BEFORE THE
STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

In the Matter of

Niagara Mohawk Power Corporation d/b/a National Grid

Cases 17-E-0238 and 17-G-0239

August 2017

Prepared Testimony of:

Staff Gas Business Enablement Panel

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Introductions and Qualifications

Q. Members of the Staff Gas Business Enablement Panel, please state your names, employer and business address.

A. Our names are Aric Rider, Allison Manz, Andrew Timbrook and Michael Augstell. We are employed by the Department of Public Service (Department) and our business address is three Empire State Plaza, Albany, New York 12223.

Q. Mr. Rider, are you the same Aric Rider who is testifying as part of the Staff Policy Panel in these proceedings?

A. Yes. I provide my credentials in that testimony.

Q. Ms. Manz, are you the same Allison Manz who is testifying as part of the Staff Policy Panel in these proceedings?

A. Yes. I provide my credentials in that testimony.

Q. Mr. Timbrook, are you the same Andrew Timbrook who is testifying as part of the Staff Information Systems Panel in these proceedings?

A. Yes. I provide my credentials in that testimony.

Q. Mr. Augstell, are you the same Michael Augstell who is testifying as part of the Staff Policy Panel in these proceedings?

A. Yes. I provide my credentials in that testimony.

Scope of Testimony

Q. What is the purpose of your testimony in this proceeding?

A. We will explain our findings and recommendations concerning the Gas Business Enablement (GBE) program and related financing option proposed by Niagara Mohawk Power Corporation d/b/a National Grid (Niagara Mohawk or the Company) in its rate filing made on April 28, 2017 and corrections and update (C&U) filing made on July 10, 2017.

Q. What is the Rate Year in these proceedings?

A. The twelve months ending March 31, 2019. This period coincides with Niagara Mohawk's fiscal year 2019.

Q. Will any recommendations made by the Staff Information Services Panel, or SISP, apply to GBE?

A. Several recommendations made by the SISP will apply to GBE, as it is an information services, or IS, investment. These adjustments are described in SISP testimony, and include: the slippage adjustment to capital expenditures and operating and run the business expenses; an adjustment to the National Grid USA Service Company (National Grid USA or Service Company) return on all IS investments; the downward-only reconciliation of capital expenditures associated with Niagara Mohawk’s Service Company Rent Expense; and the capital expenditure and variance reporting requirements for the Company’s IS investments.

Q. What additional recommendations will you have specifically for GBE?

A. Our recommendations for GBE include: (1) benchmarks to measure the successful implementation of GBE and to verify that customers receive the program benefits; (2) a cap on GBE costs to be recovered from Niagara Mohawk customers; and (3) specific recommendations concerning the Company’s financing proposal.

Q. In your testimony, will you refer to, or otherwise rely on, any information obtained during the discovery phase of this proceeding?

A. Yes. We rely on several responses provided by the Company to information requests (IRs). These responses are included in Exhibit___(SGBEP-1), and will be referred to using the Departments assigned request number (e.g., DPS-1). For instance, the Department's first IR was identified as DPS-1.

Q. Is the Panel sponsoring any other exhibits?

A. No.

Gas Business Enablement

Q. What is GBE?

A. As explained beginning on page 87 of the Company's Gas Infrastructure and Operations Panel testimony, GBE is a framework of new technology solutions and business process changes that National Grid USA, Niagara Mohawk's parent company, believes are necessary to strengthen and improve the performance of National Grid USA's gas business across multiple service territories. Niagara Mohawk states that National Grid USA's gas businesses, including Niagara Mohawk, need to replace aged computer systems, improve gas safety performance, deliver complex capital investment programs, and meet customers’ expectations. The Company claims that GBE was developed through an internal collaboration among National Grid USA’s business units as a holistic transformation to deliver improvements and build a platform that supports future system needs.

Q. Why did the Company assert GBE is needed?

A. The Company states four main reasons as the drivers behind developing the GBE program: (1) the age of its software systems; (2) gas safety performance and regulatory compliance; (3) the increasing complexity of its capital investment program; and (4) evolving customer expectations.

Q. Why does the Company claim it needs the GBE program to address its aging software systems?

A. The Company states in its response to IR DPS-432, that GBE will replace the 50 existing Niagara Mohawk systems with 19 new systems. Across the entire Service Company, GBE will reduce the 117 existing systems to those same 19 new systems. Further, it states that the average age of those systems is 11 years. Accordingly, the Company believes that an investment in new software systems is warranted.

Q. What issues has the Company had with gas safety regulatory compliance?

A. According to the response to IR DPS-643, the Company indicated that it had violations related to Leaks, Maintenance, Operations, Piping Beyond the Meter and Corrosion Control. Currently, Niagara Mohawk uses paper-based processes to manage compliance for all but the Piping Beyond the Meter category.

Q. According to the Company, how will GBE help improve its gas safety regulation compliance performance?

A. The Company states, in the response to IR DPS-643, that mobile applications can replace the current paper-based processes that are used by the Company for Gas Repair Orders, Gas Facility Data Reports, Leak Investigation Report Forms, and Warning Tags. User prompts and programming logic can help ensure that all steps are followed in accordance with procedures and data are correctly entered and recorded in a way that paper processes cannot. The electronic data can then be transferred to the Company’s Enterprise

Asset Management System, Customer Service System, & Mobility System for follow up remediation and work management. Niagara Mohawk states that GBE will also improve its asset management with a new geographic information system (GIS), or mapping system, that can provide a better interface for analyzing and storing data. The Company states that new GBE platforms will lead to better record keeping to document compliance.

