Management

80. Implement a formalized and documented inventory management process which uses management reports to manage inventory including the following. (Refers to Conclusions 8 and 9)

    - Stocking levels
    - Minimum ordering and stocking quantities
    - Blanket orders
    - Just in time ordering to improve costs.
    - Insure critical components do not run out.

[850] DR 657, DR 142

Records Management

81. Develop a training program to ensure employees understand and adhere to the document management policies and retention schedules. (Refers to Conclusion 11)

82. Update the Corporate Retention policy to address the 2012 Internal Audit findings. (Refers to Conclusion 11)

IT

83. Implement a cohesive consolidated set of IT function policies, procedures, and operating controls including: (Refers to Conclusions 16 through 18)

    - Help Desk
    - Systems development
    - Software selection
    - Testing.

84. Formalize the annual review of IT requirements with stakeholders as part of the yearly planning exercise. (Refers to Conclusion 16 through 18)

85. Implement a formal asset management program including written asset management policies, procedures and technology refresh cycle. (Refers to Conclusion 17)

Transportation

None.

Infrastructure Security

86. Develop a cohesive set of security policies and procedures, taking the collection of current documents and combining them into a policy and procedure manual covering all aspects of security. (Refers to Conclusion 23)

87. Consider addition of a resource with law enforcement background or additional training for the existing employee. (Refers to Conclusion 24)

Appendix A
Listing of Acronyms

Acronym	Definition
AA	Affirmative Action
AAI	Automatic Account Instructions
ACH	Automated Clearing House
AEG	Applied Energy Group
AFE	Authority for Expenditure
AFUDC	Allowance for Funds Used During Construction
AGA	American Gas Association
AGT	Algonquin
AHRI	American Heating and Refrigeration Institute
AHT	Average Handle Time
AIP	Accelerated Infrastructure Program
AMA	Asset Management Agreement
AMR	Automated Meter Reading
ANSI	American National Standards Institute
API	American Petroleum Institute
ASME	American Society of Mechanical Engineers
bcf	Billion cubic feet
BGSS	Basic Gas Supply Services
BOD	NJR Board of Directors
BPI	Building and Performance Institute
BPU or Board	New Jersey Board of Public Utilities
BTU	British Thermal Unit
C&I	Commercial and Industrial
CA	Cost Allocations
CAM	Cost Allocation Manual
CapEx	Capital Expenditures
CCF	Hundreds of Cubic Feet
CCR	Construction Change Release
CCRL	Customer and Community Relations Department
CDA	Confirmatory Direct Assessment
CEO	Chief Executive Officer
CFO	Chief Financial Officer
CFR	Code of Federal Regulations
Columbia	Columbia Gas
COO	Chief Operating Officer
CP	JCP&L Web-based Comfort Partners System
CR&R	Commercial Realty and Resources
CSR	Customer Service Representative
CTS	Commitment to Stakeholders
CWIP	Construction Work in Progress
DART	Occupational Safety & Health Administration, Days Away, Restricted & Transferred
DIMP	Distribution Integrity Management Program
DOT	Department of Transportation
Dths	Dekatherms
ECRA	Environmental Cleanup Responsibility Act
ED	Affiliate Standards
ECDA/ICDA	Eternal Corrosion Direct Assessment/ Internal Corrosion Direct Assessment
EDECA	Electric Discount and Energy Competition Act
EEI	Edison Electric Institute

