

AG RR 1

Request:

Provide a list of general synergies to benefit Rhode Island customers.

Response:

First, PPL Corporation and PPL Rhode Island Holdings, LLC (collectively, "PPL") refer to Attachment PPL-DIV 1-54-1, which details the shared services PPL expects to provide to The Narragansett Electric Company ("Narragansett"), as well as an estimate for the cost of those services. Providing these shared services will deliver synergies, and, as reflected in the cost comparison analysis set forth in Attachment PPL-DIV 1-54-1, PPL estimates that those synergies will allow PPL to provide at least the same level of service as National Grid USA currently provides to Narragansett under its shared services model at a lower cost.

Specifically, the shared services identified in Attachment PPL-DIV 1-54-1, which PPL will provide to Narragansett, include the following:

- Finance and Accounting: This includes tax, treasury, gas hedging, and risk management. The tax function includes tax planning and preparation of tax returns. The treasury function includes the management of the capital structure, cash management and remittance processing and payables, financings (both short term and long term), and credit facilities. The gas hedging function is part of gas procurement to take hedges and manage risk to customers. The risk management function performs overall risk management, including setting policies, obtaining appropriate insurance, managing claims and working with insurers, developing and maintaining the risk register for the company, monitoring credit risk, and working with supply chain on risk.
- Legal: The legal department manages and provides the full range of legal services through both in-house legal staff and management of outside counsel. The legal department provides legal support for state and federal regulatory, real estate, siting, transactions, including supply chain and other material contracts, corporate governance, strategic transactions, litigation, environmental litigation and compliance, and claims. The legal function also includes the Compliance and Ethics department. In addition to the PPL legal team that provides shared services to all PPL affiliates, this group also will have a local presence in each operating company, including Narragansett. For example, Narragansett will have a team of regulatory lawyers located in Rhode Island who have supported Narragansett under National Grid USA ownership.

PPL CORPORATION, PPL RHODE ISLAND HOLDINGS, LLC,
NATIONAL GRID USA, and THE NARRAGANSETT ELECTRIC COMPANY

Docket No. D-21-09

PPL Corporation and PPL Rhode Island Holdings, LLC's
Responses to the Rhode Island Attorney General's Hearing Records Requests
Issued on December 14, 2021

- **Security:** The security function addresses physical security and will have responsibility for maintaining physical security perimeter and monitoring at all times, the badging and access of employees and visitors, background checks for employees and contractors, and compliance with North American Electric Reliability Corporation (“NERC”) and Federal Energy Regulatory Commission (“FERC”) requirements for physical security.
- **Information Technology (“IT”):** The IT function is described below in greater detail. This function has responsibility for maintaining IT infrastructure, cybersecurity, engineering the IT architecture, developing and implementing new IT technology, both hardware and software, maintaining hardware, supporting compliance with NERC/FERC standards, and maintaining a 24/7 operations center to monitor the system.
- **Regulatory Accounting and Planning:** This function has responsibility for the financial statements of the utilities, regulatory accounting, preparation of rate cases, electric procurement including renewables, coordination of the settlement process with regional transmission organizations (“RTOs”), support for the business plan of the utilities, and support for SEC/FERC reporting for the utilities.
- **Business Services:** The business services function includes supply chain, human resources, customer communications, facilities, health services, fleet, and emergency preparedness. PPL will provide centralized support for the business services function, and Narragansett will have Rhode Island-based employees to execute the functions.
- **Transmission:** The transmission function includes the transmission control center, transmission planning and regulatory functions, complex engineering, NERC and FERC compliance, wholesale market operations, interfacing with the RTOs, and adherence to transmission substation standards.
- **Meter Data Services:** This function includes back-end processing of meter data, including data from advanced metering functionality (“AMF”), and oversight of the AMF system.
- **Gas Forecasting:** The gas forecasting function includes forecasting gas load and working with gas operations and purchasing to ensure adequate supply.
- **Customer Experience Strategy:** This function focuses on developing strategies and systems, including data analytics, to provide world-class customer service.
- **Advanced Grid Strategy:** This function includes data analytics to support grid modernization technology (“Grid Mod”) functions and infrastructure selection.