Q. According to the Company, how will GBE improve its capital investment program?

A. The Company claims improved asset data visibility, combined with workforce management and productivity enhancements, will lead to a better capital planning process and a more productive workforce. Better asset management capabilities would give Niagara Mohawk the ability to perform asset condition assessment and risk ranking and prioritization of asset replacement.

Q. What evolving customer expectations has the Company observed and how does GBE allow it to meet them?

A. The Company notes that customers seek improved customer appointment scheduling in terms of both appointment window length and self-scheduling. A new customer portal would allow for those capabilities, plus help address inquiries for new gas service or provide information on work in a customer’s neighborhood. An employee portal would allow all employees, both field and call center, to have access to data relevant to customer inquiries to provide better informed responses to inquiries. An employee portal could also assist the Company’s field crews with automated compliance documentation and video training capabilities.

Q. What other benefits does the Company claim are provided by GBE?

A. Beyond the benefits we have discussed, the Company also advocates the same objective for GBE as the overall IS investment: consolidation and integration of multiple platforms across its operating companies. In addition, the Company estimated revenue requirement savings, both in reduced costs, referred to as “Type 1” benefits, and avoided future costs, referred to as “Type

2” benefits. These are included in the rate filing and listed in Exhibit___(GIOP-12).

Q. Describe the Type 1 benefits.

A. The Company provided five quantified Type 1 savings from GBE, shown in Exhibit ___(GIOP-12) and explained in more detail in its response to IR DPS-430. The first is a reduction, or redirection, in operating expenses through the use of the Asset Investment Planning and Management (AIPM) tool. The Company states that its new AIPM tool and advanced analytics capabilities will allow it to reduce operating expenses through better informed repair versus replace decisions. This benefit is calculated as a 0.82 percent reduction in its controllable operating expenses, with annual savings for Niagara Mohawk of $2,279 beginning in fiscal year 2021 and fully realized annual savings for Niagara Mohawk of $328,242 in fiscal year 2023. The second Type 1 benefit is a reduction in damages that currently result from data quality errors. Due to record or locator errors, Niagara Mohawk incurs costs from fixing the resulting damages. These annual savings for

Niagara Mohawk are estimated at $6,937 in the Rate Year, with fully realized annual savings in fiscal year 2020 at $27,748. The third Type 1 benefit is clerical/back office productivity improvement. This benefit results from clerical staff no longer needing to input data into multiple systems, which the Company assumes will result in a productivity increase of two hours per employee per day. The annual savings to Niagara Mohawk from this benefit begin in fiscal year 2020 at $2,957, with peak annual savings of $212,899 realized in fiscal year 2022. Another Type 1 benefit is reduced travel mileage for damage prevention. The Company anticipates that software to optimize technician routing can reduce the necessary mileage to jobs based on running simulations on the optimization software. The annual savings to Niagara Mohawk for this benefit are $4,627 beginning in fiscal year 2020 and are full realized in fiscal year 2021 at $6,169. The fifth and final Type 1 benefit is from productivity improvements. This benefit results from field technicians’ ability to document and access data in the field more easily with the elimination of paper forms and was calculated assuming productivity would improve by three percent. The annual savings to Niagara Mohawk would begin in fiscal year 2020 at $124,375, with fully realized annual savings of $895,502 by fiscal year 2022.

Q. Do any Type 1 savings occur in the Rate Year?

A. Yes. As described previously, the Company projects savings from a reduction in damages due to data quality errors in the Rate Year totaling $6,937. This amount is reflected in the revenue requirement in Exhibit___(RRP-3), Schedule 27.

Q. How did the Company estimate program costs and develop the implementation plan for GBE?

A. The Company hired two consultants, Accenture and PricewaterhouseCoopers (PwC), as partners to develop the costs and implementation road map for GBE. According to the response to IR DPS-431, Accenture used its proprietary model to estimate costs using a bottom-up approach. Cost estimates are based on two inputs: labor rates and hours required for each type of position, and also include the cost of software and hardware. PwC’s role was to check the cost estimate provided by Accenture to ensure it aligned with industry benchmarks and to evaluate the GBE roadmap to make sure it would provide the program objectives, that the scope was achievable, and that the software applications were appropriate to support the program objectives.

GBE Revenue Requirement

Q. Describe how GBE relates to the Company's total proposed IS investment.

A. The Company's GBE program is included in its overall IS investment plan. However, it is treated as a stand-alone, single project by the Company, separate from the other IS initiatives. In response to IR DPS-433, Question 5, the Company explains that "GBE does not rely on other IS programs for functionality."

Q. What is the cost of GBE for National Grid USA?

A. The GBE investment totals $478 million for National Grid USA, and, similar to the other IS investments, will be implemented across National Grid's seven gas operating companies.

Q. How was that cost allocated to Niagara Mohawk?

A. Costs for GBE were separated into capital, operating and “run the business” (RTB) expenses, similar to the other IS projects as described in the Staff Information Systems Panel’s testimony. All GBE capital spending is amortized over ten years and allocated using the C-210 allocator, which allocates costs across all gas operating companies based on the number of customers. This resulted in an allocation of 16.89 percent of all GBE costs to Niagara Mohawk.

Q. What is the cost of GBE to Niagara Mohawk?

A. When allocated its 16.89 percent, GBE will cost Niagara Mohawk approximately $77.4 million.

Q. What is the proposed timeline for GBE implementation?

A. GBE will be implemented over a five year period, beginning in fiscal year 2018 and being completed by the end of fiscal year 2023.

Q. What costs have already been incurred for GBE?

A. The total cost of $478 million includes approximately $20 million that was previously spent in fiscal year 2017 on project research and development costs. Of this $20 million, none is included in the Company’s filing to be recovered from Niagara Mohawk’s customers.