Acronym	Definition
EEO	Equal Employment Opportunity
EOC	Emergency Operations Center
EPC	Executive Planning Committee
ERP	Enterprise Resource Planning
ERT	Encoder, Receiver and Transmitter Device
ETG	Elizabethtown Gas
EVP	Executive Vice President
FEED	Fostering Environmental and Economic Development
FERC	Federal Energy Regulatory Commission
FMLA	Family Medical Leave Act
FRM	Financial Risk Management
FY	Fiscal Year
GIS	Geographic Information System
GL	General Ledger
GMS	Gas Management System
Gray	Gray Supply Corporation
GS	Gas Supply
GSS	General Service-Small (Tariff)
HCA	High Consequence Area
HDD	Heating Degree Days
HMO	Health Maintenance Organization
HPwES	Home Performance with Energy Star
HR	Human Resources
HRIS	HR Information System in JDE
IAD	Internal Audit Department
IBEW or Union	International Brotherhood of Electrical Workers
IC	Incident Commander
ICE	Intercontinental Exchange
IMP	Transmission Integrity Management Program
IMS	Information Management System (NJCEP)
ISS	Is-Situ Stabilization
IT	Information Technology
ITC	Investment Tax Credits
IVR	Integrated Voice Response
JCP&L	Jersey Central Power and Light
JDE	J.D. Edwards Oracle Enterprises Resource Planning Software System
Kiely	J.F. Kiely Construction Co.
LAN	Local Area Network
LDC	Load Duration Curve
LDCC	Leadership Development & Compensation Committee of NJR BOD
Liberty	Liberty Consulting Group
LNG	Liquefied Natural Gas
LSRP	Licensed Site Remediation Professional
MGP	Manufactured Gas Plant
MO	Management and Operations
MW	Megawatts
N.J.A.C.	New Jersey Administrative Code
N.J.S.A.	New Jersey Statutes Annotated
NAESB	North American Energy Standards Board
NEO	Named Executive Officer
NFE	Net Financial Earnings
NGA	Northeast Gas Association

Acronym	Definition
NJCEP	New Jersey Clean Energy Program
NJDEP	New Jersey Department of Environmental Protection
NJNG	New Jersey Natural Gas Company
NJR	New Jersey Resources
NJR Midstream	NJR Midstream Holdings dba NJR Energy Holding Corporation
NJR Plan	NJR Corporate Business Plan
NJRCEV	NJR Clean Energy Ventures
NJREI	NJR Energy Investments
NJRES	NJR Energy Services
NJRHS	NJR Home Services
NJRPS	NJR Plumbing Services
NJRSC	NJR Service Corporation
NJUA	New Jersey Utilities Association
NOAA	National Oceanic and Atmospheric Administration
NYSE	New York Stock Exchange
O&M	Operations and Maintenance
OBRP	On Bill Repayment Program
OCA	Outside Collection Agency
OEC	Oversight Engineering Consultant
OpEx	Operations and Maintenance Expenditures
OPS	Office of Pipeline Safety
OQP	Operator Qualification Plan
OSS	Off System Sales and Capacity Release Program
PHMSA	Pipeline and Hazardous Materials Safety Administration
PM&S	Performance Measurement and Support
PMS	Performance Measurement and Support
PO	Purchase Order
POS	Point-of-Service
PPO	Preferred Provider Organization
PSE&G	Public Service Electric & Gas
PUHC	Public Utility Holding Company
RAC	Remediation Adjustment Clause
RAO	Response Action Outcome
RCBS	Related Competitive Business Segment
RFP	Request for Proposal
RMC	Risk Management Committee
RP	Recommended Practice
S&P	Standard & Poor
SAFE	Safety Acceleration and Facility Enhancement
SBC	Societal Benefits Clause
SDC	Senior Discount Specialist
SEC	Securities and Exchange Commission
SHRM	Society for Human Resources Management
SIP	Storage Incentive Program
SJG	South Jersey Gas
SOME	Standards, Operating, Maintenance and Emergency
SOX	Sarbanes-Oxley
SRIN	Site Remediation Information Network
SVP	Senior Vice President
SWOT	Strengths, Weaknesses, Opportunities, Threats
T&E	Transportation and Exchange
TETCO	Texas Eastern

Acronym	Definition
TPS	Third Party Supplier(s)
TSR	Total Shareholder Return
UCIS	Utility Customer Information System
VISION	Volunteers Inspiring Service in Our Neighborhoods
WA	Work Approval
WDR	Work Directive Release