Second, PPL will deliver additional synergies beyond the provision of shared services. Narragansett will benefit from combined purchasing power across the PPL entities, as well as process- and best-practice sharing. PPL will leverage its scale to capture purchasing economies in materials and services, including combined materials purchasing (e.g., transformers, poles, pipes, valves, fleet, etc.) and combined services purchasing (e.g., construction, engineering, vegetation management, IT, legal, audit, insurance, etc.).

Narragansett especially will see benefits in smart grid technology, where PPL has already deployed technology such as AMF and Grid Mod and can apply its lessons learned to efficiently deploy those programs in Rhode Island as follows:

- Grid Mod
 - PPL has an existing technology platform that already serves in real time Advanced Distribution Management System (“ADMS”), Distributed Energy Resource Management System (“DERMS”), Transmission Management System (“TMS”), supervisory control and data acquisition (“SCADA”) system, and modeling and control operations for the entire PPL transmission and distribution grid. The IT platform is already interconnected to PPL’s GIS model, and PPL can import Rhode Island data upon Transaction close to leverage the systems already in place. PPL currently has one of the most advanced grids in the industry; Narragansett will not be operated as a stand-alone function. Rather, Rhode Island customers will benefit from PPL’s eleven years of development and lessons learned that could not be repeated by any other utility at a fraction of the cost.
 - PPL’s existing platform has been tested extensively and designed based on cybersecurity considerations. The cyber security requirements were developed and tested with Lockheed Martin in 2009 and have been enhanced and updated since the initial rollout. Again, Rhode Island customers will receive these benefits at a fraction of the costs it would take to implement them from scratch.
- AMF
 - Implementation Cost Efficiencies
 - PPL will leverage established processes, procedures, standards, system architectures and configurations from Pennsylvania (“PA”) and Kentucky (“KY”) to implement the Rhode Island (“RI”) AMF.
 - PPL will be able to implement AMF functionality, such as remote switch, pro-active outage management, and meter alerts with greater efficiency

based on its established processes, experiences and learnings in PA (and planned for in KY).

- By using personnel with previous AMF implementation experience and skill-sets, PPL anticipates it will use fewer internal resources than National Grid USA would be expected to need.
 - PPL will use its experience with AMF networks to optimize network and communications design and performance.
 - PPL will be able to leverage purchasing power and economies of scale from PA and KY to achieve optimal pricing for RI.
- Post AMF Implementation, On-going Operations
 - PPL will capitalize on established business processes and experience in PA for staffing synergies.
 - PPL will leverage its existing Advanced Metering Operations Team to operate RI AMF (along with PA AMF), meaning PPL will require fewer new employees than otherwise would be necessary to establish a new team.
 - PPL will use its existing IT, communications engineering and network personnel across both PA and RI, reducing redundancy of resources. This matches the synergy that National Grid USA was looking to capitalize on across its operating areas.
 - PPL will leverage its existing meter test operations platform across PA and RI.
 - PPL will use existing and proven analytics solutions, including for voltage analysis, revenue protection, preventive maintenance of assets (i.e. meters, transformers), and prediction of transformer failures before they fail.
 - Benefits from Lessons Learned from Prior AMF Implementation
 - PPL will include proactive meter inspections as part of its AMF implementation plan for Narragansett. This addition will allow early identification and mitigation of potential issues during meter deployment. For example, Narragansett will be able to address potential safety issues and barriers to physical meter exchanges, which will improve safety and

decrease overall deployment costs by enhancing meter exchange efficiency and production.

- PPL will include necessary meter base repairs as part of its AMF plan for Narragansett. This lesson learned ensures the safe exchange of meters and will help enable physical meter exchange production.

Narragansett also will benefit from significant synergies in IT due to scaled labor, licensing, and hardware costs. Narragansett will benefit from the numerous investments that have already been made in technology platforms for PPL. These IT synergies include the following:

Grid Operations

PPL's existing Vendor, General Electric ("GE"), is an industry-leading vendor in Transmission and Distribution SCADA and operations. PPL's additional cost to license GE systems to serve Narragansett is expected to be less than ten percent (10%) of PPL's total current cost. Additionally, using the existing technology platforms allows PPL to reduce the need for additional staffing; less than ten percent (10%) additional staff will be required to operate the GE platform after Narragansett is added.¹ Moreover, PPL will not need to make any material additional hardware investments because the incremental amount of SCADA data due to the acquisition of Narragansett is not material in the existing systems.