Q. Where are the GBE capital costs addressed in the Company's testimony and exhibits?

A. The GBE program is discussed in the Company's Gas Infrastructure and Operations Panel testimony, from Pages 87 to 105. The GBE Capital projects for the Rate Year are listed on Exhibit___(ISP-3) and total $104.6 million for National Grid USA. The resulting revenue requirement for Niagara Mohawk is shown on Exhibit___(RRP-3), Schedule 9 and totals $1.775 million after the costs are allocated, amortized and the return is calculated. This process is shown in Exhibit___(RRP-11), workpaper to Exhibit___(RRP-3), Schedule 9, Workpaper 3.

Q. Where are the GBE operating costs addressed in the Company's testimony and exhibits?

A. Operating expenses associated with the GBE program are shown in Exhibit___(GIOP-10) and total $64.1 million for National Grid USA in the Rate Year, of which $9.6 million and $198,000 is allocated to Niagara Mohawk's gas and electric businesses, respectively. RTB expenses are shown in Exhibit___(GIOP-11), with incremental RTB costs from GBE totaling $7.1 million for

National Grid USA in the Rate Year, of which $1.2 million is allocated to Niagara Mohawk.

Q. What is the total Rate Year revenue requirement impact of GBE to Niagara Mohawk?

A. Including the capital, operating and RTB expenses discussed previously, the total Rate Year revenue requirement impact to Niagara Mohawk is approximately $12.8 million.

Past Implementation Results

Q. Has National Grid USA undertaken any large scale IS investments in the past five years?

A. Yes. In 2012, National Grid USA was scheduled to implement the U.S. Foundation Project, or USFP. The implementation of this project is discussed in the "Northstar Report" sumbmitted to the Commission by the Northstar Consulting Group in Case 13-G-0009. The Northstar Report is available on the Commission's website.

Q. What was the purpose of Case 13-G-0009, and why was the USFP the subject of a consultant report?

A. Case 13-G-0009 was a comprehensive management and operations audit of National Grid USA's three natural gas companies operating in New York State: Niagara Mohawk, The Brooklyn Union

Gas Company d/b/a National Grid NY (KEDNY) and KeySpan Gas East Corporation d/b/a National Grid (KEDLI). This audit focused on the construction program planning, operational efficiency and risk management efforts. Within that scope, the Northstar Report documents the timeline and implementation of the USFP by National Grid USA and includes recommendations and findings.

Q. What was the purpose of the USFP?

A. The Northstar Report explains that, following the 2007 merger between National Grid USA and the parent of KEDLI and KEDNY, National Grid USA developed a solution to replace and integrate multiple systems and processes across its operating companies. This undertaking was called the USFP, and its objective was to achieve a consolidated platform that replaced the Oracle and PeopleSoft Enterprise Resource Planning, or ERP, suites with SAP, which stands for Systems, Applications and Products, thereby providing improved functionality. The USFP addressed the following information technology platforms: Human Resources, supply chain, finance, customer master data, non-utility billing, supplier self-service, business information warehouse, and business objects planning and consolidation.

Q. What was the estimated cost of the USFP?

A. As stated in the Northstar Report, the USFP was initially sanctioned in June 2009. The final USFP sanction, approved in 2012, included $392.8 million in total project costs, which included software license fees.

Q. What does it mean when a project is sanctioned?

A. For projects over $1 million, Niagara Mohawk must complete the sanctioning process for approval through National Grid USA’s Sanctioning Committee. This process identifies appropriate spending levels based on project details and cost estimates. Projects can be sanctioned several times before the final sanction amount is determined.

Q. When was the USFP scheduled to begin operating?

A. The “go live” date initially was scheduled for October 1, 2012, with a simultaneous launch for all new systems across all operating companies. National Grid USA postponed the go live date to November 5, 2012.

Q. Did the Northstar Report identify any problems with the USFP implementation?

A. Yes. National Grid USA experienced several issues after the new system went live on November 5, 2012. The first payroll to be processed had many errors, and errors continued to occur for almost a year after the go live date. Additionally, supply chain issues appeared within a month of the go live date. Further problems arose with National Grid USA’s closing of first month’s financial books after the go live date. That closing took 43 days, compared to less than seven days for closings using the previous systems. Finally, managers had issues generating reports. Specifically, no detailed cost reports were generated until November 2013, almost one year after the USFP went live.

Q. How did National Grid USA respond to these implementation issues?

A. National Grid USA formed a “USFP Stabilization Program” in mid-November 2012 to address these issues. It also formed the USFP Business Improvement Program to attempt to deliver the full USFP benefits. These additional programs caused significant overspending beyond the project budget.

Q. Did the Northstar Report explain why the USFP implementation had these issues?

A. The Northstar Report findings and conclusions are summarized beginning on Page 12 of Chapter IV. The Northstart Report includes seven conclusions for why the USFP implementation experienced overspending and functionality issues that we believe are also relevant to GBE. First, National Grid USA was unprepared for the complexity and magnitude of the USFP and should have had discussions with other utilities to gain industry experience before implementation. Second, National Grid USA’s financial processes lacked sufficient internal controls, and while the USFP was expected to solve this issue, the end result was that the SAP program implemented through the USFP did not solve the internal control issue. Third, National Grid USA was unable to quantify the incremental benefits from the USFP, such as improved operational efficiencies, consolidation and cost reductions, and therefore it was difficult to measure program success. Fourth, National Grid USA did not focus sufficiently on the individual utilities. Fifth, the staff at these utilities were not able to generate the reports needed for managers to make informed decisions due to lack of training or ability. Sixth, zero-based budgeting was not used to forecast operations and maintenance (O&M) budgets. Seventh, the capital review and planning process for National Grid USA focuses too heavily on spending variances and not enough on the underlying drivers of these variances.

Q. How much did the implementation issues and necessary fixes increase the USFP budget?

A. According to the Northstar Report, the budget for the USFP was $392.8 million, whereas actual spending was $945.1 million. Thus, the implementation issues and necessary fixes resulted in spending more than double what National Grid USA had budgeted.

Q. What did the Northstar Report recommend concerning the increased cost?

A. It recommended that National Grid USA file a report with Department of Public Service Staff detailing the capital and operating expenses associated with increased costs from fixing the implementation issues. The report would be used to ensure that ratepayers would not be responsible for those costs in the future.

Q. Please explain the relevance of the conclusions summarized above to GBE.

A. We are concerned that the same, or similar, issues could affect National Grid USA's effort to carry out the full scale of its planned GBE implementation.

Q. Did the Company's implementation plan specifically address the concerns raised by the Northstar Report?

A. Yes, in some instances.

Q. Please identify how the GBE implementation plan did or did not address each conclusion from the Northstar Report, starting with the conclusion that National Grid USA was unprepared for the complexity and magnitude of the USFP and should have had discussions with other utilities before implementation.

A. In its preparation for GBE, National Grid USA conferred with three other utilities. Attachment 2 to the response to IR DPS-433 details the lessons learned by the Company from this process and how those lessons were incorporated into the GBE implementation plan. The list of lessons learned includes: a phased approach to implementation, talent growth by hiring new employees for the new systems, directly engage impacted users, focus on data scrubbing and quality, and a “pulse check” evaluation process to engage employees during implementation.

Q. How did the Company address Northstar’s conclusion that, while the USFP was expected to solve its financial internal controls issues, it ultimately did not?

A. The Company did not address this issue in the current implementation plan. Specifically, the Company has stated it expects GBE programs to provide additional internal controls to improve its gas safety compliance by replacing manual processes with electronic ones, as stated in the response to DPS-432, Question 11. While we support the GBE investment conceptually, we are concerned that the internal controls built into the program functionality may not fully solve the Company's internal controls issues, similar to what happened with the USFP and financial internal controls.

Q. What do you recommend?

A. The Company should provide a plan for how it can eliminate gas safety compliance issues resulting from insufficient or ineffective internal controls, and, to be conservative, it should assume that the GBE program will not definitively fix the compliance issues.

Q. How does the Company's implementation plan quantify the incremental benefits from GBE and propose to measure program success?

A. As discussed, Exhibit___(GIOP-12) lists expected benefits from GBE, including those that directly reduce revenue requirement and those that avoid future costs. The benefits that directly impact revenue requirement are driven by productivity and efficiency gains, such as reduced travel time, streamlined workloads and a reduction in compliance and gas safety penalties. The Company provided the calculation behind the benefits that reduce the revenue requirement in its response to IR DPS-430. We will address these benefits in more detail later in our testimony. The Company explained, in a technical session, that it developed eight key performance indicators to measure improvements delivered. They are: (1) average unproductive time; (2) average number of complete jobs; (3) average number of work orders processed; (4) total call volume; (5) customer effort rating; (6) number of construction projects delayed due to supply chain issues; (7) inventory turnover; and (8) total compliance negative revenue adjustments.

Q. The Northstar Report concluded that National Grid USA did not focus sufficiently on individual utilities in its rollout of the USFP. Is that different with this IS investment?

A. Yes. For projects that apply to multiple operating companies, such as GBE, National Grid USA is taking an “agile” approach where each new software platform will be implemented fully in each operating company, one at a time. This differs from National Grid USA’s approach to the

USFP, where a single “go-live” date was selected for the USFP across all operating companies.

Q. Does the “agile” approach sufficiently address this issue?

A. While only real world experience can provide a definitive answer to this question, we concur that the agile approach reflects a reasonable effort to address the problems stemming from the universal go live date from the USFP. Fully implementing and testing each program in one operating company before moving on to the next allows the Company to better control any issues that arise. Learning during implementation without causing significant problems for its entire business, as happened during the roll out of the USFP, will help National Grid USA avoid resource issues that arise from fixing problems and running its businesses simultaneously.

Q. According to the Northstar Report, utility staff were not able to properly query data and generate sufficient reports for managers. Has this issue been addressed?

A. Generally, yes. Front line employees were engaged early in this process, involving them in the solution. The implementation plan calls for employee engagement throughout the implementation process and new employees will be hired to learn the new software from the initial phase. However, we do have some reservations in this area, as it is difficult to quantify employee acceptance and preparedness for implementing and using the new processes.

Q. Please define zero-based budgeting.

A. Zero-based budgeting, as it relates to cost estimation, means that each budget item is analyzed to determine its future costs without using historic costs. In other words, specific variables and inputs are used to “build” the budget starting from $0, rather than extrapolating from historic spending.

Q. Did National Grid USA use zero-based budgeting to forecast O&M budgets for GBE?

A. Yes. For GBE, zero-based budgeting was used by the two consultants, PwC and Accenture, to forecast both capital and O&M budgets.

Q. Has the Company demonstrated a shift in its capital review and planning process from a focus on spending variances to a focus on identifying the underlying drivers of these variances?

A. No, not that we could discern from the information provided to us.

Q. Overall, how did National Grid USA address the issues raised in the Northstar Report?

A. While the Company did address several of the issues raised, it left others unaddressed. Ultimately, National Grid USA is yet to show that it is capable of fully implementing this level of IS investment on time and on schedule.