Beyond synergies in scale, PPL was among the first companies to leverage GE's Distribution & Transmission control technology, which includes ADMS (including DERMS) and TMS. PPL's preexisting use of these platforms will translate into advantages for Rhode Island customers. These benefits include a more scalable version of Volt/Var Control for Energy Efficiency & Conservation and Fault Location, Isolation, and Service Restoration ("FLISR") (which allows for the rapid and automatic identification of problems on the distribution grid and ultimately restoration when combined with Grid Mod). PPL's ability to leverage this experience provides a unique synergy benefit for Narragansett because many other utilities are just beginning investments in advanced grid operations technologies, and no other utility can match PPL's level of experience.

Finance & Human Resources

PPL's finance platform is well established and already used for consolidation activities across its operating companies. Current licensing with vendors allows PPL to add Narragansett for no additional cost.

¹ Additional staff is due to SCADA modeling activities specific to Narragansett; however, no additional staff is required for the core operating platforms.

PPL's state-of-the-art human resources platform is powered by Oracle Fusion, a best-in-class platform used by numerous other utilities. Oracle's incremental licensing for this platform to incorporate enterprise licensing and include Narragansett will be less than 15% on top of PPL's current license agreement. Additionally, this platform is hosted on the cloud, which means that PPL and Narragansett will not have any additional costs for operations, hardware, or to add Narragansett to the system.

Customer Billing

Narragansett and PPL both use an Accenture CustomerOne Customer Information System ("CIS"). PPL has more than two decades of experience in supporting CIS, including sophisticated customer rate design applications, such as Time of Use billing. PPL's licensing structure allows it to add Narragansett to its CIS without incurring any incremental licensing cost. PPL also has estimated that approximately 60% of the core code is reusable for both PPL Electric Utilities Corporation ("PPL Electric") and Narragansett, which will make the deployment and ongoing maintenance of the platform far easier. PPL also already has made investments to modernize its core platform, with plans to migrate CIS to a Linux hardware environment in 2022. Presently, the Narragansett CIS is hosted on a mainframe that is likely to require significant investments in the future to avoid operational risk. Leveraging the PPL Electric modernization effort will address this future obsolescence at far lower cost.

Customer Website and Call Center

PPL Electric built its award-winning digital customer experience using highly-scalable technologies, including Microsoft Azure for the customer facing website and Twilio for artificial intelligence ("AI")-driven Integrated Voice Response ("IVR"). Narragansett will benefit from these prior investments; PPL will be able to reuse approximately 90 percent of the existing customer website, IVR and call center technology for Narragansett, requiring changes only for branding and Narragansett-specific regulatory requirements. Additionally, PPL's favorable licensing agreements allow it to leverage these cloud-hosted technologies for between 10-20% incremental cost on the current cost structures. Beyond synergies from scale, E Source recognized PPL Electric's website as the most usable and accessible website among utilities in the United States and Canada in its 2021 Website Benchmark study. The user-friendly nature of PPL Electric's website has translated into savings due to a significantly lower number of average calls per customer. The decreased number of calls per customer also translates into higher overall customer satisfaction. PPL will be able to leverage its website experience to enhance the overall customer experience for Narragansett customers.

Supply Chain / Work and Asset Management

PPL has partnered with Infor/Hexagon, a market leading enterprise asset management and supply chain platform to deliver capabilities to PPL. PPL's deployment is scheduled for April of 2022, and it plans to use this same platform for Narragansett. PPL will be able to leverage this platform for Narragansett and deploy it at less than 25 percent of the cost of the initial deployment. This scaled platform will also cost far less to operate, adding only approximately 15 percent of the cloud costs for the incorporation of Narragansett, thus putting the overall operating costs solidly in first quartile performance for this capability.