<u>Staff’s Review</u>

Q. What approach did you take to reviewing the Company’s proposed GBE program?

A. First, we used technical sessions and field visits to better understand the goals and objectives of GBE, the reasons for the investment, and the development of the program. There was one technical session specifically for GBE, along with the several technical sessions discussed in the Staff Information System Panel’s testimony concerning the Company’s project selection and sanctioning process for all of IS, including GBE. Meeting with Company field employees during our gas capital expenditure review allowed us to observe the limitations placed on them due to working with the Company's current software, hardware and paper processes. Second, we evaluated Accenture's cost estimation. Third, we reviewed the alternatives National Grid USA and Niagara Mohawk considered and the associated benefits to each investment option.

Cost Estimation

Q. Did you review Accenture's cost estimate of GBE?

A. Yes, as much as we were able to obtain. The full model was proprietary information which Niagara Mohawk was unable to provide. However, the Company's confidential response to IR DPS-654 did provide us with the inputs to Accenture's model. We were able to confirm that the program cost was estimated using a bottom-up approach and based on the estimated number of labor hours needed to implement the program, the hourly rates for specific types of both internal and external employees and software and hardware costs.

Q. How did National Grid USA verify that the cost estimate provided by Accenture was reasonable?

A. PwC was retained to verify the cost estimate provided by Accenture aligned with industry benchmarks for similar scale projects. The response to IR DPS-431 shows the report from PwC that contains, along with a full review of the implementation plan, scope, design process and risk analysis of GBE as developed by Accenture, its determination concerning the cost estimate of GBE. The report states that PwC determined the cost estimate from Accenture of GBE was reasonable.

Q. Given this verification from PwC, are you concerned with the reasonableness of the cost estimate for GBE?

A. Yes. While we generally approve of National Grid USA’s approach to estimating the GBE costs and developing a plan for implementation by hiring Accenture and PwC, GBE, a unique large scale investment, is a difficult undertaking to estimate costs for. Therefore, we believe the various customer protections that we are recommending, including the downward only true up of Service Company Rents, a cost cap for GBE, and benchmarking, are necessary to ensure customers are protected for any variance between estimated and actual costs.

Alternatives Considered

Q. Did you review the alternatives that National Grid USA considered when it planned GBE?

A. Yes. National Grid USA considered five alternatives: (1) tech stabilization; (2) like for like replacements; (3) “backbone;” (4) value-oriented jurisdictional deployment; and (5) value-oriented accelerated deployment. Descriptions of the different alternatives are included in its response to IR DPS-689.

Q. Describe tech stabilization.

A. This alternative would provide any available support and updates to the Company’s current software systems but would not replace any of them. This would be a temporary solution, extending the life of the current systems until they could be replaced.

Q. Why did National Grid USA reject the tech stabilization alternative?

A. National Grid USA did not view this as a viable, long term solution, as it did not address any of the current IS issues and involved spending money on obsolete or unsupported systems.

Q. Describe the like for like replacements alternative.

A. Under this alternative, National Grid USA would replace each software system with its supported equivalent. This alternative would not deliver any additional capabilities or consolidation of systems but would address the issue of having aging, unsupported systems.

Q. Why was this alternative rejected?

A. While this option would address its aging systems, National Grid USA states that it would not address other issues such as integrating and consolidating its myriad systems, training and data management, gas safety and other process improvements. The goal to align processes and gain efficiencies with this IS upgrade was important and National Grid USA did not believe this alternative provided it with that option.

Q. Describe the third alternative, or backbone alternative.

A. This alternative would provide more integration and systems consolidation than like for like replacement, but would not provide the switch from paper to electronic documentation of field work, the full integration of data needed for the customer call center to improve its data access, or analytics for data and asset management. According to the response to IR DPS-689, a full implementation timeline of three and a half years was developed for this alternative with a total cost estimate of $273 million.

Q. Why did National Grid USA reject the backbone alterative?

A. Ultimately it was determined that this option would not provide the full range of benefits desired, and could potentially offset financial benefits with inefficient use of the new systems resulting from to the lack of full integration and additional capabilities.

Q. Describe the value-oriented jurisdictional deployment alternative.

A. This is the option National Grid USA selected and has proposed as GBE in this case.

Q. Describe the value-oriented accelerated deployment alternative.

A. This alternative is the same as the chosen GBE proposal, but on an accelerated timeframe, to be implemented in four and a half years instead of five.

Q. Why was this alternative rejected?

A. This alternative was rejected because of higher costs, $466 million compared to $458 million for the selected proposal, and the increased implementation risk from the shorter timeframe. The estimates of $458 million and $466 million do not include the $20 million of development costs already spent.

Q. Did National Grid USA adequately pursue the different alternatives?

A. Yes. As demonstrated in the response to IR DPS-689, multiple alternatives were sufficiently developed with, at least, a high level cost estimate and implementation schedule, benefits and capabilities.

Q. Which alternative would you classify as the minimum level of investment that needs to be made?

A. The backbone alternative represents the minimum investment that National Grid USA needs to make to improve capabilities, acquire new, fully supported IS platforms and achieve platform consolidation. Accenture estimated the cost of this investment as $273 million.

Q. Is that minimum investment necessary?

A. Yes. Given the age of the systems, an investment in new systems is certainly necessary at this time.

Q. Why is the backbone alternative the preferred minimum investment compared to the first or second alternatives?

A. The tech stabilization alternative does not represent a viable solution to the Company’s IS situation. Incurring significant costs to maintain existing, outdated, and unsupported systems is an inefficient and temporary solution, when money could be spent on a longer-term solution. The like for like replacement second alternative is workable, as it would address the Company’s aging systems. However, it does not represent the most efficient or sustainable solution, as, once those systems are aged, the Company would be in the same situation it is now: looking for synergies between its significant number of unintegrated applications and struggling to find a solution to those inefficiencies. Ultimately, the Company should use this investment to improve this situation. The backbone alternative represents the minimum cost to replace the Company's IS platform with an integrated, improved solution.

Q. Why did National Grid USA choose the proposed GBE option?

A. As described previously, there was a desire for additional capabilities beyond what the current IS platforms can deliver, to improve, among other things, its customer service, gas safety regulatory compliance, capital investment planning and workforce management and training processes. The chosen GBE proposal provides these capabilities, while the first three did not. While the accelerated implementation alternative provided the same capabilities as the selected alternative, National Grid USA preferred a longer period to take on less implementation risk and reduce overall costs. Further, in a technical session, the Company stated that the incremental costs of the selected alternative, GBE, over the backbone alternative, will be paid back by the resulting savings from GBE four years and four months after full implementation.

Q. How much more than the backbone, or preferred minimum investment, alternative does National Grid USA propose to spend for the additional capabilities provided under its GBE proposal?

A. Over the course of the five year implementation plan, GBE costs $458 million. Comparatively, the backbone option costs $273 million. Therefore, National Grid USA proposes to spend an incremental $185 million for the added capabilities.

Q. Do you agree with the decision to spend an additional $185 million for its proposed GBE program with these capabilities?

A. Yes, however with reservations.

Q. Please explain.

A. First, as we have already said, we recognize the need for a minimum level of investment in the gas IS platforms. Given the age of the current software and the risk to the Company, ratepayers and the general public of running the gas system on unsupported software, some investment is needed at this time. Second, we support the goals and objectives that the Company expects to attain through GBE. While many of the benefits are difficult to quantify, operating a utility with modern technological capabilities to analyze data and make better investment decisions is an opportunity that the Company reasonably wants to take advantage of. Third, we caution that solutions are only as good as the estimates of costs and benefits. If the actual benefits do not outweigh the actual costs, then the wrong solution may have been chosen. Fourth, given National Grid USA’s past implementation issues with the USFP in 2012, while recognizing that National Grid USA’s GBE implementation plan does address some of the issues from the USFP implementation, it has yet to demonstrate that it can manage an IS investment of this scale without delays in delivering the full benefits or escalating costs. Additionally, we share the concerns discussed in the Staff Information Systems Panel’s testimony. In this overall context, we have serious concerns about National Grid USA’s ability to provide the benefits of its GBE proposal in a timely and cost effective manner. We, therefore, recommend allowing the Company to move forward with its GBE plan but with several protections for ratepayers.

Customer Protections

Q. Please describe your recommended customer protections.

A. As an initial matter, we recommend that all customer protections recommended by the Staff Information Systems Panel for the IS investments, generally, apply to the GBE program as well, since it is part of the overall IS investment. This includes the 37 percent slippage adjustment to account for historical underspending and the downward-only reconciliation for IS capital expenditures. This also includes the general reporting requirements the Staff Information Systems Panel is recommending. The IS investment reports should have a section specific to the GBE program spending, variance, with explanation of causes, and progress.

Q. Why should these general IS spending protections be required for the GBE program?

A. The customer protections are designed to protect ratepayers in the event that program implementation is delayed or overall costs increase, and to ensure that Niagara Mohawk only retains revenues for the IS investment that is actually made.

Q. Do you recommend additional customer protections specific to GBE?

A. Yes, because the general IS spending protections will not ensure that the GBE program benefits are delivered by the Company as scheduled and to the full degree envisioned.

Q. What additional protections do you recommend?

A. We recommend an overall cap on the amount that can be recovered from ratepayers for GBE, and we also recommend instituting benchmarks to ensure that the Company delivers the incremental benefits of GBE compared to the backbone alternative.

Q. What cap do you recommend imposing on the amount Niagara Mohawk can recover from ratepayers for GBE?

A. The total cost of the GBE project to Niagara

Mohawk customers is $49.6 million in total capital expenditures and $31.2 million in total operating expenses. The Company should not earn a return of and on capital costs or be allowed the recovery of operating costs that exceed these amounts to implement GBE. These amounts are the portion of the total forecast program cost of $458 million allocable to Niagara Mohawk.

Q. Why should the Commission limit the total cost of the GBE project to be recovered from customers?

A. Niagara Mohawk asserts that the incremental investment of $185 million is cost beneficial. If, however, the program costs exceed Niagara Mohawk’s forecasts, while providing the same level of benefits, the program may not be cost effective. More fundamentally, as we discussed with regard to the USFP and the Northstar Report, National Grid USA has yet to demonstrate that it can implement a large IS project within budget. The overall cost cap will provide a strong incentive to National Grid USA to manage scope, timing and cost of the project.

Q. Why do you recommend instituting benchmarks for the delivery of benefits promised through GBE?

A. Given the nature of the incremental investment of $185 million by National Grid USA to replace its gas business software platforms with software that provides new capabilities, we recommend that the Company be required to demonstrate the successful delivery of these capabilities through clear and measurable benchmarks. A demonstration of the successful delivery of the capabilities and customer benefits being tracked would result in the Company’s full recovery of the incremental investment to achieve these benefits, up to the amounts forecast by the Company in these proceedings. If, however the Company cannot deliver the benefits and capabilities that it claims GBE will provide, then the Company should be required to forgo or return to customers the incremental costs associated with those benefits and capabilities.

Q. What capabilities or benefits should be measured?

A. We have identified three capabilities that we recommend measuring as benchmarks to ensure that customers receive the full benefits of GBE after implementation.