Infrastructure & Operations

Narragansett will benefit from synergies in overall technology infrastructure and operations. PPL recently invested in a state-of-the-art data and operation center with ample capacity and backup facilities. This investment allows PPL to add incremental infrastructure at very low cost. These on-premise services are also complemented with cloud-hosted infrastructure, providing a hybrid cloud/on-premise environment that maximizes cost and availability. In addition to the data center, PPL also plans to leverage its existing 24x7 Fusion Operation Center, which includes Network, Application and Security Monitoring. There is ample capacity in the existing operations center to incorporate monitoring for Narragansett with no additional staff.

PPL also will extend the PPL transmission control room operations to Narragansett. PPL has a best-in-class transmission control room and well trained operators. PPL was one of the earliest operators of high-voltage transmission in the United States and has expansive experience in operating transmission in conjunction with PJM Interconnection, L.L.C. ("PJM") and other utilities. PPL will be able to operate the Rhode Island transmission system with minimal staffing increases.

Process Improvement

PPL has been an industry leader in implementing innovative and award-winning operating practices and technologies. The deployment of these operating practices and technologies has allowed PPL to improve reliability for its customers while keeping costs steady. PPL plans to bring this experience and technology to Rhode Island, resulting in lower costs for Narragansett and state-of-the-art technology that does not currently exist in Rhode Island, all of which will benefit Narragansett customers. Examples of these operating practices and technologies that PPL can apply to Narragansett are the following:

- Dynamic line ratings ("DLR") to improve capacity (non-wire alternative): Dynamic line ratings refers to a combination of line hardware and analytical modeling that allows PPL to change the ratings of transmission lines. These

changes allow PPL to reduce congestion charges and avoid millions of dollars of investments that otherwise would be borne by customers. More specifically, PPL Electric partnered with PJM to pilot DLR technology. Using sensors installed on transmission lines, DLR provides real-time data on conditions that impact transmission line performance, such as line temperature and wind speed. With this information delivered in real time, PPL Electric can assist PJM to make better-informed decisions that may reduce congestion and increase the amount of power delivered on its lines. This allows for more economical dispatch of generation, which in turn results in lower costs for customers.

- Relay and protection (traveling wave technology and synchrophasors):
 - The new traveling wave relay technology supports the grid of the future by allowing continuous line monitoring, as well as the expansion of asset strategy for condition-based maintenance. Line monitoring provides the ability to accurately locate fault precursors, which enables issue mitigation through preventive maintenance and through the activation of an inspection team or line maintenance crew around the clock to prevent a future fault uncontrolled outage. This technology allows a foot patrol with a drone to locate damage much faster and more cost effectively because they do not need to patrol such a wide area. Deployment of the new technology will provide the following features:
 - Prevention of faults or failures by predicting failures with low energy events (for example, dirty insulators or failed splices in the conductor);
 - Use of data to maintain assets at the right time and right cost and to maintain more accurate system records;
 - Minimization of dispatching line, inspection, and maintenance crews;
 - Improved reliability due to a decrease in unplanned outages.
 - Synchrophasor technology incorporates its advance fleet of relaying to provide a real-time measurement of electrical quantities from across the power system. Applications include system model validation, determination of stability margins, maximization of stable system loading; islanding detection; system-wide disturbance recording; and visualization

of dynamic system response. This technology provides the following benefits:

- Improved detection of equipment failures;
 - Visibility of signatures of arcing earlier in a switch failure event before operation;
 - Ability to detect damaged T-line conditions and to initiate a trip before contact to the ground;
 - Development of data that reveals patterns of potential equipment failures (This data also can be used as real-time input into various data models developed by PPL's Data Analytics team);
 - Use of data to monitor real-time system conditions;
 - Use of data to facilitate development of accurate long-term load flow studies.
- Vegetation management strategy: PPL has leveraged data analytics, unitized contracts, and implemented advanced technologies, including LiDAR and work management software, to identify and mitigate vegetation risks to its power delivery system. PPL has improved reliability for its customers while maintaining costs using this strategic multi-layered vegetation management approach.

Although PPL is confident that it will provide Narragansett with the synergies described above, PPL has not performed any studies to quantify their value. The only reflection of the value of these synergies is the cost comparison analysis in Attachment PPL-DIV 1-54-1, which reflects that PPL's estimate of controlled costs, including the provision of shared services, will be lower than the current costs under National Grid USA ownership.