Q. Please describe the first benchmark.

A. The first is customer appointment windows, discussed in the Company’s response to IR DPS-658. As described in this response, the new customer scheduling tool should allow a reduction in customer appointment windows from eight hours to between two and four hours, and, according to Exhibit___(GIOP-9), is scheduled to be implemented in October 2019. Therefore, the Company should be required report its actual average customer appointment windows for calendar year 2020. If this average is less than four hours, then the benefit has been delivered.

Q. Please describe the second benchmark you recommend?

A. The second benchmark would be the number of damages due to data quality errors. In Exhibit___(GIOP-12) and in its response to IR DPS-430, the Company stated a goal of lowering its three-year average number of mismarks to move 50 percent of the way between its present performance and the American Gas Association’s (AGA) three-year average number of mismarks for similar sized utilities. If it meets this goal, Niagara Mohawk would reduce its current three-year average of 28 mismarks in calendar years 2013 through 2015 to 16 mismarks by the end of fiscal year 2022.

Q. Why is the end of fiscal year 2022 the appropriate measuring point?

A. According to the response to IR DPS-430, the end of fiscal year 2022 is the appropriate measuring point since the first full year of data after implementation of the relevant GBE component would be collected by the end of fiscal year 2020. Thus, by the end of fiscal year 2022, the Company will have a three-year average based fully on data using the new GBE systems.

Q. What is the third benchmark you recommend?

A. We recommend a benchmark measuring GBE’s impact on Niagara Mohawk’s gas safety compliance, specifically to violations resulting from inefficient paper processes. Due to the functionality to be added through GBE, moving from paper to electronic processes with better manager oversight and internal controls should improve compliance. In its response to IR DPS-643, the Company provided safety violations from 2012 through 2016 and described how GBE is designed to correct each of them. For each of the five categories listed, leaks, maintenance, operations, piping beyond meter, and corrosion control, the Company states that a mobile application will improve performance.

Q. How would you benchmark GBE’s success toward correcting those processes?

A. We recommend that by the conclusion of fiscal year 2023, when GBE is scheduled to be fully implemented, the Company should not incur any negative revenue adjustments resulting from noncompliance with the categories listed in IR DPS-643.

Q. Should the Company propose additional benchmarks to measure the success of GBE?

A. Yes. We encourage the Company to propose additional ways to use data to clearly measure the successful implementation of GBE and the delivery of new capabilities, which have benchmarks that are easily measured. As described previously, the Northstar Report found that one of the failings in the roll out of the USFP was the lack of quantification of benefits, which would have provided a clear way to measure the success of the program. Therefore, in addition to the benchmarks we recommend instituting, we think it is important that the Company propose additional benchmarks.

Q. If the Company cannot demonstrate that it delivered the benefits of GBE by delivering results on all measureable benchmarks described, what do you propose concerning rate treatment of the incremental investment of $185 million?

A. We recommend that any amount incorporated into Niagara Mohawk’s rates and paid by ratepayers be deferred for credit to ratepayers in the next rate case. The response to IR DPS-660 shows the amount of the incremental investment scheduled for the Rate Year and fiscal years 2020 and 2021. Niagara Mohawk’s share of the $185 million incremental investment is $31.2 million, or 16.89 percent, which includes both incremental capital expenditures and upfront operating expenses. We recommend that any of this $31.2 million that was paid by ratepayers, whether through recovery of operating expense or a return of and on capital expenditures in Service Company Rents, be refunded through a deferred liability if the benchmarks are not achieved.

Q. What would be the result if Niagara Mohawk meets one or two, but not all of the benchmarks?

A. If the Company meets one or two of the three benchmarks we recommend, they should be allowed to retain a prorated portion of Niagara Mohawk’s $31.2 million allocation of the $185 million incremental investment in IS. For example, if the Company meets two of the three benchmarks, it should be entitled to recovery of two thirds, or 66.7 percent, of the $31.2 million, or $20.8 million. For the remaining one third, or $10.4 million, any of this amount that was paid by ratepayers, whether through recovery of operating expense or a return of and on capital expenditures in Service Company Rents, should be refunded through a deferred liability, similar to the full amount if no benchmarks were achieved.

Q. Should the incremental investment be tied to additional reasonable benchmarks the Company may propose?

A. Yes. If the Company proposes additional benchmarks that effectively and clearly measure the delivery of the incremental capabilities GBE promises, then those benchmarks should be added to the three benchmarks we recommend. In other words, if the Company proposes one additional benchmark that the Commission determines to be a reasonable one, then attaining each benchmark would equate to one quarter of the incremental investment.

Financing Proposal

Q. Please summarize the Company’s cost recovery proposal associated with GBE.

A. The Company has included approximately $12.8 million in the Rate Year revenue requirement associated with GBE. This revenue requirement is based on the traditional method of accounting for, and financing of, the GBE project, as described in detail in the Staff Information Systems Panel testimony. Under this traditional method, the capital expenditure portion of the project is capitalized on the Service Company's books. A portion of these costs are allocated to Niagara Mohawk, which pays Service Company Rents encompassing its portion of the amortization expense of the project and the return on the unamortized balance. Additionally, the project's upfront operating costs are expensed when incurred and the appropriate allocation is charged to Niagara Mohawk as an O&M expense.

Q. Did the Company propose an alternative method of financing for GBE?

A. Yes. In the C&U Testimony of the Company's Revenue Requirements Panel, Niagara Mohawk proposed a third party financing option, or TPO, for GBE, wherein the Company would finance both the capital expenditures and the upfront operating expenses through an outside third party.

Q. How does the Service Company's utilization of a TPO effect the cost of this project?

A. There are two significant effects of the TPO on the overall costs of the project. First, the

Service Company would finance both the capital costs and the upfront operating expenses associated with the project. Therefore, rather than charge those operating expenses in the year in which they are incurred, the expenses would be spread over the life of the asset. Accordingly, interest would be not only be paid the capital expenditures, but on the operating expenses as well. Second, because the TPO will be financing the project, 100 percent with debt, Niagara Mohawk indicates that the cost to finance the project will be less than Niagara Mohawk's weighted average pre-tax cost of capital. Therefore, the Company asserts that use of the TPO will result in cost savings as opposed to financing, the project in the traditional manner.

Q. Why did the Company propose this TPO?

A. As stated on pages 35-36 of the C&U Testimony of the Revenue Requirements Panel, Niagara Mohawk declares that the TPO will result in lower total GBE costs on a net present value basis. Additionally, the Company states that the TPO would better align cost recovery of GBE with the implementation of benefits and provide the operating companies an opportunity to recover the costs of this investment. Specifically, the Company asserts that the TPO would “support implementing GBE on a staggered schedule that best meets National Grid USA’s business needs and mitigates execution risks, while at the same time eliminating any incentive to delay needed investments based on the timing of rate recovery.”

Q. What are the cost reductions that the Company claims will be realized as a result of utilizing the TPO to finance GBE?

A. The Company estimates that total GBE financing costs to all of National Grid’s US customers could be reduced by between $10 million and $35 million on a net present value basis. In addition to the lower financing costs, Niagara Mohawk also suggests that because the upfront operating expenses will be spread across multiple years, that the Company’s revenue requirement could be reduced by more than $15 million over the Rate Year and two subsequent fiscal years, combined.

Q. Do you agree that the TPO will result in cost reductions?

A. We cannot make a determination at this time. In the response to IR DPS-688, Question 1, the Company provided a sensitivity analysis showing the estimated costs for Niagara Mohawk using the TPO versus the traditional method of financing. The Company estimates the net present value of the total GBE costs for Niagara Mohawk to be $72.4 million under the traditional method versus $65.4 million using the TPO. However, while this suggests a benefit to using the TPO, it is important to note that this analysis is predicated upon a certain set of interest rate assumptions. Whether or not actual net present value savings will be realized depends upon the terms of any financing agreement. Moreover, the differential between the options also depends on the pre-tax ROR authorized in these proceedings. As the Company is still in the early stages of assessing its financing options, we are unable to evaluate the accuracy of this analysis and therefore unable to determine if the TPO would actually result in cost reductions.

Q. Do you have any other concerns?

A. Yes, even if the TPO would result in an overall cost reduction for the GBE project, it is unclear how much of this reduction would result in savings to ratepayers versus shareholders.

Q. Please explain.

A. As previously stated, under the traditional method of financing and accounting for project costs, National Grid USA would have to expense the upfront operating costs when they are incurred. To the extent that another National Grid operating company is operating under a rate plan that did not reflect these costs in its forecast revenue requirement, that operating company would not be able to recover these operating expenses from ratepayers. However, by spreading these operating expenses over the life of the asset, as National Grid proposes to do with the TPO, that operating company would only be out the portion of operating expenses that had been amortized prior to its rates being reset. Therefore, for the period of time that an operating company is operating under a rate plan that did not forecast GBE, shareholders would reap the benefit, in the form of reducing the amount of unrecoverable upfront operating expenses, most of which could be collected when the operating company's rates are reset.

Q. How is this relevant in these proceedings?

A. National Grid USA intends to roll out GBE not only to Niagara Mohawk, but also to KEDLI and KEDNY. KEDNY and KEDLI are currently operating under rate plans that do not incorporate any costs for GBE into their respective revenue requirements.

Q. What is your position on the Company's TPO proposal?

A. Based on the information provided, we cannot make a determination on the TPO at this time. As stated in response to IR DPS-602, question 3, the Company is "still in the early stages of determining the viability of financing options, products, and providers." Given this early stage, we do not know the specific details of the TPO that would determine whether there are cost reductions and/or ratepayer savings in this proposed financing arrangement. Additionally, we do not know the impact of this arrangement on capitalization at the Parent Company level or how this arrangement would be perceived by the Company's outside auditors.

Q. Should the Commission set rates reflecting the use of a TPO to finance GBE?

A. We cannot recommend that at this time. We recommend that the Company provide additional details on its TPO proposal in its rebuttal testimony, including further support for the inputs in the cost reduction analysis, a more complete range of cost reduction scenarios and the Company's best estimate of the cost reduction, along with a thorough explanation for why each variable in the analysis is the Company's best estimate. Additionally, for each of the scenarios provided, the Company should also provide the amount of the cost reductions that would be retained by shareholders due to the timing of new rates or for any other reason, and the amount that would be realized by Niagara Mohawk ratepayers. Lastly, in addition to showing savings for Niagara Mohawk ratepayers, the Company should address whether or not the TPO would result in savings to New York State ratepayers in totality. The Company should address the savings and associated rate impacts of utilizing the TPO on KEDNY and KEDLI customers as well.

Q. Is this rate proceeding the appropriate venue for determining the reasonableness of the TPO approach?

A. No. While the information we are requesting will aid the Commission in determining if the TPO provides benefits for all of National Grid's New York ratepayers, this issue should not be decided in the context of this rate proceeding.

Q. Why not?

A. As previously stated, the Company is rolling GBE out not only to Niagara Mohawk, but also to KEDNY and KEDLI. As such, the TPO will affect costs and rates at those utilities as well. If the Company intends to pursue this financing option, appropriate notice should be given so that parties in KEDNY and KEDLI, as well as Niagara Mohawk, can participate in the vetting of the TPO.

Q. Does this conclude your testimony?

A. Yes.